ARCADIS
Infrastructure, environment, buildings

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Mr. Jere "Trey" Hess
MDEQ – Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Subject:
Air Sparge Pilot Study Report
Former Vicksburg Chemical Company
Vicksburg, Mississippi

ENVIRONMENT

Date:
12 January 2009

Contact:
David Escudé

Extension:
245

Email:
david.escude@arcadis-us.com

Our ref:
LA002656.0001.00029
MissBluffs/2656.1/C/13/egp

Dear Mr. Hess:

A field-scale pilot test was conducted to evaluate the effectiveness of air sparging for the remediation of volatile organic compounds (VOCs) in the North Plant of the former Vicksburg Chemical Company (Vicksburg Chemical) site in Vicksburg, Mississippi (Figure 1). The pilot test was conducted from August 26, 2008, through September 15, 2008. This letter presents a summary of the findings of the pilot test and its implications for VOC remediation at Vicksburg Chemical.

Introduction

Groundwater sampling conducted in March 2008 detected VOC concentrations above Mississippi Department of Environmental Quality (MDEQ) Tier 1 Target Remediation Goals (TRGs). The chloroform TRG is 0.155 microgram per liter (µg/L). The maximum chloroform concentration of 12 milligrams per liter (mg/L) was detected in a sample collected from Well PZ-22B, located in the surficial aquifer of the North Plant (Figure 1). Due to the magnitude of the chloroform detection, chloroform was targeted for remediation in the area surrounding Well PZ-22B. Chloroform will not be remediated to 0.155 µg/L due to economic constraints; however, the concentration will be reduced to a point where transition to monitored natural attenuation in a reasonable time is practical.

Based on its Henry's constant of 0.15, chloroform is amenable to air sparging. The goals of the air sparging pilot study were to determine the effective radius of injection near Well PZ-22B, to determine optimal air injection rates and pressures for potential full-scale operations, and to better define the lateral extent of chloroform.

Methodology

One sparge well (SP-1) was installed to a depth of 27.5 feet below ground surface near Well PZ-22B. A customized fitting was used to connect an air compressor to the sparge well (SP-1). Well SP-1 was constructed of 2-inch polyvinyl chloride (PVC) pipe with 2 feet of stainless steel screen. Six additional 2-inch PVC monitor wells were installed near Well PZ-22B, each with a 5-foot PVC screened interval. The

well locations are shown on Figure 2. Well construction logs are provided in Attachment A.

Baseline groundwater VOC and carbon dioxide (CO_2) samples were collected from the air sparge pilot study wells on August 26, 2008. Post-study samples were collected on September 11, 2008. The samples were submitted to Pace Analytical Laboratories, Inc., for VOC and CO_2 analyses by Method 8260 and Method RSK-175, respectively. Concentrations detected during these analyses are included on Table 1 in Attachment B. The laboratory reports are included in Attachment C.

The maximum air injection pressure that would not cause subsurface fracturing was determined to be 17 pounds per square inch gauge (psig). The actual pressure induced in the subsurface was varied throughout the test from 11 psig to 16.5 psig to achieve different air flow rates. The sparging well remained pressurized for up to a 10-hour cycle. During that time period, air flow was sustained between 1.0 and 5.0 actual cubic feet per minute (acfm). Pressure readings at the well heads, organic vapor analyzer readings, depth to groundwater readings, and dissolved oxygen measurements were collected at regular intervals from the monitor wells. Summaries of the air sparge field data and graphs showing the groundwater level elevations are included in Attachments B and D, respectively.

Observations/Conclusions

A number of VOCs were detected and chloroform concentrations increased following the sparge test, as anticipated. This is a positive indication that the pilot study was effective at propagating air through the subsurface and liberating sorbed contaminants from the soil matrix. Further air sparging would continue to mine sorbed contaminant mass for subsequent volatilization from the water column. Full-scale air sparging operations would take advantage of this process to reduce sorbed and aqueous concentrations of chloroform.

CO_2 can be stripped from the aquifer during air sparging. A comparison was made between the pre-study and post-study CO_2 analytical sampling results. Over the entire test, the CO_2 concentrations ranged from 0.26 mg/L to 2.9 m/L. The greatest reduction was 45 percent at Well SP-TW-2A but most locations did not show a significant decrease. These results may be low due to the naturally low CO_2 levels and the short duration of the pilot scale activities.

With the exception of Well PZ-22B, wellhead pressure readings fluctuated during periods of air sparging. Water level measurements indicated slight increases and decreases (< 6 inches) in groundwater elevation during periods of air sparging for most wells. However, Wells SP-TW-1A, SP-TW-1B, and SP-TW-2A had fluctuations on the order of 2 feet over a single testing period. The observation of less pronounced changes may be due to the homogeneity of the subsurface deposits. During full-scale operations, cycling of the air sparge system can be conducted to

take advantage of the increases and subsequent decreases in observed groundwater level. Once the cycle durations are optimized, this will promote air/groundwater contact time and more efficient groundwater mixing, thereby enhancing the effectiveness of the remediation.

Qualitatively, air bubbles were observed at the ground surface approximately 30 feet north of the sparging well, SP-1. The bubbles were seen in areas where rainwater pooled on the ground surface, or during rain events when a thin film of water covered the asphalt road surface east of the sparge well. Air bubbles were observed at a maximum distance of 30 feet away from the sparge well. To confirm that the air sparging pilot study caused this effect, the air sparging system was turned off. Within 1 minute, all evidence of bubbling at the surface ceased. When the system was restarted, the bubbles returned. This provides evidence of the air sparge system's direct effect on the subsurface.

Conclusions

The effective radius of influence based on well pressures and water elevations is approximately 20 feet at a discharge pressure of 12 psig and air flow rate of 4 acfm. Chloroform exceeds the TRG within the bounds of the sparge test.

Recommendations

Based on the analytical and physical observations made during the air sparging pilot study, air sparging is a viable option for remediation of VOCs at Vicksburg Chemical. ARCADIS recommends designing and implementing a full-scale air sparging system to address the VOC concentrations above MDEQ Tier 1 TRGs in the North Plant.

Should you have any questions about the findings presented in this letter report, please contact one of the undersigned at (225) 292-1004.

Sincerely,

ARCADIS

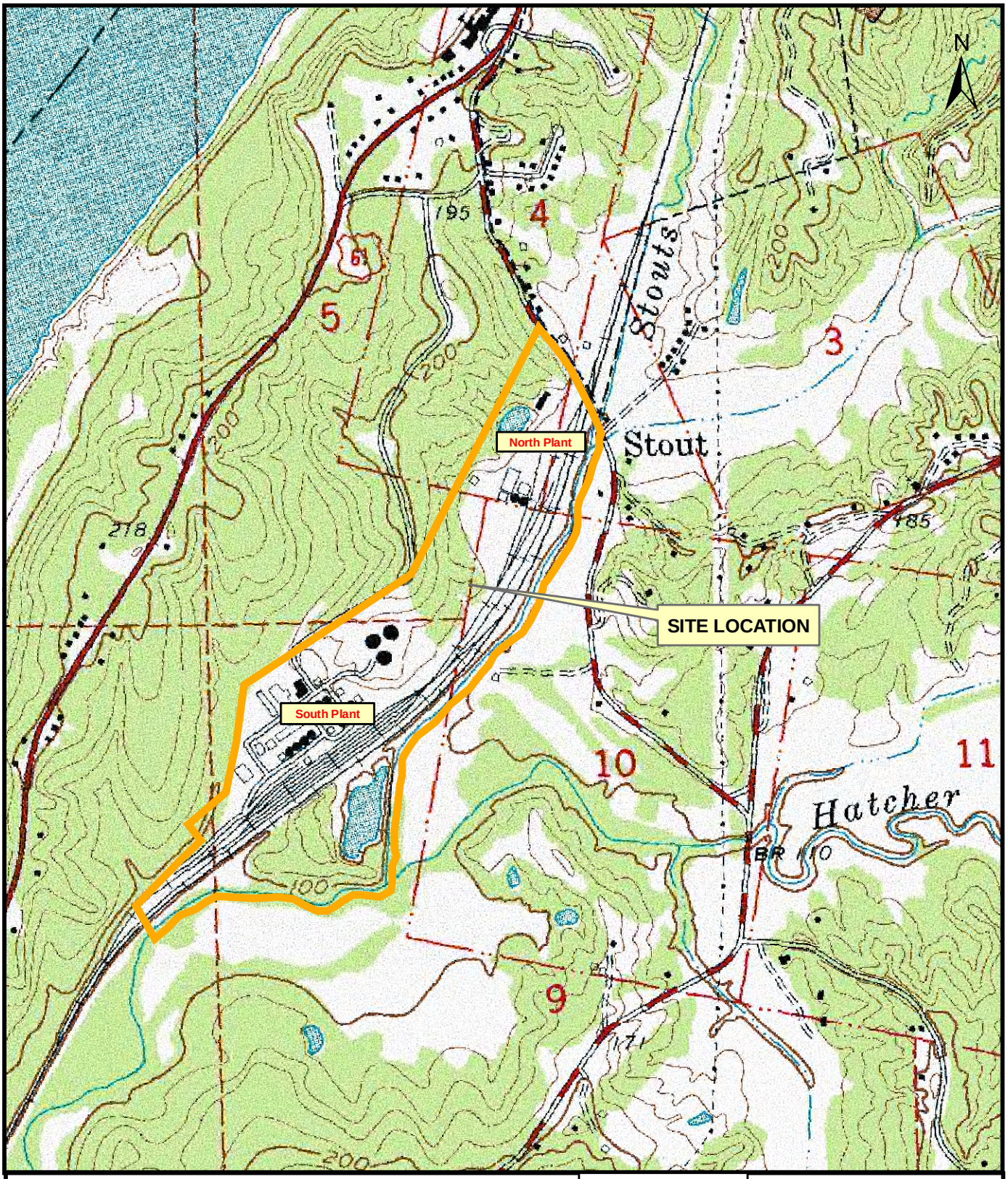
Craig A. Derouen, P.E.
Senior Engineer

David R. Escudé, P.E.
Vice President/Principal Engineer

CAD:DRE:egp

Attachments

FIGURES



Former Plant Site

Note: Approximate Property Boundary

ARCADIS
10352 Plaza Americana Drive
Baton Rouge, Louisiana 70816
Tel: 225.292.1004 Fax: 225.218.9677

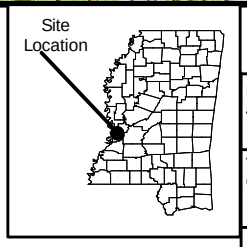
REFERENCE:

USGS, Vicksburg West Quadrangle, Mississippi
7.5 Minute Series (Topographic)

SITE LOCATION MAP

FORMER VICKSBURG
CHEMICAL COMPANY

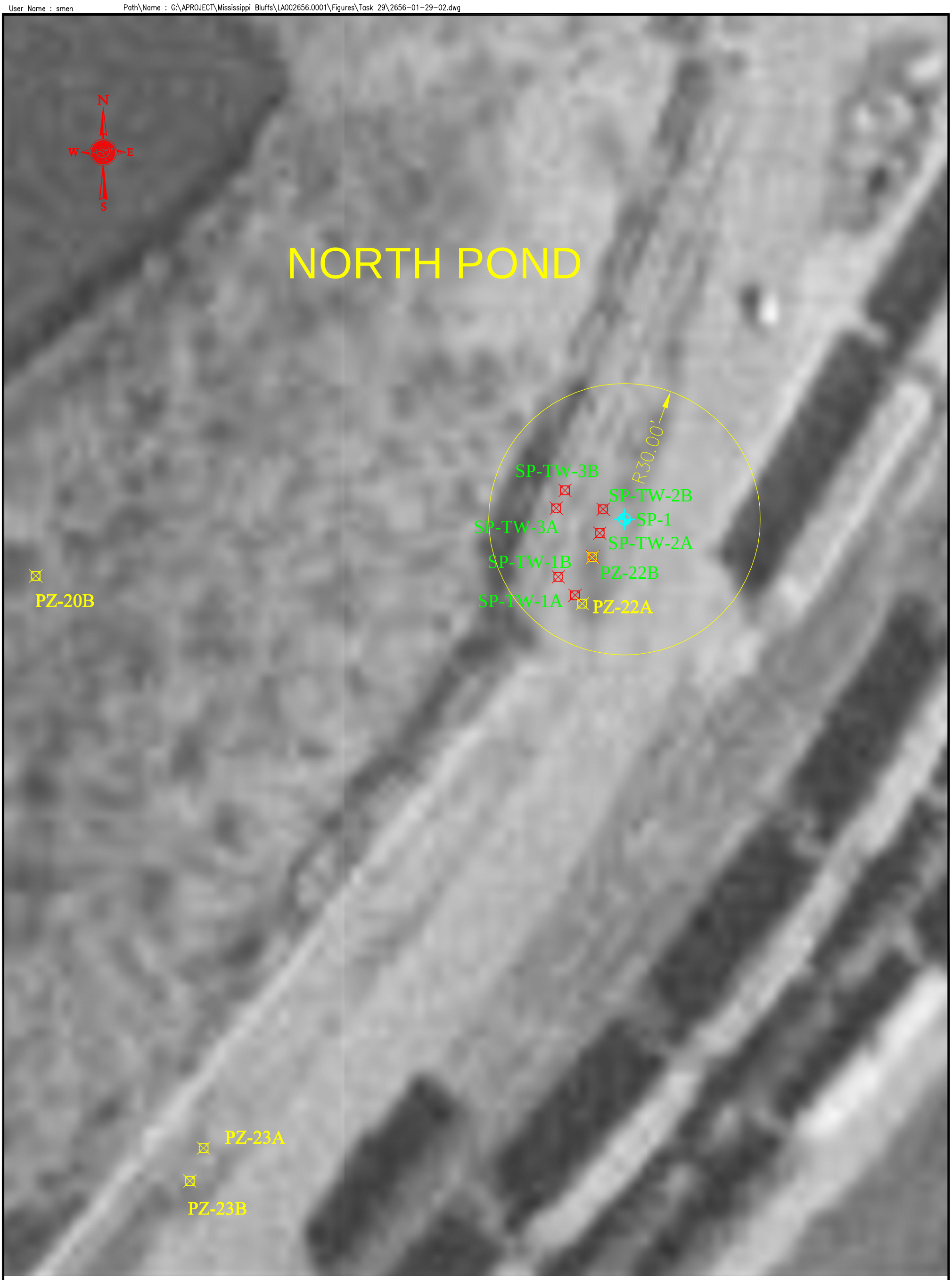
VICKSBURG, MISSISSIPPI



500 0 500 1,000 Feet

Project Manager: JE	Completed By: JC
Task Manager: CD	Date: 07/09/2007
Project No.: LA002656.0001	Figure No.: 1

U:\projects\Vicksburg\LA002656.0001.00002\plotfiles\Vicksburg_SiteMap.pdf



LEGEND:

SP-1	AIR SPARGE WELL LOCATION AND DESIGNATION
PZ-22A	MONITOR WELL LOCATION AND DESIGNATION
SP-TW-2A	SPARGE MONITOR WELL LOCATION AND DESIGNATION

0 20' 40'

© 2005 ARCADIS G&M, INC.

DRAWN BY SMEN	CHECKED CAD
PROJECT MANAGER DRE	DEPARTMENT MANAGER DRE
DATE 2008	TASK/PHASE NUMBER 0029

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10352 PLAZA AMERICANA DRIVE
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WWW.ARCADIS-US.COM

AIR SPARGE WELL NETWORK

FORMER VICKSBURG CHEMICAL COMPANY SITE

PROJECT NUMBER LA002656.0001

DRAWING NUMBER 2

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ATTACHMENT A

Well Construction Logs

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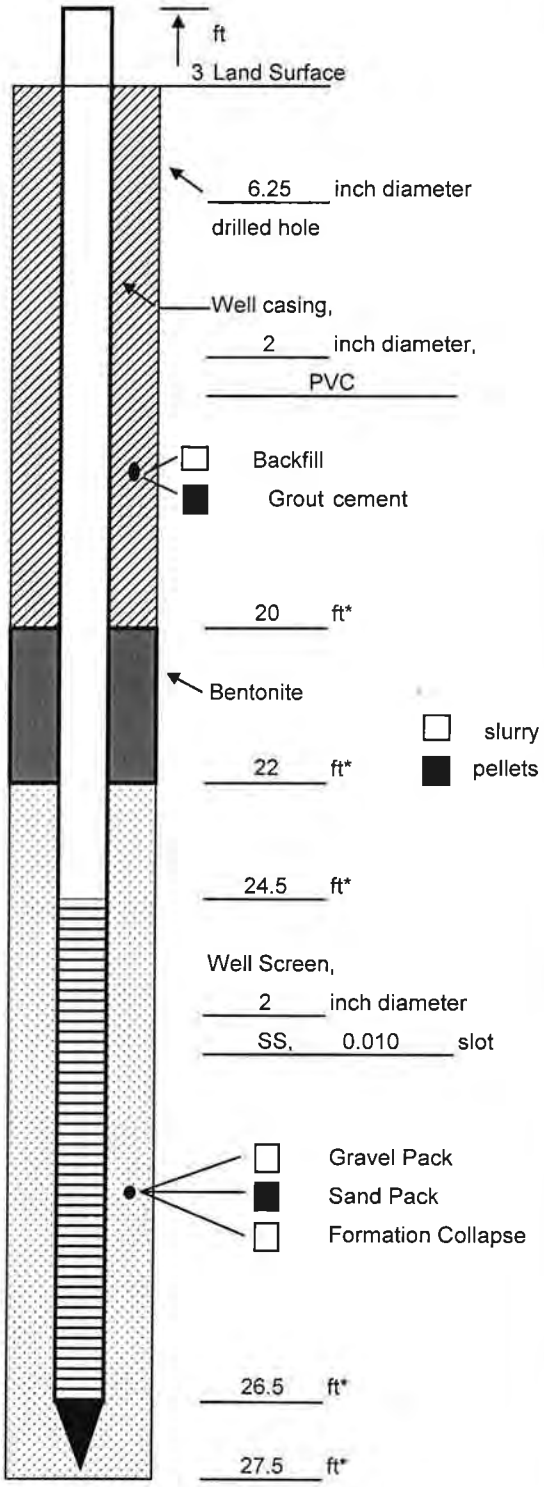
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656.0001.00029	Well	SP-1
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	feet	☐ Surveyed ☐ Estimated	
Installation Date(s)	8/25/2008		
Drilling Method	Hollow Stem		
Drilling Contractor	Devonian		
Drilling Fluid	None		

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	20	gallons
Static Depth to Water	6.25	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Air Injection Well	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss. Bluffs/2656.1/L/WELLCONS 8-08/tms

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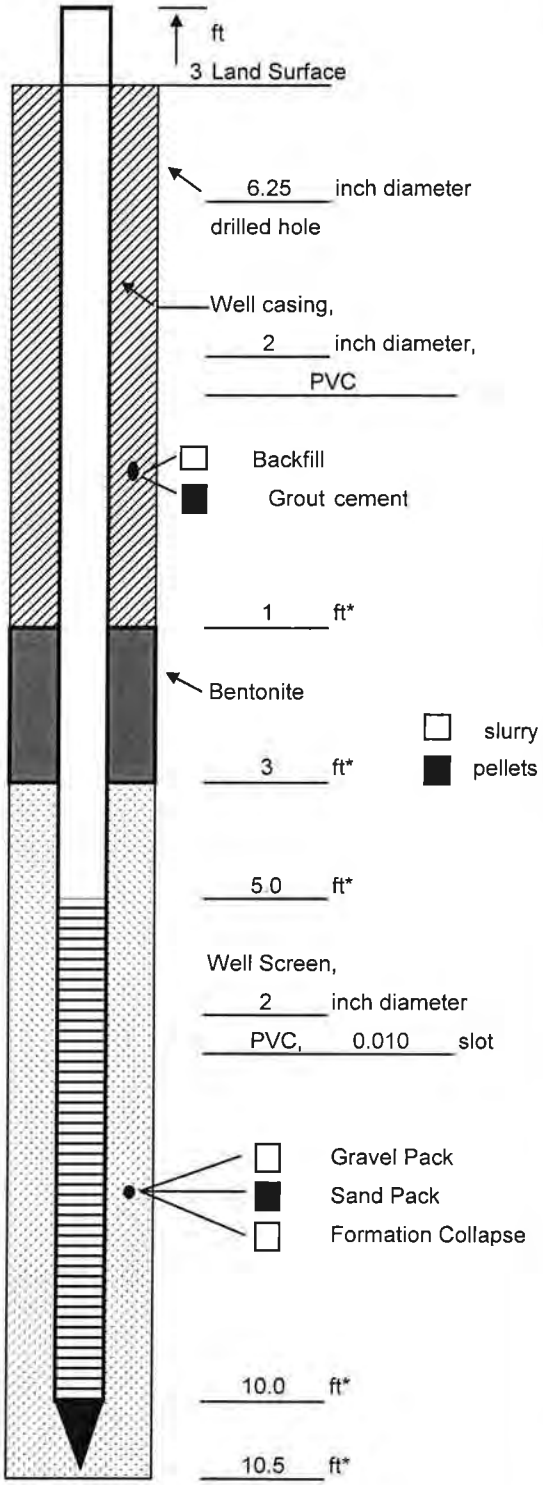
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656 0001.00029	Well	SP-TW-1A
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	feet	☐ Surveyed ☐ Estimated	

Installation Date(s)	8/13/2008
Drilling Method	Hollow Stem
Drilling Contractor	Devonian
Drilling Fluid	None

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	18	gallons
Static Depth to Water	5.12	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Observation Point	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss Bluffs/2656.1/L/WELLCONS 8-08/tms

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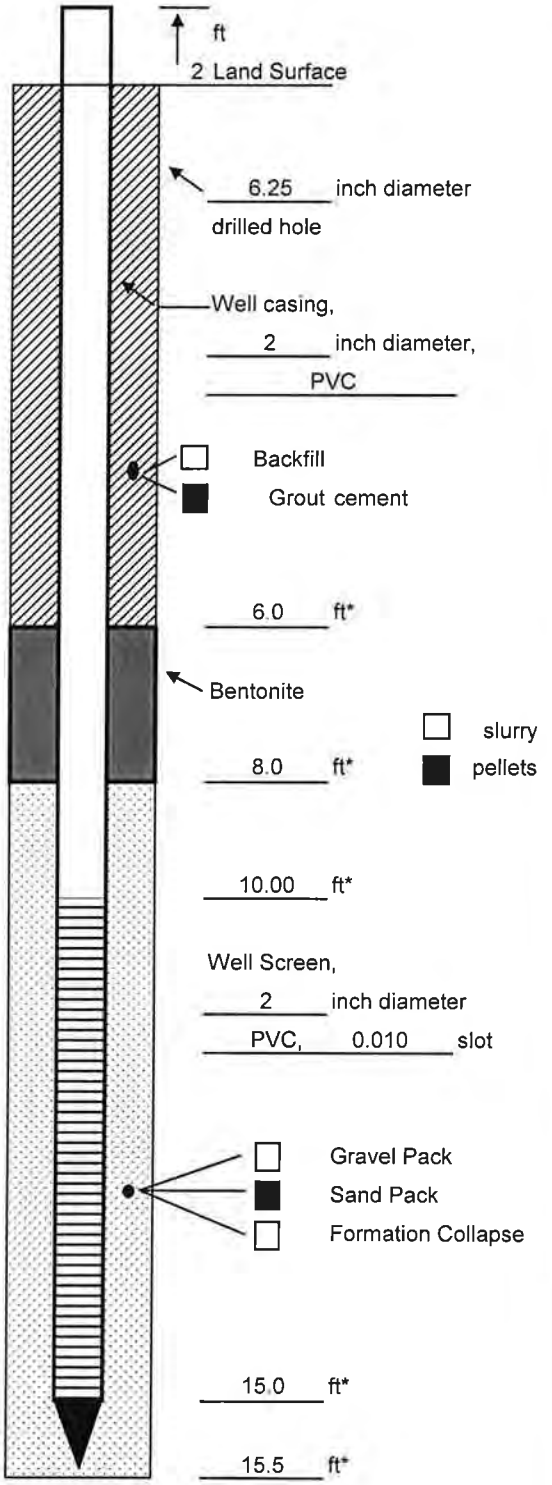
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656.0001.00029	Well	SP-TW-1B
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	_____ feet	☐ Surveyed ☐ Estimated	

Installation Date(s)	8/13/2008
Drilling Method	Hollow Stem
Drilling Contractor	Devonian
Drilling Fluid	None

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	15	gallons
Static Depth to Water	4.94	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Observation Point	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss. Bluffs/2656.1/L/WELLCONS 8-08/tms

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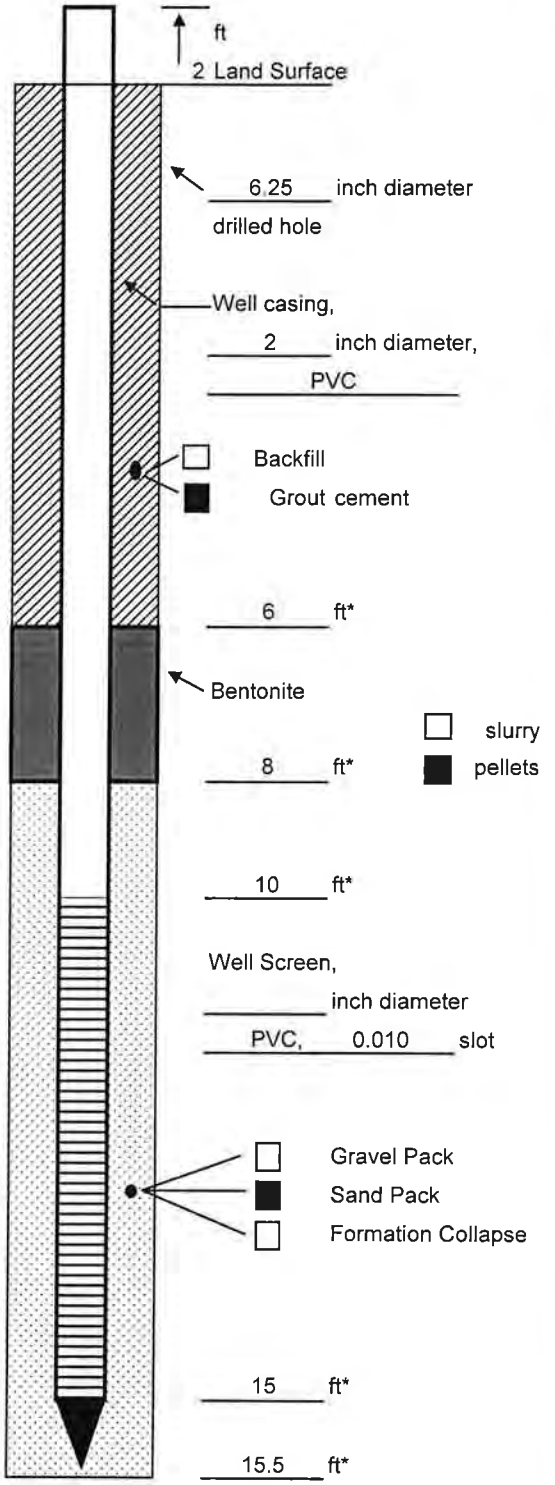
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656.0001.00029	Well	SP-TW-2A
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	feet	☐ Surveyed ☐ Estimated	
Installation Date(s)	8/12/2008		
Drilling Method	Hollow Stem		
Drilling Contractor	Devonian		
Drilling Fluid	None		

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	15	gallons
Static Depth to Water	5.09	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Observation Point	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss Bluffs/2656.1/L/WELLCONS 8-08/tms

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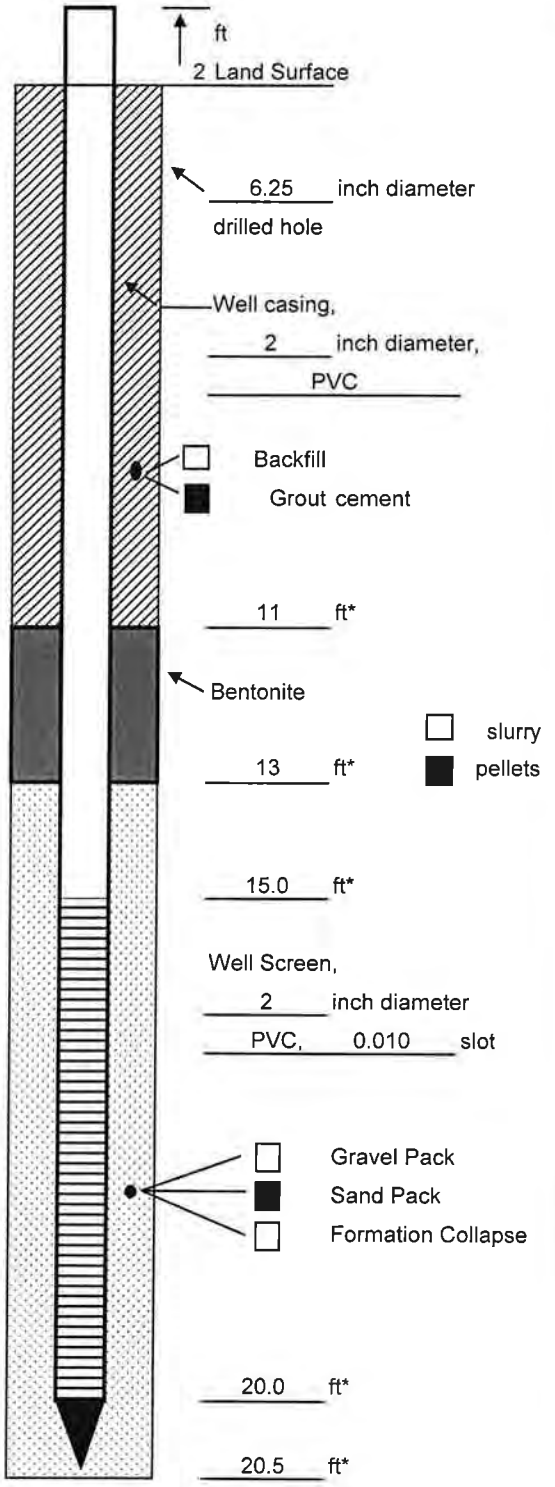
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656.0001.00029	Well	SP-TW-2B
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	feet	☐ Surveyed ☐ Estimated	
Installation Date(s)	8/12/2008		
Drilling Method	Hollow Stem		
Drilling Contractor	Devonian		
Drilling Fluid	None		

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	15	gallons
Static Depth to Water	5.34	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Observation Well	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss Bluffs/2656.1/L/WELLCONS 8-08/tms

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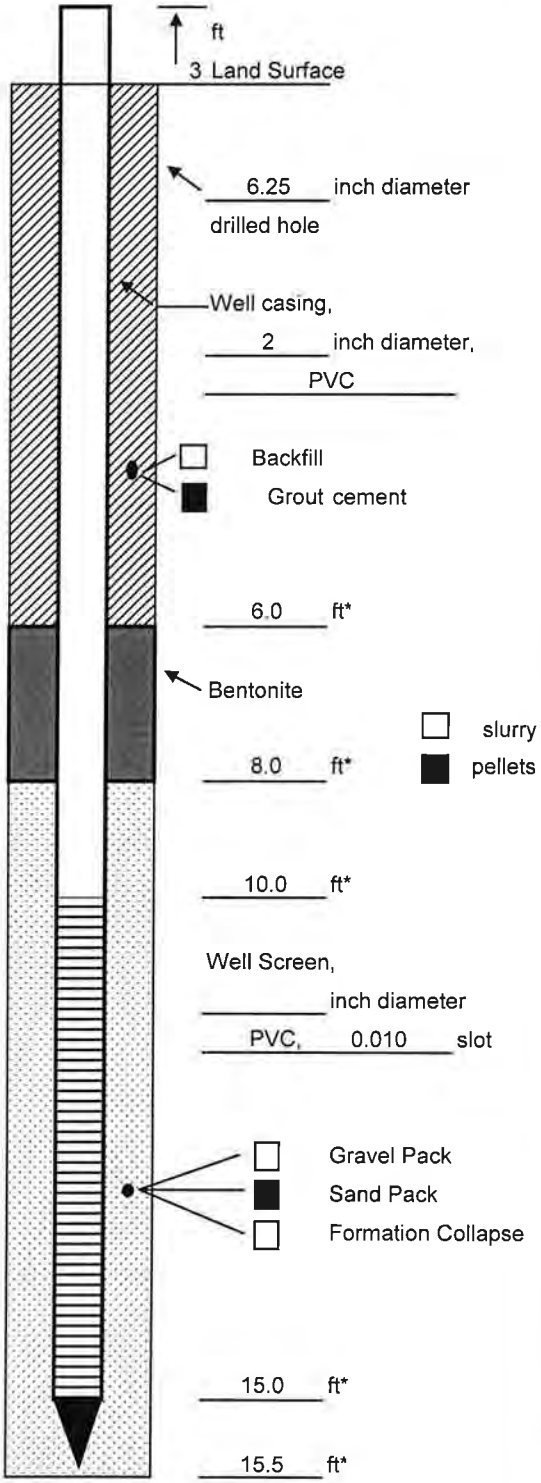
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656.0001.00029	Well	SP-TW-3A
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	feet	☐ Surveyed ☐ Estimated	

Installation Date(s)	8/13/2008
Drilling Method	Hollow Stem
Drilling Contractor	Devonian
Drilling Fluid	None

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons	
Water Removed During Development	15	gallons	
Static Depth to Water	3.55	feet below M.P.	
Pumping Depth to Water	NA	feet below M.P.	
Pumping Duration	NA	hours	
Yield	NA gpm	Date	8/14/2008
Specific Capacity	NA	gpm/ft	
Well Purpose	Sparge System Observation Well		

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss. Bluffs/2656.1/L/WELLCONS 8-08/tms

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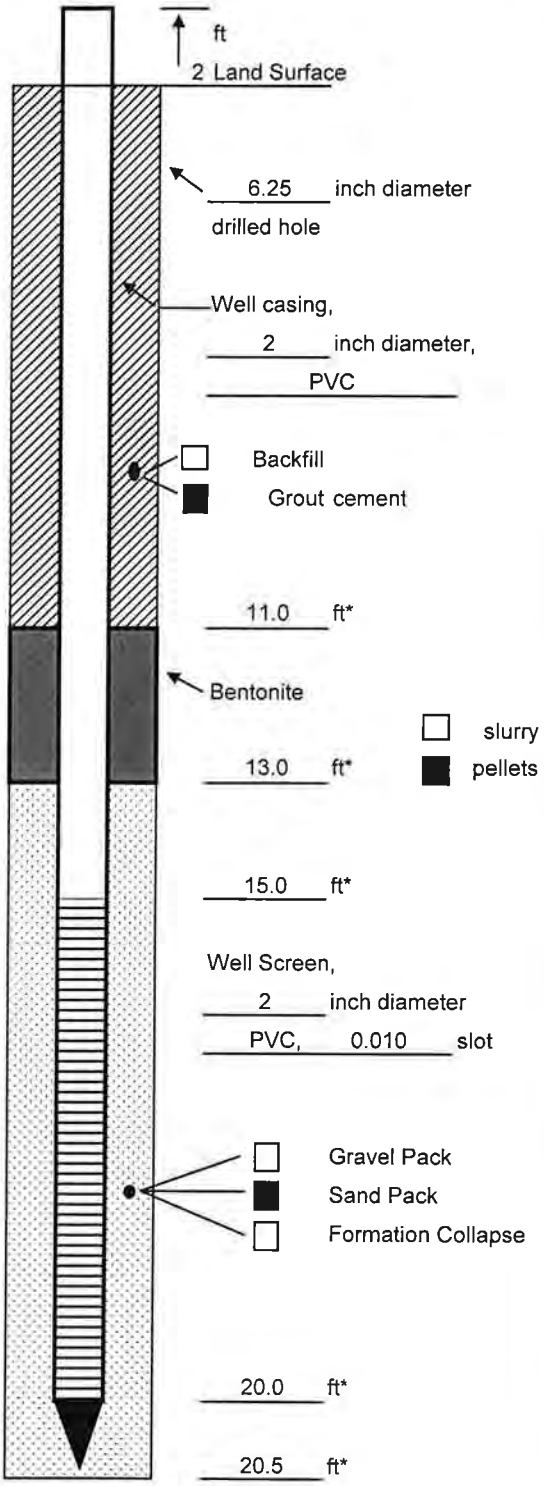
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.
* Depth Below Land Surface

Project	Mississippi Bluffs/LA002656 0001.00029	Well	SP-TW-3B
Town/City	Vicksburg		
County/Parish	Warren	State	Mississippi
Permit Number			
Land-Surface Elevation and Datum	_____ feet	☐ Surveyed ☐ Estimated	

Installation Date(s)	8/11/2008
Drilling Method	Hollow Stem
Drilling Contractor	Devonian
Drilling Fluid	None

Development Technique(s) and Date(s)
P.E. Bailer 8/14/08

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	15	gallons
Static Depth to Water	4.98	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date 8/14/2008
Specific Capacity	NA	gpm/ft
Well Purpose	Sparge System Observation Well	

Remarks
Sand 200 lbs
Bentonite Pellets 50 lbs

Prepared by George Cook

Miss. Bluffs/2656.1/L/WELLCONS 8-08/tms

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ATTACHMENT B

Air Sparge Analytical Summary Table

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Table B-1. Summary of Detections in Air Sparge Analytical Data, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Parameter/Method/Unit	8/26/2008	9/11/2008
SP-1		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**0.260**	NA
Volatile Organic Compounds (8260) (mg/L)		
Acetone	**3.920**	NA
Bromodichloromethane	**0.061**	NA
Bromoform	**0.106**	NA
2-Butanone (MEK)	**4.680**	NA
Chloroform	**5.320**	NA
Dibromochloromethane	**0.0460J**	NA
Methylene Chloride	**0.166B**	NA
SP-TW-1A		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**0.440**	**0.690**
Volatile Organic Compounds (8260) (mg/L)		
Bromodichloromethane	**0.0305J**	**0.0425J**
Chloroform	**7.620**	**10.400**
Methylene Chloride	**0.186B**	**0.117B**
pH (s.u.)	NA	**7.36**
SP-TW-1B		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**1.100**	**0.720**
Volatile Organic Compounds (8260) (mg/L)		
1,2-Dichloroethane	--	**0.0155J**
Bromodichloromethane	**0.128**	**0.150**
Bromoform	**0.194**	**0.150**
Chloroform	**17.900**	**25.900**
Dibromochloromethane	**0.0555**	**0.0540**
Methylene Chloride	--	**0.148B**
pH (s.u.)	NA	**6.91**

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Table B-1. Summary of Detections in Air Sparge Analytical Data, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Parameter/Method/Unit	8/26/2008	9/11/2008
SP-TW-2A		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**1.500**	**0.830**
Volatile Organic Compounds (8260) (mg/L)		
Bromodichloromethane	**0.0960**	**0.104**
Bromoform	**0.143**	**0.166**
Chloroform	**7.700**	**10.100**
Dibromochloromethane	**0.0555**	**0.0610**
Methylene Chloride	**0.184B**	**0.134B**
pH (s.u.)	NA	**6.84**
SP-TW-2B		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**2.000**	**2.200**
Volatile Organic Compounds (8260) (mg/L)		
Bromodichloromethane	**0.180**	**0.206**
Bromoform	**0.269**	**0.338**
Chloroform	**11.800**	**15.200**
Dibromochloromethane	**0.126**	**0.128**
Methylene Chloride	**0.224B**	**0.144B**
Vinyl Chloride	**0.0155J**	--
pH (s.u.)	NA	**6.74**

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Table B-1. Summary of Detections in Air Sparge Analytical Data, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Parameter/Method/Unit	8/26/2008	9/11/2008
SP-TW-3A		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide	**0.810**	**0.840**
Volatile Organic Compounds (8260) (mg/L)		
1,1,1,2-Tetrachloroethane	--	**0.00288**
1,1,2-Trichloroethane	--	**0.000810J**
1,1-Dichloroethane	--	**0.0109**
1,1-Dichloroethene	--	**0.00109**
1,2-Dichloroethane	--	**0.00115**
1,2-Dichloropropane	--	**0.00272**
Benzene	--	**0.000260J**
Bromodichloromethane	**0.0860**	**0.0986**
Bromoform	**0.0760**	**0.0794**
Carbon Disulfide	--	**0.000460J**
Carbon Tetrachloride	--	**0.00712**
Chloroform	**9.240**	**9.540**
Chloromethane	--	**0.000790J**
Dibromochloromethane	**0.0415J**	**0.0458**
Dibromomethane	--	**0.000820J**
Methylene Chloride	**0.158B**	**0.00686B**
Tetrachloroethene	--	**0.00283**
Toluene	--	**0.000190J**
Trichloroethene	--	**0.00271**
Vinyl Chloride	--	**0.000680J**
pH (s.u.)	NA	**7.26**
SP-TW-3B		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide (mg/L)	**1.800**	**2.300**
Volatile Organic Compounds (8260) (mg/L)		
Bromodichloromethane	**0.204**	**0.254**
Bromoform	**0.302**	**0.360**
Chloroform	**15.600**	**24.400**
Dibromochloromethane	**0.109**	**0.131**
Methylene Chloride	**0.188B**	**0.152B**
pH (s.u.)	NA	**6.43**

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Table B-1. Summary of Detections in Air Sparge Analytical Data, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Parameter/Method/Unit	8/26/2008	9/11/2008
PZ-22B		
Dissolved Gases (RSK-175) (mg/L)		
Carbon Dioxide (mg/L)	**2.800**	**2.900**
Volatile Organic Compounds (8260) (mg/L)		
Bromodichloromethane	**0.116**	**0.129**
Bromoform	**0.130**	**0.114**
Chloroform	**13.700**	**18.000**
Dibromochloromethane	**0.0530**	**0.0570**
Methylene Chloride	**0.179B**	**0.187B**
pH (s.u.)	NA	**6.51**
Trip Blank		
Volatile Organic Compounds (8260) (mg/L)		
Methylene Chloride	**0.00315B**	**0.00332B**

B	Analyte detected in method blank.
mg/L	Milligram per liter.
NA	Not analyzed.
s.u.	Standard units.
--	Not detected.
Note:	Appendix IX volatile organic compounds analyzed. This table only shows concentrations detected in either the baseline or post-study sampling event.

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ATTACHMENT C

Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 640-18412-1

Job Description: MS Bluffs

For:
ARCADIS U.S., Inc.
10352 Plaza Americana Dr.
Baton Rouge, LA 70816

Attention: Craig Derouen

Debra A Vergin

Debra Vergin
Project Manager II
debra.vergin@testamericainc.com
09/16/2008

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the TestAmerica Project Manager who signed this test report. Measurement uncertainty data, as referenced in Section 20.12 of the TestAmerica Tallahassee Quality Assurance Manual, are available upon request

TestAmerica Pensacola LELAP 02075

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
640-18412-1	**SP-TW-1A (091108)**				
Carbon dioxide		690	50	ug/L	RSK-175
640-18412-2	**SP-TW-1B (091108)**				
Carbon dioxide		720	50	ug/L	RSK-175
640-18412-3	**PZ-22B (091108)**				
Carbon dioxide		2900	50	ug/L	RSK-175
640-18412-4	**SP-TW-2A (091108)**				
Carbon dioxide		830	50	ug/L	RSK-175
640-18412-5	**SP-TW-2B (091108)**				
Carbon dioxide		2200	50	ug/L	RSK-175
640-18412-6	**SP-TW-3A (091108)**				
Carbon dioxide		840	50	ug/L	RSK-175
640-18412-7	**SP-TW-3B (091108)**				
Carbon dioxide		2300	50	ug/L	RSK-175

METHOD SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 640-18412-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water (Unpreserved)	TAL PEN	RSK RSK-175	

Lab References:

TAL PEN = TestAmerica Pensacola

Method References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Method	Analyst	Analyst ID
RSK RSK-175	Ayers, Kim	KA

SAMPLE SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
640-18412-1	SP-TW-1A (091108)	Water	09/11/2008 1140	09/12/2008 0939
640-18412-2	SP-TW-1B (091108)	Water	09/11/2008 1210	09/12/2008 0939
640-18412-3	PZ-22B (091108)	Water	09/11/2008 1250	09/12/2008 0939
640-18412-4	SP-TW-2A (091108)	Water	09/11/2008 1330	09/12/2008 0939
640-18412-5	SP-TW-2B (091108)	Water	09/11/2008 1405	09/12/2008 0939
640-18412-6	SP-TW-3A (091108)	Water	09/11/2008 1445	09/12/2008 0939
640-18412-7	SP-TW-3B (091108)	Water	09/11/2008 1550	09/12/2008 0939

SAMPLE RESULTS

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-1A (091108)**

Lab Sample ID: 640-18412-1
Client Matrix: Water

Date Sampled: 09/11/2008 1140
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0659
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	690		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-1B (091108)**

Lab Sample ID: 640-18412-2
Client Matrix: Water

Date Sampled: 09/11/2008 1210
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0735
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	720		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **PZ-22B (091108)**

Lab Sample ID: 640-18412-3
Client Matrix: Water

Date Sampled: 09/11/2008 1250
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0746
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	2900		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-2A (091108)**

Lab Sample ID: 640-18412-4
Client Matrix: Water

Date Sampled: 09/11/2008 1330
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0758
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	830		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-2B (091108)**

Lab Sample ID: 640-18412-5
Client Matrix: Water

Date Sampled: 09/11/2008 1405
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0901
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	2200		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-3A (091108)**

Lab Sample ID: 640-18412-6
Client Matrix: Water

Date Sampled: 09/11/2008 1445
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0913
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	840		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Client Sample ID: **SP-TW-3B (091108)**

Lab Sample ID: 640-18412-7
Client Matrix: Water

Date Sampled: 09/11/2008 1550
Date Received: 09/12/2008 0939

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/15/2008 0939
Date Prepared: N/A

Analysis Batch: 400-76196

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	2300		50

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

QUALITY CONTROL RESULTS

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:400-76196					
LCS 400-76196/2	Lab Control Spike	T	Water	RSK-175	
LCSD 400-76196/3	Lab Control Spike Duplicate	T	Water	RSK-175	
MB 400-76196/1	Method Blank	T	Water	RSK-175	
640-18412-1	SP-TW-1A (091108)	T	Water	RSK-175	
640-18412-2	SP-TW-1B (091108)	T	Water	RSK-175	
640-18412-3	PZ-22B (091108)	T	Water	RSK-175	
640-18412-4	SP-TW-2A (091108)	T	Water	RSK-175	
640-18412-5	SP-TW-2B (091108)	T	Water	RSK-175	
640-18412-6	SP-TW-3A (091108)	T	Water	RSK-175	
640-18412-7	SP-TW-3B (091108)	T	Water	RSK-175	

Report Basis
T = Total

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Method Blank - Batch: 400-76196

Method: RSK-175
Preparation: N/A

Lab Sample ID: MB 400-76196/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/15/2008 0647
Date Prepared: N/A

Analysis Batch: 400-76196
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

Analyte	Result	Qual	RL
Carbon dioxide	<50		50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 400-76196

Method: RSK-175
Preparation: N/A

LCS Lab Sample ID: LCS 400-76196/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/15/2008 0621
Date Prepared: N/A

Analysis Batch: 400-76196
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

LCSD Lab Sample ID: LCSD 400-76196/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/15/2008 0634
Date Prepared: N/A

Analysis Batch: 400-76196
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Carbon dioxide	111	112	80 - 120	1	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 400-76196

Method: RSK-175
Preparation: N/A

LCS Lab Sample ID: LCS 400-76196/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/15/2008 0621
Date Prepared: N/A

Units: ug/L

LCSD Lab Sample ID: LCSD 400-76196/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/15/2008 0634
Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Carbon dioxide	5840	5840	6490	6530

Calculations are performed before rounding to avoid round-off errors in calculated results.

ARCADIS

Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number/Name: Miss Bluffs/LA002656.0004.00029

Project Location: Vicksburg MS

Laboratory: Test America

Project Manager: Craig Dorman

Sampler(s)/Affiliation: G Cook

640-18412

ANALYSIS / METHOD / SIZE

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	RSK 175 40ml clear vials w/ HCl						Remarks	Total
SP-TW-1A (05/11/08)	L	05-11-08 1140		2							2
SP-TW-1B (05/11/08)	L	1210		2							2
PZ-22B (05/11/08)	L	1250		2							2
SP-TW-2A (05/11/08)	L	1330		2							2
SP-TW-2B (05/11/08)	L	1405		2							2
SP-TW-3A (05/11/08)	L	1445		2							2
SP-TW-3B (05/11/08)	L	1550		2							2
										Total No. of Bottles/ Containers	14

Sample Matrix: L = Liquid; S = Solid; A = Air

Relinquished by: George E Cook	Organization: Arcadis	Date 09/16/08	Time 1700	Seal Intact? Yes No N/A
Received by: Dan Smith	Organization: Test America	Date 9/12/08	Time 0939	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks: 1.1°C

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

AG 05-12/01

Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Login Number: 18412
Creator: Jones, Daniella
List Number: 1

List Source: TestAmerica Tallahassee

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 640-18412-1

Login Number: 18412
Creator: Hedaria, Raven
List Number: 1

List Source: TestAmerica Pensacola
List Creation: 09/13/08 11:39 AM

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	5.2°C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

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

September 09, 2008

Craig Derouen
Arcadis Geraghty & Miller
10352 Plaza Americana Drive
Baton Rouge, LA 70816

RE: Project 2085469
Project ID: MS BLUFFS/LA002656.1.29

Dear Craig Derouen:

Enclosed are the analytical results for sample(s) received by the laboratory on August 27, 2008. 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.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, execpt in full, without the written consent of Pace Analytical Services, Inc.

Sample Cross Reference

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

Project: 2085469

Client: Arcadis Geraghty & Miller

Project ID: MS BLUFFS/LA002656.1.29

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
SP-1 (082608)	20634765	Water	26-Aug-08 08:50	27-Aug-08 10:30
SP-TW-1A (082608)	20634766	Water	26-Aug-08 09:25	27-Aug-08 10:30
SP-TW-1B (082608)	20634768	Water	26-Aug-08 10:10	27-Aug-08 10:30
SP-TW-2A (082608)	20634769	Water	26-Aug-08 10:49	27-Aug-08 10:30
SP-TW-2B (082608)	20634770	Water	26-Aug-08 11:45	27-Aug-08 10:30
SP-TW-3A (082608)	20634772	Water	26-Aug-08 12:50	27-Aug-08 10:30
SP-TW-3B (082608)	20634773	Water	26-Aug-08 13:40	27-Aug-08 10:30
PZ-22B (082608)	20634775	Water	26-Aug-08 14:30	27-Aug-08 10:30
TB-01 (082608)	20634778	Water	26-Aug-08 00:00	27-Aug-08 10:30

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Project Narrative

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

Project: 2085469

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

The following blank results were above reporting limits:

Batch 106597 sample 20634900 Methylene chloride

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.

Project Narrative

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

Project: 2085469

Analytical Method	Batch	Sample used for QC
EPA 8260	106597	Project sample SP-1 (082608)

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 the a different client was used.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-1 (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634765
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 106597

Collected: 26-Aug-08 **Received:** 27-Aug-08
Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 13:06 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result		Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	3920		200.	66.0	
75-05-8	Acetonitrile	50	D6	ND		1000	105.	
107-02-8	Acrolein	50	D6	ND		400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND		200.	62.1	
107-05-1	Allyl chloride	50	D6	ND		100.	9.87	
71-43-2	Benzene	50	D6	ND		50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	61.0		50.0	3.07	
75-25-2	Bromoform	50	D6	106.		50.0	6.22	
74-83-9	Bromomethane	50	D6	ND		50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	4680		100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND		50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND		50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND		50.0	6.03	
75-00-3	Chloroethane	50	D6	ND		50.0	23.3	
67-66-3	Chloroform	50	D6	5320		50.0	3.55	
74-87-3	Chloromethane	50	D6	ND		50.0	15.2	
126-99-8	Chloroprene	50	D6	ND		50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND		100.	36.8	
124-48-1	Dibromochloromethane	50	D6	46.0	J	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND		50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND		50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND		100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND		50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND		50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND		50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND		50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND		50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND		50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND		50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND		50.0	4.04	

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-1 (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634765
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 106597

Collected: 26-Aug-08 **Received:** 27-Aug-08
Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 13:06 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	166.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1A (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634766
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 106597

Collected: 26-Aug-08 **Received:** 27-Aug-08
Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 13:29 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result		Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND		200.	66.0	
75-05-8	Acetonitrile	50	D6	ND		1000	105.	
107-02-8	Acrolein	50	D6	ND		400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND		200.	62.1	
107-05-1	Allyl chloride	50	D6	ND		100.	9.87	
71-43-2	Benzene	50	D6	ND		50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	30.5	J	50.0	3.07	
75-25-2	Bromoform	50	D6	ND		50.0	6.22	
74-83-9	Bromomethane	50	D6	ND		50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND		100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND		50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND		50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND		50.0	6.03	
75-00-3	Chloroethane	50	D6	ND		50.0	23.3	
67-66-3	Chloroform	50	D6	7620		50.0	3.55	
74-87-3	Chloromethane	50	D6	ND		50.0	15.2	
126-99-8	Chloroprene	50	D6	ND		50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND		100.	36.8	
124-48-1	Dibromochloromethane	50	D6	ND		50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND		50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND		50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND		100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND		50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND		50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND		50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND		50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND		50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND		50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND		50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND		50.0	4.04	

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1A (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634766
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water
% Moisture: n/a
Prep Level: Water
Batch: 106597

Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 13:29 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	186.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1B (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634768
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 106597

Collected: 26-Aug-08 **Received:** 27-Aug-08
Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 13:52 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	128.	50.0	3.07	
75-25-2	Bromoform	50	D6	194.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	200	D1	17900	200.	14.2	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	55.5	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:33

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LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634768
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 13:52 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	ND	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
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LA Dept. of Health and Hospitals Drinking Water - LA080013
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Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2A (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634769
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 14:38 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	96.0	50.0	3.07	
75-25-2	Bromoform	50	D6	143.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	50	D6	7700	50.0	3.55	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	55.5	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:33

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MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2A (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634769
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 14:38 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	184.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:33

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634770
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 15:01 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	180.	50.0	3.07	
75-25-2	Bromoform	50	D6	269.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	11800	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	126.	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634770
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 15:01 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result		Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND		2500	343.	
100-41-4	Ethylbenzene	50	D6	ND		50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND		100.	17.6	
591-78-6	2-Hexanone	50	D6	ND		100.	39.3	
74-88-4	Iodomethane	50	D6	ND		50.0	5.07	
78-83-1	Isobutanol	50	D6	ND		2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND		1000	42.1	
75-09-2	Methylene chloride	50	B,D6	224.		50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND		100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND		100.	26.6	
107-12-0	Propionitrile	50	D6	ND		800.	37.0	
100-42-5	Styrene	50	D6	ND		50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND		50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND		50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND		50.0	9.22	
108-88-3	Toluene	50	D6	ND		50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND		50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND		50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND		50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND		50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND		50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND		50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND		50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND		100.	5.37	
75-01-4	Vinyl chloride	50	D6	15.5	J	50.0	12.9	
	m&p-Xylene	50	D6	ND		50.0	15.2	
95-47-6	o-Xylene	50	D6	ND		50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3A (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634772
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 15:47 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	86.0	50.0	3.07	
75-25-2	Bromoform	50	D6	76.0	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	50	D6	9240	50.0	3.55	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	41.5 J	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3A (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634772
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 15:47 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	158.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634773
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 08-Sep-08
Analyzed: 28-Aug-08 16:10 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	204.	50.0	3.07	
75-25-2	Bromoform	50	D6	302.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	15600	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	109.	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3B (082608) **Project:** 2085469
Project ID: MS BLUFFS/LA002656.1.29 **Site:** None
Lab ID: 20634773 **Matrix:** Water **% Moisture:** n/a
Description: None **Prep Level:** Water **Batch:** 106597
Method: EPA 8260
GCMS VOAs Trace Water **Collected:** 26-Aug-08 **Received:** 27-Aug-08
Prepared: 08-Sep-08 **Analyzed:** 28-Aug-08 16:10 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	188.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: PZ-22B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634775
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 08-Sep-08
Analyzed: 28-Aug-08 16:33 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	116.	50.0	3.07	
75-25-2	Bromoform	50	D6	130.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	13700	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	53.0	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/9/2008 10:57:34

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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: PZ-22B (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634775
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 08-Sep-08
Analyzed: 28-Aug-08 16:33 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	179.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: TB-01 (082608)
Project: 2085469
Project ID: MS BLUFFS/LA002656.1.29
Site: None
Lab ID: 20634778
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 106597
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 26-Aug-08
Received: 27-Aug-08
Prepared: 28-Aug-08
Analyzed: 28-Aug-08 17:42 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	1	A11	ND	4.00	1.32	
75-05-8	Acetonitrile	1		ND	20.0	2.11	
107-02-8	Acrolein	1		ND	8.00	1.54	
107-13-1	Acrylonitrile	1		ND	4.00	1.24	
107-05-1	Allyl chloride	1		ND	2.00	0.197	
71-43-2	Benzene	1		ND	1.00	0.149	
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614	
75-25-2	Bromoform	1		ND	1.00	0.124	
74-83-9	Bromomethane	1		ND	1.00	0.487	
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223	
75-15-0	Carbon disulfide	1		ND	1.00	0.167	
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134	
108-90-7	Chlorobenzene	1		ND	1.00	0.121	
75-00-3	Chloroethane	1		ND	1.00	0.466	
67-66-3	Chloroform	1		ND	1.00	0.0709	
74-87-3	Chloromethane	1		ND	1.00	0.304	
126-99-8	Chloroprene	1		ND	1.00	0.154	
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736	
124-48-1	Dibromochloromethane	1		ND	1.00	0.259	
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812	
74-95-3	Dibromomethane	1		ND	1.00	0.158	
110-57-6	trans-1,4-Dichloro-2-butene	1		ND	2.00	0.328	
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369	
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894	
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735	
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188	
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144	
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511	
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522	
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808	

Protocol 9/9/2008 10:57:34

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LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: TB-01 (082608)
Project ID: MS BLUFFS/LA002656.1.29
Lab ID: 20634778
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085469
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 106597

Collected: 26-Aug-08 **Received:** 27-Aug-08
Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 17:42 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	1		ND	50.0	6.86	
100-41-4	Ethylbenzene	1		ND	1.00	0.159	
97-63-2	Ethyl methacrylate	1		ND	2.00	0.351	
591-78-6	2-Hexanone	1		ND	2.00	0.786	
74-88-4	Iodomethane	1		ND	1.00	0.101	
78-83-1	Isobutanol	1		ND	50.0	4.77	
126-98-7	Methacrylonitrile	1		ND	20.0	0.842	
75-09-2	Methylene chloride	1	A11,B	3.15	1.00	0.313	
80-62-6	Methyl methacrylate	1		ND	2.00	0.207	
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531	
107-12-0	Propionitrile	1		ND	16.0	0.740	
100-42-5	Styrene	1		ND	1.00	0.0987	
630-20-6	1,1,1,2-Tetrachloroethane	1		ND	1.00	0.210	
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112	
127-18-4	Tetrachloroethene	1		ND	1.00	0.184	
108-88-3	Toluene	1		ND	1.00	0.118	
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119	
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145	
79-01-6	Trichloroethene	1		ND	1.00	0.103	
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206	
96-18-4	1,2,3-Trichloropropane	1		ND	1.00	0.136	
95-63-6	1,2,4-Trimethylbenzene	1		ND	1.00	0.119	
108-67-8	1,3,5-Trimethylbenzene	1		ND	1.00	0.138	
108-05-4	Vinyl acetate	1		ND	2.00	0.107	
75-01-4	Vinyl chloride	1		ND	1.00	0.257	
	m&p-Xylene	1		ND	1.00	0.305	
95-47-6	o-Xylene	1		ND	1.00	0.132	

57 compound(s) reported

Protocol 9/9/2008 10:57:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
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U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Organics Quality Control

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

Batch: 106597 **Project:** 2085469 **LCS:** 20634901 28-Aug-08 9:39

MS: 20634902 28-Aug-08 10:02

MSD: 20634903 28-Aug-08 10:25

Units: ug/L **Original for MS:** 20634765 Client Sample

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Acetone	50	45.45	91	50	3918.00	3953	4131	70	426 *	4	22 - 165	11 - 217	20	\11,Q1
Acetonitrile	550	455.6	83	550	0.00	426.6	439.5	78	80	3	15 - 171	10 - 261	20	
Acrolein	100	30.86	31	100	0.00	30.16	31.84	30	32	5	10 - 131	10 - 142	20	
Acrylonitrile	150	143.8	96	150	0.00	131.6	139	88	93	5	18 - 149	20 - 164	20	
Allyl chloride	100	97.05	97	100	0.00	93.13	99.6	93	100	7	52 - 127	51 - 129	20	
Benzene	50	45.85	92	50	0.00	43.29	45.94	87	92	6	62 - 131	52 - 141	20	
Bromodichloromethane	50	46.17	92	50	61.00	122.3	125.1	123	128	2	69 - 132	70 - 134	20	Q1
Bromoform	50	63.2	126	50	106.00	177.8	184.2	144	156	4	35 - 166	37 - 171	20	Q1
Bromomethane	50	53.35	107	50	0.00	52.57	53.88	105	108	2	34 - 158	34 - 155	20	
2-Butanone (MEK)	50	38.26	77	50	4677.00	3092	2845	0 *	0 *	8	32 - 183	20 - 205	20	\11,Q1
Carbon disulfide	50	43.36	87	50	0.00	43.72	47.01	87	94	7	31 - 128	28 - 130	20	
Carbon tetrachloride	50	54.11	108	50	0.00	48.34	52.88	97	106	9	54 - 144	48 - 146	20	
Chlorobenzene	50	62.02	124	50	0.00	57.89	61.78	116	124	7	70 - 127	67 - 129	20	
Chloroethane	50	60.35	121	50	0.00	59.98	60.62	120	121	1	17 - 195	12 - 192	20	
Chloroform	50	49.36	99	50	5315.00	1360	1216	0 *	0 *	11	73 - 134	66 - 143	20	Q1
Chloromethane	50	45.16	90	50	0.00	43.82	43.93	88	88	0	17 - 153	14 - 155	20	
Chloroprene	50	48.94	98	50	0.00	44.65	49.48	89	99	10	55 - 137	50 - 134	20	
1,2-Dibromo-3-chloropropa	50	39.42	79	50	0.00	35.21	37.09	70	74	5	21 - 160	23 - 166	20	
Dibromochloromethane	50	58.17	116	50	46.00	107	112.2	122	132	5	49 - 146	50 - 150	20	Q1
1,2-Dibromoethane (EDB)	50	53.16	106	50	0.00	48.84	51.28	98	103	5	52 - 161	55 - 166	20	
Dibromomethane	50	48.78	98	50	0.00	52.23	53.74	105	108	3	56 - 145	58 - 153	20	
trans-1,4-Dichloro-2-butene	100	78.56	79	100	0.00	72.1	75	72	75	4	21 - 157	23 - 163	20	
1,1-Dichloroethane	50	43.96	88	50	0.00	48.83	52.4	98	105	7	63 - 129	59 - 133	20	
1,2-Dichloroethane	50	47.04	94	50	0.00	45.41	46.8	91	94	3	57 - 148	56 - 154	20	
1,1-Dichloroethene	50	50.69	101	50	0.00	48.67	52.87	97	106	8	51 - 139	44 - 146	20	
trans-1,2-Dichloroethene	50	50.99	102	50	0.00	46.5	50.98	93	102	9	60 - 129	57 - 132	20	
1,2-Dichloropropane	50	40.98	82	50	0.00	40.53	42.38	81	85	4	66 - 128	62 - 135	20	
cis-1,3-Dichloropropene	50	43.83	88	50	0.00	41.2	43.74	82	88	6	72 - 138	70 - 139	20	
trans-1,3-Dichloropropene	50	47.55	95	50	0.00	43.47	46.42	87	93	7	59 - 149	59 - 154	20	
1,4-Dioxane (p-Dioxane)	1050	1188	113	1050	0.00	961.7	1006	92	96	5	17 - 200	15 - 221	20	
Ethylbenzene	50	54.7	109	50	0.00	51.75	54.89	104	110	6	66 - 126	57 - 135	20	
Ethyl methacrylate	100	94.54	95	100	0.00	87.2	93.26	87	93	7	35 - 168	37 - 177	20	
2-Hexanone	50	42.87	86	50	0.00	35.39	39.57	71	79	11	36 - 170	25 - 189	20	
Iodomethane	50	54.02	108	50	0.00	51.27	55.54	103	111	8	47 - 135	46 - 138	20	
Isobutanol	1050	822.6	78	1050	0.00	747.5	812.4	71	77	8	32 - 173	26 - 188	20	

9/9/2008 10:57:35

*** 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 106597 **Project:** 2085469 **LCS:** 20634901 28-Aug-08 9:39

MS: 20634902 28-Aug-08 10:02

MSD: 20634903 28-Aug-08 10:25

Units: ug/L **Original for MS:** 20634765 Client Sample

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Methacrylonitrile	550	464.4	84	550	0.00	420.5	450.9	77	82	7	25 - 172	26 - 186	20	
Methylene chloride	50	42.76	86	50	166.00	61.58	59.98	0 *	0 *	3	46 - 168	45 - 166	20	A11,Q1
Methyl methacrylate	100	79.81	80	100	0.00	72.87	77.82	73	78	7	33 - 170	37 - 180	20	
4-Methyl-2-pentanone (MIB	50	45.82	92	50	0.00	41.82	45.38	84	91	8	26 - 171	23 - 184	20	
Propionitrile	550	525.7	96	550	0.00	474.5	505.9	86	92	6	14 - 183	15 - 199	20	
Styrene	50	52.24	104	50	0.00	49.34	52.37	99	105	6	72 - 133	58 - 144	20	
1,1,1,2-Tetrachloroethane	50	60.38	121	50	0.00	55.65	58.49	111	117	5	66 - 134	66 - 136	20	
1,1,2,2-Tetrachloroethane	50	38.48	77	50	0.00	34.85	36.79	70	74	5	15 - 179	15 - 187	20	
Tetrachloroethene	50	62.2	124	50	0.00	56.31	59.66	113	119	6	46 - 157	48 - 143	20	
Toluene	50	48.89	98	50	0.00	46.32	48.72	93	97	5	69 - 126	59 - 136	20	
1,1,1-Trichloroethane	50	50.86	102	50	0.00	46.08	49.93	92	100	8	62 - 131	54 - 137	20	
1,1,2-Trichloroethane	50	47.67	95	50	0.00	45.02	47.43	90	95	5	58 - 144	59 - 148	20	
Trichloroethene	50	55.87	112	50	0.00	52.37	55.8	105	112	6	67 - 132	58 - 140	20	
Trichlorofluoromethane	50	66.25	133	50	0.00	61.11	64.84	122	130	6	39 - 171	24 - 175	20	
1,2,3-Trichloropropane	50	42.44	85	50	0.00	39.08	41.14	78	82	5	13 - 187	14 - 199	20	
1,2,4-Trimethylbenzene	50	40.35	81	50	0.00	40.13	42.4	80	85	6	58 - 134	49 - 140	20	
1,3,5-Trimethylbenzene	50	39.95	80	50	0.00	39.4	42.12	79	84	7	56 - 134	40 - 147	20	
Vinyl acetate	50	49.89	100	50	0.00	46.12	50.14	92	100	8	22 - 191	18 - 198	20	
Vinyl chloride	50	42.86	86	50	0.00	41.63	41.9	83	84	1	27 - 149	21 - 150	20	
m&p-Xylene	100	104.8	105	100	0.00	99.7	106.1	100	106	6	65 - 129	56 - 136	20	
o-Xylene	50	56.17	112	50	0.00	52.96	57.32	106	115	8	65 - 124	57 - 133	20	

56 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.

9/9/2008 10:57:35

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 106597 **Project:** 2085469 **LCS:** 20636128 08-Sep-08 10:36

MS:

MSD:

Units: ug/L **Original for MS:**

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Acetone	50	39.99	80								22 - 165	-		A11
Acetonitrile	550	436.7	79								15 - 171	-		
Acrolein	100	29.43	29								10 - 131	-		
Acrylonitrile	150	144.2	96								18 - 149	-		
Allyl chloride	100	102	102								52 - 127	-		
Benzene	50	47.84	96								62 - 131	-		
Bromodichloromethane	50	49.29	99								69 - 132	-		
Bromoform	50	59.27	119								35 - 166	-		
Bromomethane	50	57.27	115								34 - 158	-		
2-Butanone (MEK)	50	36.47	73								32 - 183	-		A11
Carbon disulfide	50	47.78	96								31 - 128	-		
Carbon tetrachloride	50	55.41	111								54 - 144	-		
Chlorobenzene	50	60.81	122								70 - 127	-		
Chloroethane	50	60.12	120								17 - 195	-		
Chloroform	50	52.17	104								73 - 134	-		
Chloromethane	50	48.02	96								17 - 153	-		
Chloroprene	50	51.32	103								55 - 137	-		
1,2-Dibromo-3-chloropropa	50	41.06	82								21 - 160	-		
Dibromochloromethane	50	59.8	120								49 - 146	-		
1,2-Dibromoethane (EDB)	50	54.52	109								52 - 161	-		
Dibromomethane	50	50.02	100								56 - 145	-		
trans-1,4-Dichloro-2-butene	100	77.9	78								21 - 157	-		
1,1-Dichloroethane	50	46.13	92								63 - 129	-		
1,2-Dichloroethane	50	49.06	98								57 - 148	-		
1,1-Dichloroethene	50	53.95	108								51 - 139	-		
trans-1,2-Dichloroethene	50	55.7	111								60 - 129	-		
1,2-Dichloropropane	50	43.38	87								66 - 128	-		
cis-1,3-Dichloropropene	50	45.76	92								72 - 138	-		
trans-1,3-Dichloropropene	50	48.54	97								59 - 149	-		
1,4-Dioxane (p-Dioxane)	1050	1044	99								17 - 200	-		
Ethylbenzene	50	53.54	107								66 - 126	-		
Ethyl methacrylate	100	95.1	95								35 - 168	-		
2-Hexanone	50	40.76	82								36 - 170	-		
Iodomethane	50	57.33	115								47 - 135	-		
Isobutanol	1050	779.7	74								32 - 173	-		

9/9/2008 10:57:35

* 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 106597 **Project:** 2085469 **LCS:** 20636128 08-Sep-08 10:36

MS:

MSD:

Units: ug/L **Original for MS:**

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Methacrylonitrile	550	450	82								25 - 172	-		
Methylene chloride	50	41.24	83								46 - 168	-		A11
Methyl methacrylate	100	79.71	80								33 - 170	-		
4-Methyl-2-pentanone (MIB	50	42.95	86								26 - 171	-		
Propionitrile	550	497.8	91								14 - 183	-		
Styrene	50	52.19	104								72 - 133	-		
1,1,1,2-Tetrachloroethane	50	59.82	120								66 - 134	-		
1,1,2,2-Tetrachloroethane	50	37.81	76								15 - 179	-		
Tetrachloroethene	50	58.77	118								46 - 157	-		
Toluene	50	49.34	99								69 - 126	-		
1,1,1-Trichloroethane	50	53.51	107								62 - 131	-		
1,1,2-Trichloroethane	50	47.33	95								58 - 144	-		
Trichloroethene	50	57.91	116								67 - 132	-		
Trichlorofluoromethane	50	68.07	136								39 - 171	-		
1,2,3-Trichloropropane	50	40.11	80								13 - 187	-		
1,2,4-Trimethylbenzene	50	39.87	80								58 - 134	-		
1,3,5-Trimethylbenzene	50	39.27	79								56 - 134	-		
Vinyl acetate	50	50	100								22 - 191	-		
Vinyl chloride	50	45.9	92								27 - 149	-		
m&p-Xylene	100	102	102								65 - 129	-		
o-Xylene	50	55.32	111								65 - 124	-		

56 compound(s) reported

9/9/2008 10:57:35

*** 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Surrogate Recovery

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

Batch: 106597 **Project:** 2085469

Method: Water EPA 8260

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
20634900	106597 BLANK 1		94	104	89					
20636127	106597 BLANK 2		91	103	96					
20634901	106597 LCS 1		95	98	91					
20636128	106597 LCS 2		92	98	91					
20634775	PZ-22B (082608)	D1,D6	91	103	90					
20634765	SP-1 (082608)	D6	94	100	89					
20634902	SP-1 (082608) MS 1		94	94	91					
20634903	SP-1 (082608) MSD 1		95	95	90					
20634766	SP-TW-1A (082608)	D6	93	99	89					
20634768	SP-TW-1B (082608)	D1,D6	94	98	90					
20634769	SP-TW-2A (082608)	D6	94	97	90					
20634770	SP-TW-2B (082608)	D1,D6	93	99	89					
20634772	SP-TW-3A (082608)	D6	93	101	90					
20634773	SP-TW-3B (082608)	D1,D6	93	101	90					
20634778	TB-01 (082608)		94	99	89					
	QC limits:		68-124	72-126	79-119					

Sur 1: 4-Bromofluorobenzene (S)
Sur 2: Dibromofluoromethane (S)
Sur 3: Toluene-d8 (S)

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*** 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 excursion.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Method Blank

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

Blank ID: 106597 BLANK 1 **Project:** 2085469

Lab ID: 20634900

Prep Level: Water **Batch:** 106597

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 09:16

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
67-64-1	Acetone	1	A11	ND	4.00	1.32
71-43-2	Benzene	1		ND	1.00	0.149
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614
75-25-2	Bromoform	1		ND	1.00	0.124
74-83-9	Bromomethane	1		ND	1.00	0.487
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223
75-15-0	Carbon disulfide	1		ND	1.00	0.167
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134
108-90-7	Chlorobenzene	1		ND	1.00	0.121
75-00-3	Chloroethane	1		ND	1.00	0.466
67-66-3	Chloroform	1		ND	1.00	0.0709
74-87-3	Chloromethane	1		ND	1.00	0.304
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736
124-48-1	Dibromochloromethane	1		ND	1.00	0.259
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808
100-41-4	Ethylbenzene	1		ND	1.00	0.159
591-78-6	2-Hexanone	1		ND	2.00	0.786
75-09-2	Methylene chloride	1	A11	1.75	1.00	0.313
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531
100-42-5	Styrene	1		ND	1.00	0.0987
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112
127-18-4	Tetrachloroethene	1		ND	1.00	0.184

9/9/2008 10:57:38

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Organics Method Blank

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

Blank ID: 106597 BLANK 1 **Project:** 2085469

Lab ID: 20634900

Prep Level: Water **Batch:** 106597

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 28-Aug-08 **Analyzed:** 28-Aug-08 09:16

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
108-88-3	Toluene	1		0.170 J	1.00	0.118
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145
79-01-6	Trichloroethene	1		ND	1.00	0.103
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206
75-01-4	Vinyl chloride	1		ND	1.00	0.257
	m&p-Xylene	1		ND	1.00	0.305
95-47-6	o-Xylene	1		ND	1.00	0.132

38 compound(s) reported

9/9/2008 10:57:38

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MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Method Blank

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

Blank ID: 106597 BLANK 2 **Project:** 2085469

Lab ID: 20636127

Prep Level: Water **Batch:** 106597

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 08-Sep-08 **Analyzed:** 08-Sep-08 09:48

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
67-64-1	Acetone	1	A11	ND	4.00	1.32
71-43-2	Benzene	1		ND	1.00	0.149
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614
75-25-2	Bromoform	1		ND	1.00	0.124
74-83-9	Bromomethane	1		ND	1.00	0.487
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223
75-15-0	Carbon disulfide	1		ND	1.00	0.167
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134
108-90-7	Chlorobenzene	1		ND	1.00	0.121
75-00-3	Chloroethane	1		ND	1.00	0.466
67-66-3	Chloroform	1		ND	1.00	0.0709
74-87-3	Chloromethane	1		ND	1.00	0.304
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736
124-48-1	Dibromochloromethane	1		ND	1.00	0.259
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808
100-41-4	Ethylbenzene	1		ND	1.00	0.159
591-78-6	2-Hexanone	1		ND	2.00	0.786
75-09-2	Methylene chloride	1	A11	ND	1.00	0.313
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531
100-42-5	Styrene	1		ND	1.00	0.0987
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112
127-18-4	Tetrachloroethene	1		ND	1.00	0.184

9/9/2008 10:57:38

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Organics Method Blank

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

Blank ID: 106597 BLANK 2 **Project:** 2085469

Lab ID: 20636127

Prep Level: Water **Batch:** 106597

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 08-Sep-08 **Analyzed:** 08-Sep-08 09:48

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
108-88-3	Toluene	1		ND	1.00	0.118
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145
79-01-6	Trichloroethene	1		ND	1.00	0.103
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206
75-01-4	Vinyl chloride	1		ND	1.00	0.257
	m&p-Xylene	1		ND	1.00	0.305
95-47-6	o-Xylene	1		ND	1.00	0.132

38 compound(s) reported

9/9/2008 10:57:38

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Definitions/Qualifiers

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

Project: 2085469

Value	Description
A11	This analyte is a common solvent. Its presence in field samples may be an artifact of sample collection, transport, laboratory storage or analysis.
D1	The analysis was performed at a dilution due to the high analyte concentration.
D6	The sample was analyzed at a dilution based upon the screening information.
Q1	The matrix spike recoveries are poor. Acceptable 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.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
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Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

2085469 20-ARCADISGM

ARCADIS

Laborat

JSTODY RECORD

Page 1 of 1

Project Number/Name Miss Bluffs /LK

Project Location Vicks Burg MS.

Laboratory PACE

Project Manager Craig Dorsoun

Sampler(s)/Affiliation G. Cook Arcadis

2085469

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	VOC 8260-App IX	SVOC 8270 Low Level/HCL/IX				/ SIZE	Remarks	Total
SP-1 (082608)	L	08-26-08 0850		3						20634765	3
SP-TW-1A (082608)	L	0925		3						766	3
SP-TW-1B (082608)	L	1010		3						768	3
SP-TW-2A (082608)	L	1049		3						769	3
SP-TW-2B (082608)	L	1145		3						770	3
SP-TW-3A (082608)	L	1250		3						772	3
SP-TW-3B (082608)	L	1340		3						773	3
PZ-26B (082608)	L	1430		3						775	3
TB-01 (082608)	L	08-26-08		2						778	2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 26

Relinquished by: George Cook	Organization: Arcadis	Date 08/26/08	Time 1550	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	
Relinquished by: Fed-Ex	Organization:	Date / /	Time	Seal Intact?
Received by: Deon Bailey	Organization: PACE	Date 8/27/08	Time 10:30	Yes No N/A

Special Instructions/Remarks: 3.1°

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other

2085469 20--ARCADISGM

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals Intact: ☐Yes ☐No

Thermometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2

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: 08/27/08 KS

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 preserative 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: _____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 640-18185-1

Job Description: MS Bluffs

For:
ARCADIS U.S., Inc.
10352 Plaza Americana Dr.
Baton Rouge, LA 70816

Attention: Craig Derouen

Debra Vergin
Project Manager II
debra.vergin@testamericainc.com
09/03/2008

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the TestAmerica Project Manager who signed this test report. Measurement uncertainty data, as referenced in Section 20.12 of the TestAmerica Tallahassee Quality Assurance Manual, are available upon request

TestAmerica Pensacola NELAP, Florida E81010

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Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS U.S., Inc. Job Number: 640-18185-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
640-18185-1	**SP-1 (082608)**				
Carbon dioxide		260	50	ug/L	RSK-175
640-18185-2	**SP-TW-1A (082608)**				
Carbon dioxide		440	50	ug/L	RSK-175
640-18185-3	**SP-TW-1B (082608)**				
Carbon dioxide		1100	50	ug/L	RSK-175
640-18185-4	**SP-TW-2A (082608)**				
Carbon dioxide		1500	50	ug/L	RSK-175
640-18185-5	**SP-TW-2B (082608)**				
Carbon dioxide		2000	50	ug/L	RSK-175
640-18185-6	**SP-TW-3A (082608)**				
Carbon dioxide		810	50	ug/L	RSK-175
640-18185-7	**SP-TW-3B (082608)**				
Carbon dioxide		1800	50	ug/L	RSK-175
640-18185-8	**PZ-22B (082608)**				
Carbon dioxide		2800	50	ug/L	RSK-175

METHOD SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 640-18185-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water (Unpreserved)	TAL PEN	RSK RSK-175	

Lab References:

TAL PEN = TestAmerica Pensacola

Method References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Method	Analyst	Analyst ID
RSK RSK-175	Green, Dylan	DG

SAMPLE SUMMARY

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
640-18185-1	SP-1 (082608)	Water	08/26/2008 0850	08/27/2008 0943
640-18185-2	SP-TW-1A (082608)	Water	08/26/2008 0925	08/27/2008 0943
640-18185-3	SP-TW-1B (082608)	Water	08/26/2008 1010	08/27/2008 0943
640-18185-4	SP-TW-2A (082608)	Water	08/26/2008 1049	08/27/2008 0943
640-18185-5	SP-TW-2B (082608)	Water	08/26/2008 1145	08/27/2008 0943
640-18185-6	SP-TW-3A (082608)	Water	08/26/2008 1250	08/27/2008 0943
640-18185-7	SP-TW-3B (082608)	Water	08/26/2008 1340	08/27/2008 0943
640-18185-8	PZ-22B (082608)	Water	08/26/2008 1430	08/27/2008 0943

SAMPLE RESULTS

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-1 (082608)**

Lab Sample ID: 640-18185-1
Client Matrix: Water

Date Sampled: 08/26/2008 0850
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 0824
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	260		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-1A (082608)**

Lab Sample ID: 640-18185-2
Client Matrix: Water

Date Sampled: 08/26/2008 0925
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 0917
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	440		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-1B (082608)**

Lab Sample ID: 640-18185-3
Client Matrix: Water

Date Sampled: 08/26/2008 1010
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 0947
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	1100		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-2A (082608)**

Lab Sample ID: 640-18185-4
Client Matrix: Water

Date Sampled: 08/26/2008 1049
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 1000
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	1500		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-2B (082608)**

Lab Sample ID: 640-18185-5
Client Matrix: Water

Date Sampled: 08/26/2008 1145
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 1013
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	2000		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-3A (082608)**

Lab Sample ID: 640-18185-6
Client Matrix: Water

Date Sampled: 08/26/2008 1250
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 1032
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	810		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **SP-TW-3B (082608)**

Lab Sample ID: 640-18185-7
Client Matrix: Water

Date Sampled: 08/26/2008 1340
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 1058
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	1800		50

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Client Sample ID: **PZ-22B (082608)**

Lab Sample ID: 640-18185-8
Client Matrix: Water

Date Sampled: 08/26/2008 1430
Date Received: 08/27/2008 0943

RSK-175 Dissolved Gases in Water (Unpreserved)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 09/02/2008 1113
Date Prepared: N/A

Analysis Batch: 400-75457

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Carbon dioxide	2800		50

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

QUALITY CONTROL RESULTS

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:400-75457					
LCS 400-75457/2	Lab Control Spike	T	Water	RSK-175	
LCSD 400-75457/3	Lab Control Spike Duplicate	T	Water	RSK-175	
MB 400-75457/1	Method Blank	T	Water	RSK-175	
640-18185-1	SP-1 (082608)	T	Water	RSK-175	
640-18185-2	SP-TW-1A (082608)	T	Water	RSK-175	
640-18185-3	SP-TW-1B (082608)	T	Water	RSK-175	
640-18185-4	SP-TW-2A (082608)	T	Water	RSK-175	
640-18185-5	SP-TW-2B (082608)	T	Water	RSK-175	
640-18185-6	SP-TW-3A (082608)	T	Water	RSK-175	
640-18185-7	SP-TW-3B (082608)	T	Water	RSK-175	
640-18185-8	PZ-22B (082608)	T	Water	RSK-175	

Report Basis
T = Total

Surrogate Recovery Report

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Method Blank - Batch: 400-75457

Method: RSK-175
Preparation: N/A

Lab Sample ID: MB 400-75457/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2008 0812
Date Prepared: N/A

Analysis Batch: 400-75457
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

Analyte	Result	Qual	RL
Carbon dioxide	<50		50

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 400-75457

Method: RSK-175
Preparation: N/A

LCS Lab Sample ID: LCS 400-75457/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2008 0734
Date Prepared: N/A

Analysis Batch: 400-75457
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

LCSD Lab Sample ID: LCSD 400-75457/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2008 0757
Date Prepared: N/A

Analysis Batch: 400-75457
Prep Batch: N/A
Units: ug/L

Instrument ID: GC/TCD/TCD
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Carbon dioxide	110	112	80 - 120	1	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 400-75457

Method: RSK-175
Preparation: N/A

LCS Lab Sample ID: LCS 400-75457/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2008 0734
Date Prepared: N/A

Units: ug/L

LCSD Lab Sample ID: LCSD 400-75457/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2008 0757
Date Prepared: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Carbon dioxide	5840	5840	6450	6520

Calculations are performed before rounding to avoid round-off errors in calculated results.

ARCADIS

Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

640-18185

Project Number/Name: Miss Bl. Ch/LA002654.29

Project Location: Vicksburg, MS.

Laboratory: Test America

Project Manager: Greg Denoon

Sampler(s)/Affiliation: G Cook/ Arcadis

ANALYSIS / METHOD / SIZE

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	PBL 175 UP (02 Head Wet/Dry Ice					Remarks	Total
SP-1 (082608)	L	08/26/08 0850		2						2
SP-TW-1A (082608)	L	0921		2						2
SP-TW-1B (082608)	L	1010		2						2
SP-TW-2A (082608)	L	1049		2						2
SP-TW-2B (082608)	L	1145		2						2
SP-TW-3A (082608)	L	1250		2						2
SP-TW-3B (082608)	L	1340		2						2
PZ-22B (082608)	L	1430		2						2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 16

Relinquished by: George Cook	Organization: Arcadis	Date 08/26/08	Time 1550	Seal Intact?
Received by: DJones	Organization:	Date 8/27/08	Time 0943	Yes No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks:

0.9°C

Delivery Method: ☐ In Person ☐ Common Carrier Fed Ex ☐ Lab Courier ☐ Other

Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Login Number: 18185
Creator: Jones, Daniella
List Number: 1

List Source: TestAmerica Tallahassee

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 640-18185-1

Login Number: 18185
Creator: Chea, Vanda
List Number: 1

List Source: TestAmerica Pensacola
List Creation: 08/29/08 12:04 PM

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	1.5°C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

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

September 19, 2008

Craig Derouen
Arcadis Geraghty & Miller
10352 Plaza Americana Drive
Baton Rouge, LA 70816

RE: Project 2085896
Project ID: MS BLUFFS/LA002656.0001.00029

Dear Craig Derouen:

Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2008. 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.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, execpt in full, without the written consent of Pace Analytical Services, Inc.

Sample Cross Reference

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

Project: 2085896

Client: Arcadis Geraghty & Miller

Project ID: MS BLUFFS/LA002656.0001.00029

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
SP-TW-1A (091108)	20637344	Water	11-Sep-08 11:40	12-Sep-08 12:50
SP-TW-1B (091108)	20637346	Water	11-Sep-08 12:10	12-Sep-08 12:50
PZ-22B (091108)	20637347	Water	11-Sep-08 12:50	12-Sep-08 12:50
SP-TW-2A (091108)	20637348	Water	11-Sep-08 13:30	12-Sep-08 12:50
SP-TW-2B (091108)	20637349	Water	11-Sep-08 14:05	12-Sep-08 12:50
SP-TW-3A (091108)	20637350	Water	11-Sep-08 14:45	12-Sep-08 12:50
SP-TW-3B (091108)	20637351	Water	11-Sep-08 15:50	12-Sep-08 12:50
TB-01 (091108)	20637352	Water	11-Sep-08 00:00	12-Sep-08 12:50

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Project Narrative

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

Project: 2085896

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

The following blank results were above reporting limits:

Batch 107070 sample 20637463 Methylene chloride

Batch 107070 sample 20637992 Methylene chloride

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.

Project Narrative

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

Project: 2085896

Analytical Method	Batch	Sample used for QC
EPA 8260	107070	Project sample SP-TW-1A (091108)
SM 4500-H B	107052	Batch sample from another client

9/19/2008 16:45:38

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 the a different client was used.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637344
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 19:58 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result		Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND		200.	66.0	
75-05-8	Acetonitrile	50	D6	ND		1000	105.	
107-02-8	Acrolein	50	D6	ND		400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND		200.	62.1	
107-05-1	Allyl chloride	50	D6	ND		100.	9.87	
71-43-2	Benzene	50	D6	ND		50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	42.5	J	50.0	3.07	
75-25-2	Bromoform	50	D6	ND		50.0	6.22	
74-83-9	Bromomethane	50	D6	ND		50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND		100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND		50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND		50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND		50.0	6.03	
75-00-3	Chloroethane	50	D6	ND		50.0	23.3	
67-66-3	Chloroform	100	D1	10400		100.	7.09	
74-87-3	Chloromethane	50	D6	ND		50.0	15.2	
126-99-8	Chloroprene	50	D6	ND		50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND		100.	36.8	
124-48-1	Dibromochloromethane	50	D6	ND		50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND		50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND		50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND		100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND		50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND		50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND		50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND		50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND		50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND		50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND		50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND		50.0	4.04	

Protocol 9/19/2008 16:45:39

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637344
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 19:58 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	117.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:39

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637346
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 17:17 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result		Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND		200.	66.0	
75-05-8	Acetonitrile	50	D6	ND		1000	105.	
107-02-8	Acrolein	50	D6	ND		400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND		200.	62.1	
107-05-1	Allyl chloride	50	D6	ND		100.	9.87	
71-43-2	Benzene	50	D6	ND		50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	150.		50.0	3.07	
75-25-2	Bromoform	50	D6	150.		50.0	6.22	
74-83-9	Bromomethane	50	D6	ND		50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND		100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND		50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND		50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND		50.0	6.03	
75-00-3	Chloroethane	50	D6	ND		50.0	23.3	
67-66-3	Chloroform	200	D1	25900		200.	14.2	
74-87-3	Chloromethane	50	D6	ND		50.0	15.2	
126-99-8	Chloroprene	50	D6	ND		50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND		100.	36.8	
124-48-1	Dibromochloromethane	50	D6	54.0		50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND		50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND		50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND		100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND		50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND		50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	15.5	J	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND		50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND		50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND		50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND		50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND		50.0	4.04	

Protocol 9/19/2008 16:45:39

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637346
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 17:17 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	148.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:39

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: PZ-22B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637347
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:03 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	129.	50.0	3.07	
75-25-2	Bromoform	50	D6	114.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	18000	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	57.0	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: PZ-22B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637347
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:03 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	187.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637348
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:26 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	104.	50.0	3.07	
75-25-2	Bromoform	50	D6	166.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	10100	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	61.0	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637348
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:26 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	134.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637349
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:49 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	206.	50.0	3.07	
75-25-2	Bromoform	50	D6	338.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	100	D1	15200	100.	7.09	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	128.	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637349
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 18:49 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	144.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637350
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 18-Sep-08
Analyzed: 18-Sep-08 13:32 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	1	A11	ND	4.00	1.32	
75-05-8	Acetonitrile	1		ND	20.0	2.11	
107-02-8	Acrolein	1		ND	8.00	1.54	
107-13-1	Acrylonitrile	1		ND	4.00	1.24	
107-05-1	Allyl chloride	1		ND	2.00	0.197	
71-43-2	Benzene	1		0.260 J	1.00	0.149	
75-27-4	Bromodichloromethane	1		98.6	1.00	0.0614	
75-25-2	Bromoform	1		79.4	1.00	0.124	
74-83-9	Bromomethane	1		ND	1.00	0.487	
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223	
75-15-0	Carbon disulfide	1		0.460 J	1.00	0.167	
56-23-5	Carbon tetrachloride	1		7.12	1.00	0.134	
108-90-7	Chlorobenzene	1		ND	1.00	0.121	
75-00-3	Chloroethane	1		ND	1.00	0.466	
67-66-3	Chloroform	100	D1	9540	100.	7.09	
74-87-3	Chloromethane	1		0.790 J	1.00	0.304	
126-99-8	Chloroprene	1		ND	1.00	0.154	
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736	
124-48-1	Dibromochloromethane	1		45.8	1.00	0.259	
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812	
74-95-3	Dibromomethane	1		0.820 J	1.00	0.158	
110-57-6	trans-1,4-Dichloro-2-butene	1		ND	2.00	0.328	
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369	
75-34-3	1,1-Dichloroethane	1		10.9	1.00	0.0894	
107-06-2	1,2-Dichloroethane	1		1.15	1.00	0.0735	
75-35-4	1,1-Dichloroethene	1		1.09	1.00	0.188	
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144	
78-87-5	1,2-Dichloropropane	1		2.72	1.00	0.0511	
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522	
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808	

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637350
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 18-Sep-08
Analyzed: 18-Sep-08 13:32 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	1		ND	50.0	6.86	
100-41-4	Ethylbenzene	1		ND	1.00	0.159	
97-63-2	Ethyl methacrylate	1		ND	2.00	0.351	
591-78-6	2-Hexanone	1		ND	2.00	0.786	
74-88-4	Iodomethane	1		ND	1.00	0.101	
78-83-1	Isobutanol	1		ND	50.0	4.77	
126-98-7	Methacrylonitrile	1		ND	20.0	0.842	
75-09-2	Methylene chloride	1	A11,B	6.86	1.00	0.313	
80-62-6	Methyl methacrylate	1		ND	2.00	0.207	
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531	
107-12-0	Propionitrile	1		ND	16.0	0.740	
100-42-5	Styrene	1		ND	1.00	0.0987	
630-20-6	1,1,1,2-Tetrachloroethane	1		2.88	1.00	0.210	
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112	
127-18-4	Tetrachloroethene	1		2.83	1.00	0.184	
108-88-3	Toluene	1		0.190 J	1.00	0.118	
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119	
79-00-5	1,1,2-Trichloroethane	1		0.810 J	1.00	0.145	
79-01-6	Trichloroethene	1		2.71	1.00	0.103	
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206	
96-18-4	1,2,3-Trichloropropane	1		ND	1.00	0.136	
95-63-6	1,2,4-Trimethylbenzene	1		ND	1.00	0.119	
108-67-8	1,3,5-Trimethylbenzene	1		ND	1.00	0.138	
108-05-4	Vinyl acetate	1		ND	2.00	0.107	
75-01-4	Vinyl chloride	1		0.680 J	1.00	0.257	
	m&p-Xylene	1		ND	1.00	0.305	
95-47-6	o-Xylene	1		ND	1.00	0.132	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637351
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 19:35 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	50	D6	ND	200.	66.0	
75-05-8	Acetonitrile	50	D6	ND	1000	105.	
107-02-8	Acrolein	50	D6	ND	400.	77.1	
107-13-1	Acrylonitrile	50	D6	ND	200.	62.1	
107-05-1	Allyl chloride	50	D6	ND	100.	9.87	
71-43-2	Benzene	50	D6	ND	50.0	7.46	
75-27-4	Bromodichloromethane	50	D6	254.	50.0	3.07	
75-25-2	Bromoform	50	D6	360.	50.0	6.22	
74-83-9	Bromomethane	50	D6	ND	50.0	24.3	
78-93-3	2-Butanone (MEK)	50	D6	ND	100.	11.1	
75-15-0	Carbon disulfide	50	D6	ND	50.0	8.34	
56-23-5	Carbon tetrachloride	50	D6	ND	50.0	6.72	
108-90-7	Chlorobenzene	50	D6	ND	50.0	6.03	
75-00-3	Chloroethane	50	D6	ND	50.0	23.3	
67-66-3	Chloroform	200	D1	24400	200.	14.2	
74-87-3	Chloromethane	50	D6	ND	50.0	15.2	
126-99-8	Chloroprene	50	D6	ND	50.0	7.70	
96-12-8	1,2-Dibromo-3-chloropropane	50	D6	ND	100.	36.8	
124-48-1	Dibromochloromethane	50	D6	131.	50.0	13.0	
106-93-4	1,2-Dibromoethane (EDB)	50	D6	ND	50.0	4.06	
74-95-3	Dibromomethane	50	D6	ND	50.0	7.90	
110-57-6	trans-1,4-Dichloro-2-butene	50	D6	ND	100.	16.4	
75-71-8	Dichlorodifluoromethane	50	D6	ND	50.0	18.4	
75-34-3	1,1-Dichloroethane	50	D6	ND	50.0	4.47	
107-06-2	1,2-Dichloroethane	50	D6	ND	50.0	3.68	
75-35-4	1,1-Dichloroethene	50	D6	ND	50.0	9.42	
156-60-5	trans-1,2-Dichloroethene	50	D6	ND	50.0	7.20	
78-87-5	1,2-Dichloropropane	50	D6	ND	50.0	2.55	
10061-01-5	cis-1,3-Dichloropropene	50	D6	ND	50.0	2.61	
10061-02-6	trans-1,3-Dichloropropene	50	D6	ND	50.0	4.04	

Protocol 9/19/2008 16:45:40

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637351
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 19:35 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	50	D6	ND	2500	343.	
100-41-4	Ethylbenzene	50	D6	ND	50.0	7.96	
97-63-2	Ethyl methacrylate	50	D6	ND	100.	17.6	
591-78-6	2-Hexanone	50	D6	ND	100.	39.3	
74-88-4	Iodomethane	50	D6	ND	50.0	5.07	
78-83-1	Isobutanol	50	D6	ND	2500	238.	
126-98-7	Methacrylonitrile	50	D6	ND	1000	42.1	
75-09-2	Methylene chloride	50	B,D6	152.	50.0	15.6	
80-62-6	Methyl methacrylate	50	D6	ND	100.	10.4	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	D6	ND	100.	26.6	
107-12-0	Propionitrile	50	D6	ND	800.	37.0	
100-42-5	Styrene	50	D6	ND	50.0	4.93	
630-20-6	1,1,1,2-Tetrachloroethane	50	D6	ND	50.0	10.5	
79-34-5	1,1,2,2-Tetrachloroethane	50	D6	ND	50.0	5.58	
127-18-4	Tetrachloroethene	50	D6	ND	50.0	9.22	
108-88-3	Toluene	50	D6	ND	50.0	5.92	
71-55-6	1,1,1-Trichloroethane	50	D6	ND	50.0	5.93	
79-00-5	1,1,2-Trichloroethane	50	D6	ND	50.0	7.23	
79-01-6	Trichloroethene	50	D6	ND	50.0	5.17	
75-69-4	Trichlorofluoromethane	50	D6	ND	50.0	10.3	
96-18-4	1,2,3-Trichloropropane	50	D6	ND	50.0	6.82	
95-63-6	1,2,4-Trimethylbenzene	50	D6	ND	50.0	5.93	
108-67-8	1,3,5-Trimethylbenzene	50	D6	ND	50.0	6.90	
108-05-4	Vinyl acetate	50	D6	ND	100.	5.37	
75-01-4	Vinyl chloride	50	D6	ND	50.0	12.9	
	m&p-Xylene	50	D6	ND	50.0	15.2	
95-47-6	o-Xylene	50	D6	ND	50.0	6.60	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

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LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: TB-01 (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637352
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 107070
Method: EPA 8260
GCMS VOAs Trace Water
Collected: 11-Sep-08
Received: 12-Sep-08
Prepared: 15-Sep-08
Analyzed: 15-Sep-08 16:31 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
67-64-1	Acetone	1	A11	ND	4.00	1.32	
75-05-8	Acetonitrile	1		ND	20.0	2.11	
107-02-8	Acrolein	1		ND	8.00	1.54	
107-13-1	Acrylonitrile	1		ND	4.00	1.24	
107-05-1	Allyl chloride	1		ND	2.00	0.197	
71-43-2	Benzene	1		ND	1.00	0.149	
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614	
75-25-2	Bromoform	1		ND	1.00	0.124	
74-83-9	Bromomethane	1		ND	1.00	0.487	
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223	
75-15-0	Carbon disulfide	1		ND	1.00	0.167	
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134	
108-90-7	Chlorobenzene	1		ND	1.00	0.121	
75-00-3	Chloroethane	1		ND	1.00	0.466	
67-66-3	Chloroform	1		ND	1.00	0.0709	
74-87-3	Chloromethane	1		ND	1.00	0.304	
126-99-8	Chloroprene	1		ND	1.00	0.154	
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736	
124-48-1	Dibromochloromethane	1		ND	1.00	0.259	
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812	
74-95-3	Dibromomethane	1		ND	1.00	0.158	
110-57-6	trans-1,4-Dichloro-2-butene	1		ND	2.00	0.328	
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369	
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894	
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735	
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188	
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144	
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511	
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522	
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808	

Protocol 9/19/2008 16:45:40

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LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: TB-01 (091108)
Project ID: MS BLUFFS/LA002656.0001.00029
Lab ID: 20637352
Description: None
Method: EPA 8260
GCMS VOAs Trace Water

Project: 2085896
Site: None
Matrix: Water **% Moisture:** n/a
Prep Level: Water **Batch:** 107070

Collected: 11-Sep-08 **Received:** 12-Sep-08
Prepared: 15-Sep-08 **Analyzed:** 15-Sep-08 16:31 MLS

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL	Reg Limit
123-91-1	1,4-Dioxane (p-Dioxane)	1		ND	50.0	6.86	
100-41-4	Ethylbenzene	1		ND	1.00	0.159	
97-63-2	Ethyl methacrylate	1		ND	2.00	0.351	
591-78-6	2-Hexanone	1		ND	2.00	0.786	
74-88-4	Iodomethane	1		ND	1.00	0.101	
78-83-1	Isobutanol	1		ND	50.0	4.77	
126-98-7	Methacrylonitrile	1		ND	20.0	0.842	
75-09-2	Methylene chloride	1	A11,B	3.32	1.00	0.313	
80-62-6	Methyl methacrylate	1		ND	2.00	0.207	
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531	
107-12-0	Propionitrile	1		ND	16.0	0.740	
100-42-5	Styrene	1		ND	1.00	0.0987	
630-20-6	1,1,1,2-Tetrachloroethane	1		ND	1.00	0.210	
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112	
127-18-4	Tetrachloroethene	1		ND	1.00	0.184	
108-88-3	Toluene	1		ND	1.00	0.118	
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119	
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145	
79-01-6	Trichloroethene	1		ND	1.00	0.103	
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206	
96-18-4	1,2,3-Trichloropropane	1		ND	1.00	0.136	
95-63-6	1,2,4-Trimethylbenzene	1		ND	1.00	0.119	
108-67-8	1,3,5-Trimethylbenzene	1		ND	1.00	0.138	
108-05-4	Vinyl acetate	1		ND	2.00	0.107	
75-01-4	Vinyl chloride	1		ND	1.00	0.257	
	m&p-Xylene	1		ND	1.00	0.305	
95-47-6	o-Xylene	1		ND	1.00	0.132	

57 compound(s) reported

Protocol 9/19/2008 16:45:40

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LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637344
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		7.36	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-1B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637346
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		6.91	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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MDL denotes method detection limit

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: PZ-22B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637347
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		6.51	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637348
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		6.84	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-2B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637349
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		6.74	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Sample Results

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

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3A (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637350
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		7.26	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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
St. Rose, LA 70087
(504) 469-0333

Client: Arcadis Geraghty & Miller

Client ID: SP-TW-3B (091108)
Project: 2085896
Project ID: MS BLUFFS/LA002656.0001.00029
Site: None
Lab ID: 20637351
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Sep-08
Received: 12-Sep-08

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	MDL	Analysis	Reg. Limit
pH	SM 4500-H B	107052	1		6.43	Std. Units			12-Sep-08 15:30 LJL	

1 parameter(s) reported

Inorganics 9/19/2008 16:45:41

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Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 107070 **Project:** 2085896 **LCS:** 20637464 15-Sep-08 11:09

MS: 20637465 15-Sep-08 20:21

MSD: 20637466 15-Sep-08 20:44

Units: ug/L **Original for MS:** 20637344 Client Sample

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Acetone	50	37.11	74	2500	0.00	1834	1782	73	71	3	22 - 165	11 - 217	20	\11,D6
Acetonitrile	550	430	78	27500	0.00	23080	22600	84	82	2	15 - 171	10 - 261	20	D6
Acrolein	100	42.23	42	5000	0.00	1996	2176	40	44	9	10 - 131	10 - 142	20	D6
Acrylonitrile	150	140.2	94	7500	0.00	7335	7255	98	97	1	18 - 149	20 - 164	20	D6
Allyl chloride	100	85.96	86	5000	0.00	3968	4330	79	87	9	52 - 127	51 - 129	20	D6
Benzene	50	42.86	86	2500	0.00	2090	2231	84	89	7	62 - 131	52 - 141	20	D6
Bromodichloromethane	50	45.34	91	2500	42.50	2274	2380	89	94	5	69 - 132	70 - 134	20	D6
Bromoform	50	57.22	114	2500	0.00	2769	2844	111	114	3	35 - 166	37 - 171	20	D6
Bromomethane	50	54.57	109	2500	0.00	2392	2930	96	117	20	34 - 158	34 - 155	20	D6
2-Butanone (MEK)	50	38.91	78	2500	0.00	1774	1742	71	70	2	32 - 183	20 - 205	20	\11,D6
Carbon disulfide	50	32.6	65	2500	0.00	1668	1812	67	73	8	31 - 128	28 - 130	20	D6
Carbon tetrachloride	50	49.06	98	2500	0.00	2278	2452	91	98	7	54 - 144	48 - 146	20	D6
Chlorobenzene	50	56.59	113	2500	0.00	2822	2811	113	112	0	70 - 127	67 - 129	20	D6
Chloroethane	50	54.07	108	2500	0.00	2446	3086	98	123	23 *	17 - 195	12 - 192	20	D6
Chloroform	50	49.44	99	2500	10430.00	13880	13540	138	125	2	73 - 134	66 - 143	20	D6
Chloromethane	50	50.98	102	2500	0.00	2270	2694	91	108	17	17 - 153	14 - 155	20	D6
Chloroprene	50	46.62	93	2500	0.00	2176	2350	87	94	8	55 - 137	50 - 134	20	D6
1,2-Dibromo-3-chloropropa	50	36.53	73	2500	0.00	1940	1827	78	73	6	21 - 160	23 - 166	20	D6
Dibromochloromethane	50	56.21	112	2500	0.00	2676	2792	107	112	4	49 - 146	50 - 150	20	D6
1,2-Dibromoethane (EDB)	50	51.68	103	2500	0.00	2578	2660	103	106	3	52 - 161	55 - 166	20	D6
Dibromomethane	50	46.48	93	2500	0.00	2378	2402	95	96	1	56 - 145	58 - 153	20	D6
trans-1,4-Dichloro-2-butene	100	74.62	75	5000	0.00	3500	3490	70	70	0	21 - 157	23 - 163	20	D6
1,1-Dichloroethane	50	42.9	86	2500	0.00	2086	2217	83	89	6	63 - 129	59 - 133	20	D6
1,2-Dichloroethane	50	45.09	90	2500	0.00	2224	2344	89	94	5	57 - 148	56 - 154	20	D6
1,1-Dichloroethene	50	41.98	84	2500	0.00	1990	2229	80	89	11	51 - 139	44 - 146	20	D6
trans-1,2-Dichloroethene	50	44.62	89	2500	0.00	2052	2268	82	91	10	60 - 129	57 - 132	20	D6
1,2-Dichloropropane	50	40.24	81	2500	0.00	1970	2054	79	82	4	66 - 128	62 - 135	20	D6
cis-1,3-Dichloropropene	50	42.63	85	2500	0.00	2038	2114	82	85	4	72 - 138	70 - 139	20	D6
trans-1,3-Dichloropropene	50	45.11	90	2500	0.00	2166	2228	87	89	3	59 - 149	59 - 154	20	D6
1,4-Dioxane (p-Dioxane)	1050	934.8	89	52500	0.00	53200	52900	101	101	1	17 - 200	15 - 221	20	D6
Ethylbenzene	50	47.89	96	2500	0.00	2438	2408	98	96	1	66 - 126	57 - 135	20	D6
Ethyl methacrylate	100	90.91	91	5000	0.00	4398	4436	88	89	1	35 - 168	37 - 177	20	D6
2-Hexanone	50	37.52	75	2500	0.00	1822	1800	73	72	1	36 - 170	25 - 189	20	D6
Iodomethane	50	45.09	90	2500	0.00	2123	2310	85	92	8	47 - 135	46 - 138	20	D6
Isobutanol	1050	761.9	73	52500	0.00	40180	38860	77	74	3	32 - 173	26 - 188	20	D6

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*** 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 107070 **Project:** 2085896 **LCS:** 20637464 15-Sep-08 11:09

MS: 20637465 15-Sep-08 20:21

MSD: 20637466 15-Sep-08 20:44

Units: ug/L **Original for MS:** 20637344 Client Sample

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Methacrylonitrile	550	441.1	80	27500	0.00	22840	22480	83	82	2	25 - 172	26 - 186	20	D6
Methylene chloride	50	37.79	76	2500	117.00	1860	1970	70	74	6	46 - 168	45 - 166	20	\11,D6
Methyl methacrylate	100	75.36	75	5000	0.00	3756	3820	75	76	2	33 - 170	37 - 180	20	D6
4-Methyl-2-pentanone (MIB	50	41.79	84	2500	0.00	2080	2091	83	84	1	26 - 171	23 - 184	20	D6
Propionitrile	550	500.2	91	27500	0.00	26600	26040	97	95	2	14 - 183	15 - 199	20	D6
Styrene	50	48.69	97	2500	0.00	2402	2382	96	95	1	72 - 133	58 - 144	20	D6
1,1,1,2-Tetrachloroethane	50	47.49	95	2500	0.00	2408	2379	96	95	1	66 - 134	66 - 136	20	D6
1,1,2,2-Tetrachloroethane	50	35.71	71	2500	0.00	1826	1779	73	71	3	15 - 179	15 - 187	20	D6
Tetrachloroethene	50	47.51	95	2500	0.00	2445	2422	98	97	1	46 - 157	48 - 143	20	D6
Toluene	50	45.23	91	2500	0.00	2202	2265	88	91	3	69 - 126	59 - 136	20	D6
1,1,1-Trichloroethane	50	50.76	102	2500	0.00	2356	2542	94	102	8	62 - 131	54 - 137	20	D6
1,1,2-Trichloroethane	50	46.36	93	2500	0.00	2320	2372	93	95	2	58 - 144	59 - 148	20	D6
Trichloroethene	50	51.94	104	2500	0.00	2504	2604	100	104	4	67 - 132	58 - 140	20	D6
Trichlorofluoromethane	50	62.43	125	2500	0.00	2529	3257	101	130	25 *	39 - 171	24 - 175	20	D6
1,2,3-Trichloropropane	50	39.94	80	2500	0.00	2004	1995	80	80	0	13 - 187	14 - 199	20	D6
1,2,4-Trimethylbenzene	50	34.16	68	2500	0.00	1976	1787	79	72	10	58 - 134	49 - 140	20	D6
1,3,5-Trimethylbenzene	50	33.71	67	2500	0.00	1959	1794	78	72	9	56 - 134	40 - 147	20	D6
Vinyl acetate	50	52.06	104	2500	0.00	2546	2590	102	104	2	22 - 191	18 - 198	20	D6
Vinyl chloride	50	45.11	90	2500	0.00	1919	2352	77	94	20	27 - 149	21 - 150	20	D6
m&p-Xylene	100	93.33	93	5000	0.00	4828	4698	97	94	3	65 - 129	56 - 136	20	D6
o-Xylene	50	51.13	102	2500	0.00	2624	2540	105	102	3	65 - 124	57 - 133	20	D6

56 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.

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LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 107070 **Project:** 2085896 **LCS:** 20637993 18-Sep-08 11:14

MS:

MSD:

Units: ug/L **Original for MS:**

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Acetone	50	41.93	84								22 - 165	-		A11
Acetonitrile	550	516.6	94								15 - 171	-		
Acrolein	100	41.46	42								10 - 131	-		
Acrylonitrile	150	169.6	113								18 - 149	-		
Allyl chloride	100	86.18	86								52 - 127	-		
Benzene	50	43.78	88								62 - 131	-		
Bromodichloromethane	50	47.2	94								69 - 132	-		
Bromoform	50	70.95	142								35 - 166	-		
Bromomethane	50	56.69	113								34 - 158	-		
2-Butanone (MEK)	50	43.75	88								32 - 183	-		A11
Carbon disulfide	50	36.54	73								31 - 128	-		
Carbon tetrachloride	50	52.4	105								54 - 144	-		
Chlorobenzene	50	62.93	126								70 - 127	-		
Chloroethane	50	59.52	119								17 - 195	-		
Chloroform	50	51.97	104								73 - 134	-		
Chloromethane	50	52.35	105								17 - 153	-		
Chloroprene	50	47.84	96								55 - 137	-		
1,2-Dibromo-3-chloropropa	50	43.67	87								21 - 160	-		
Dibromochloromethane	50	62.56	125								49 - 146	-		
1,2-Dibromoethane (EDB)	50	59.06	118								52 - 161	-		
Dibromomethane	50	52.04	104								56 - 145	-		
trans-1,4-Dichloro-2-butene	100	82.49	83								21 - 157	-		
1,1-Dichloroethane	50	43.84	88								63 - 129	-		
1,2-Dichloroethane	50	48.78	98								57 - 148	-		
1,1-Dichloroethene	50	44.03	88								51 - 139	-		
trans-1,2-Dichloroethene	50	46.07	92								60 - 129	-		
1,2-Dichloropropane	50	40.39	81								66 - 128	-		
cis-1,3-Dichloropropene	50	44.03	88								72 - 138	-		
trans-1,3-Dichloropropene	50	48.55	97								59 - 149	-		
1,4-Dioxane (p-Dioxane)	1050	1291	123								17 - 200	-		
Ethylbenzene	50	53.92	108								66 - 126	-		
Ethyl methacrylate	100	99.35	99								35 - 168	-		
2-Hexanone	50	43.64	87								36 - 170	-		
Iodomethane	50	49.3	99								47 - 135	-		
Isobutanol	1050	955.4	91								32 - 173	-		

9/19/2008 16:45:43

* 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Quality Control

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

Batch: 107070 **Project:** 2085896 **LCS:** 20637993 18-Sep-08 11:14

MS:

MSD:

Units: ug/L **Original for MS:**

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Methacrylonitrile	550	533.5	97								25 - 172	-		
Methylene chloride	50	39.84	80								46 - 168	-		A11
Methyl methacrylate	100	85.44	85								33 - 170	-		
4-Methyl-2-pentanone (MIB	50	48.16	96								26 - 171	-		
Propionitrile	550	614.4	112								14 - 183	-		
Styrene	50	53.7	107								72 - 133	-		
1,1,1,2-Tetrachloroethane	50	55.58	111								66 - 134	-		
1,1,2,2-Tetrachloroethane	50	39.08	78								15 - 179	-		
Tetrachloroethene	50	57.43	115								46 - 157	-		
Toluene	50	47.74	96								69 - 126	-		
1,1,1-Trichloroethane	50	54.22	108								62 - 131	-		
1,1,2-Trichloroethane	50	50.81	102								58 - 144	-		
Trichloroethene	50	55.73	111								67 - 132	-		
Trichlorofluoromethane	50	66.35	133								39 - 171	-		
1,2,3-Trichloropropane	50	45.18	90								13 - 187	-		
1,2,4-Trimethylbenzene	50	37.52	75								58 - 134	-		
1,3,5-Trimethylbenzene	50	37.56	75								56 - 134	-		
Vinyl acetate	50	57.99	116								22 - 191	-		
Vinyl chloride	50	46.39	93								27 - 149	-		
m&p-Xylene	100	106.3	106								65 - 129	-		
o-Xylene	50	57.51	115								65 - 124	-		

56 compound(s) reported

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* 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.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Surrogate Recovery

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

Batch: 107070 **Project:** 2085896

Method: Water EPA 8260

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
20637463	107070 BLANK 1		92	106	90					
20637992	107070 BLANK 2		94	109	90					
20637464	107070 LCS 1		94	99	92					
20637993	107070 LCS 2		97	106	89					
20637347	PZ-22B (091108)	D1,D6	92	103	90					
20637344	SP-TW-1A (091108)	D1,D6	93	105	90					
20637465	SP-TW-1A (091108) MS 1	D6	95	101	91					
20637466	SP-TW-1A (091108) MSD 1	D6	91	100	91					
20637346	SP-TW-1B (091108)	D1,D6	92	101	91					
20637348	SP-TW-2A (091108)	D1,D6	92	107	89					
20637349	SP-TW-2B (091108)	D1,D6	92	107	89					
20637350	SP-TW-3A (091108)	D1	93	106	86					
20637351	SP-TW-3B (091108)	D1,D6	93	106	90					
20637352	TB-01 (091108)		92	102	91					
	QC limits:		68-124	72-126	79-119					

Sur 1: 4-Bromofluorobenzene (S)
Sur 2: Dibromofluoromethane (S)
Sur 3: Toluene-d8 (S)

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*** 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 excursion.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Method Blank

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

Blank ID: 107070 BLANK 1 **Project:** 2085896

Lab ID: 20637463

Prep Level: Water **Batch:** 107070

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 15-Sep-08 **Analyzed:** 15-Sep-08 10:46

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
67-64-1	Acetone	1	A11	ND	4.00	1.32
71-43-2	Benzene	1		ND	1.00	0.149
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614
75-25-2	Bromoform	1		ND	1.00	0.124
74-83-9	Bromomethane	1		ND	1.00	0.487
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223
75-15-0	Carbon disulfide	1		ND	1.00	0.167
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134
108-90-7	Chlorobenzene	1		ND	1.00	0.121
75-00-3	Chloroethane	1		ND	1.00	0.466
67-66-3	Chloroform	1		ND	1.00	0.0709
74-87-3	Chloromethane	1		ND	1.00	0.304
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736
124-48-1	Dibromochloromethane	1		ND	1.00	0.259
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808
100-41-4	Ethylbenzene	1		ND	1.00	0.159
591-78-6	2-Hexanone	1		ND	2.00	0.786
75-09-2	Methylene chloride	1	A11	1.37	1.00	0.313
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531
100-42-5	Styrene	1		ND	1.00	0.0987
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112
127-18-4	Tetrachloroethene	1		ND	1.00	0.184

9/19/2008 16:45:46

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Organics Method Blank

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

Blank ID: 107070 BLANK 1 **Project:** 2085896

Lab ID: 20637463

Prep Level: Water **Batch:** 107070

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 15-Sep-08 **Analyzed:** 15-Sep-08 10:46

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
108-88-3	Toluene	1		ND	1.00	0.118
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145
79-01-6	Trichloroethene	1		ND	1.00	0.103
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206
75-01-4	Vinyl chloride	1		ND	1.00	0.257
	m&p-Xylene	1		ND	1.00	0.305
95-47-6	o-Xylene	1		ND	1.00	0.132

38 compound(s) reported

9/19/2008 16:45:46

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Method Blank

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

Blank ID: 107070 BLANK 2 **Project:** 2085896

Lab ID: 20637992

Prep Level: Water **Batch:** 107070

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 18-Sep-08 **Analyzed:** 18-Sep-08 10:51

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
67-64-1	Acetone	1	A11	ND	4.00	1.32
71-43-2	Benzene	1		ND	1.00	0.149
75-27-4	Bromodichloromethane	1		ND	1.00	0.0614
75-25-2	Bromoform	1		ND	1.00	0.124
74-83-9	Bromomethane	1		ND	1.00	0.487
78-93-3	2-Butanone (MEK)	1	A11	ND	2.00	0.223
75-15-0	Carbon disulfide	1		ND	1.00	0.167
56-23-5	Carbon tetrachloride	1		ND	1.00	0.134
108-90-7	Chlorobenzene	1		ND	1.00	0.121
75-00-3	Chloroethane	1		ND	1.00	0.466
67-66-3	Chloroform	1		ND	1.00	0.0709
74-87-3	Chloromethane	1		ND	1.00	0.304
96-12-8	1,2-Dibromo-3-chloropropane	1		ND	2.00	0.736
124-48-1	Dibromochloromethane	1		ND	1.00	0.259
106-93-4	1,2-Dibromoethane (EDB)	1		ND	1.00	0.0812
75-71-8	Dichlorodifluoromethane	1		ND	1.00	0.369
75-34-3	1,1-Dichloroethane	1		ND	1.00	0.0894
107-06-2	1,2-Dichloroethane	1		ND	1.00	0.0735
75-35-4	1,1-Dichloroethene	1		ND	1.00	0.188
156-60-5	trans-1,2-Dichloroethene	1		ND	1.00	0.144
78-87-5	1,2-Dichloropropane	1		ND	1.00	0.0511
10061-01-5	cis-1,3-Dichloropropene	1		ND	1.00	0.0522
10061-02-6	trans-1,3-Dichloropropene	1		ND	1.00	0.0808
100-41-4	Ethylbenzene	1		ND	1.00	0.159
591-78-6	2-Hexanone	1		ND	2.00	0.786
75-09-2	Methylene chloride	1	A11	2.17	1.00	0.313
108-10-1	4-Methyl-2-pentanone (MIBK)	1		ND	2.00	0.531
100-42-5	Styrene	1		ND	1.00	0.0987
79-34-5	1,1,2,2-Tetrachloroethane	1		ND	1.00	0.112
127-18-4	Tetrachloroethene	1		ND	1.00	0.184

9/19/2008 16:45:46

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Organics Method Blank

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

Blank ID: 107070 BLANK 2 **Project:** 2085896

Lab ID: 20637992

Prep Level: Water **Batch:** 107070

Method: Water EPA 8260
GCMS VOAs Full List Trace BLK

Prepared: 18-Sep-08 **Analyzed:** 18-Sep-08 10:51

Units: ug/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	MDL
108-88-3	Toluene	1		ND	1.00	0.118
71-55-6	1,1,1-Trichloroethane	1		ND	1.00	0.119
79-00-5	1,1,2-Trichloroethane	1		ND	1.00	0.145
79-01-6	Trichloroethene	1		ND	1.00	0.103
75-69-4	Trichlorofluoromethane	1		ND	1.00	0.206
75-01-4	Vinyl chloride	1		ND	1.00	0.257
	m&p-Xylene	1		ND	1.00	0.305
95-47-6	o-Xylene	1		ND	1.00	0.132

38 compound(s) reported

9/19/2008 16:45:46

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Inorganics Quality Control

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

Project: 2085896

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
pH	107052			d. Units	6	5.98	100		7.50						0	97 - 103	-	20	

* denotes recovery outside of QC limits.
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

9/19/2008 16:45:47

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylvania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

Definitions/Qualifiers

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

Project: 2085896

Value	Description
A11	This analyte is a common solvent. Its presence in field samples may be an artifact of sample collection, transport, laboratory storage or analysis.
D1	The analysis was performed at a dilution due to the high analyte concentration.
D6	The sample was analyzed at a dilution based upon the screening information.
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.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

LA Dept. of Environmental Quality (NELAC/LELAP) - 02006
LA Dept. of Health and Hospitals Drinking Water - LA080013
Florida Dept. of Health (NELAC) - E87595
Pennsylviania DEP (NELAC) - 68-04202
U.S. Dept. of Agriculture Foreign Soil Import - S-47270

ARCADIS

2085896 20-ARCADISGM

Laboratory Task Order No./P.O. No. [illegible] Page 1 of 1

Project Number/Name Miss Bluff/ LA-002656.0001.00029

Project Location Vicksburg, MS

Laboratory PACE

Project Manager Craig Deraven

Sampler(s)/Affiliation G Cook/ Arcadis

2085896

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	VOC-8260-Hp 9	40ml glass vials/HCL	PJ	250ml plastic/				Remarks	Total
SP-TW-1A (091108)	L	09-11-08 1140		3	1						20637344	4
SP-TW-1B (091108)	L	1210		3	1						346	4
PZ-22B (091108)	L	1250		3	1						347	4
SP-TW-2A (091108)	L	1330		3	1						348	4
SP-TW-2B (091108)	L	1405		3	1						349	4
SP-TW-3A (091108)	L	1445		3	1						350	4
SP-TW-3B (091108)	L	1550		3	1						351	4
TB-01 (091108)	L	09-11-08		2	—						352	2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/ Containers 30

Relinquished by: George Cook	Organization: Arcadis	Date 09/11/08	Time 1200	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	
Relinquished by: Fed Ex	Organization:	Date 9/12/08	Time 1250	Seal Intact?
Received by: M J Miller	Organization: Pace	Date 9/12/08	Time 1250	Yes No N/A

Special Instructions/Remarks:

2.7°

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

AG 05-12/01

2085896 20-ARCADISGM

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec

Project #: 20

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

Type of Ice: Wet Blue None

Samples on Ice: [see COC]

Date and initials of person examining contents: LV 9/10/08

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

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 preserative 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: _____

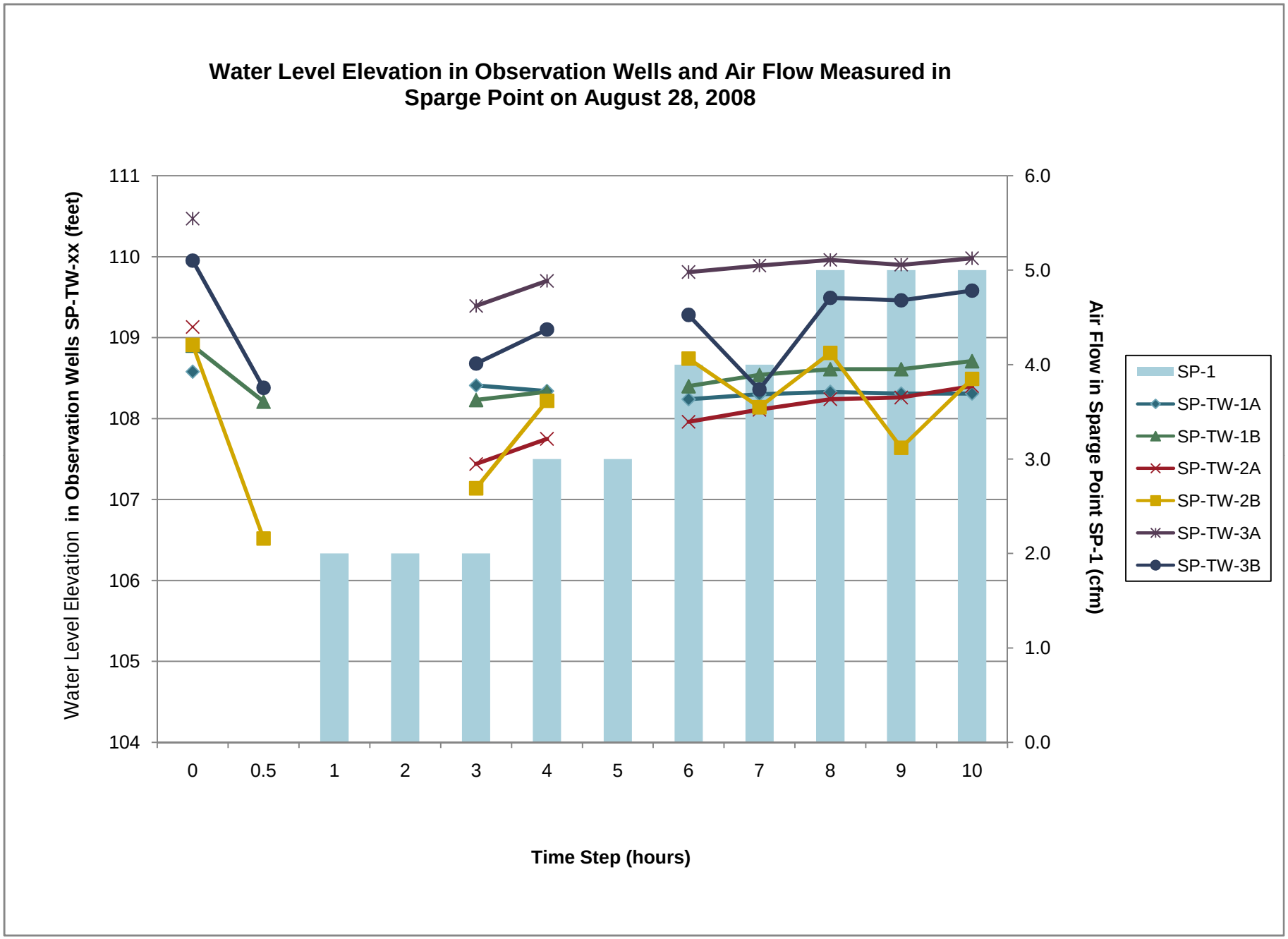
Comments/ Resolution: _____

ARCADIS

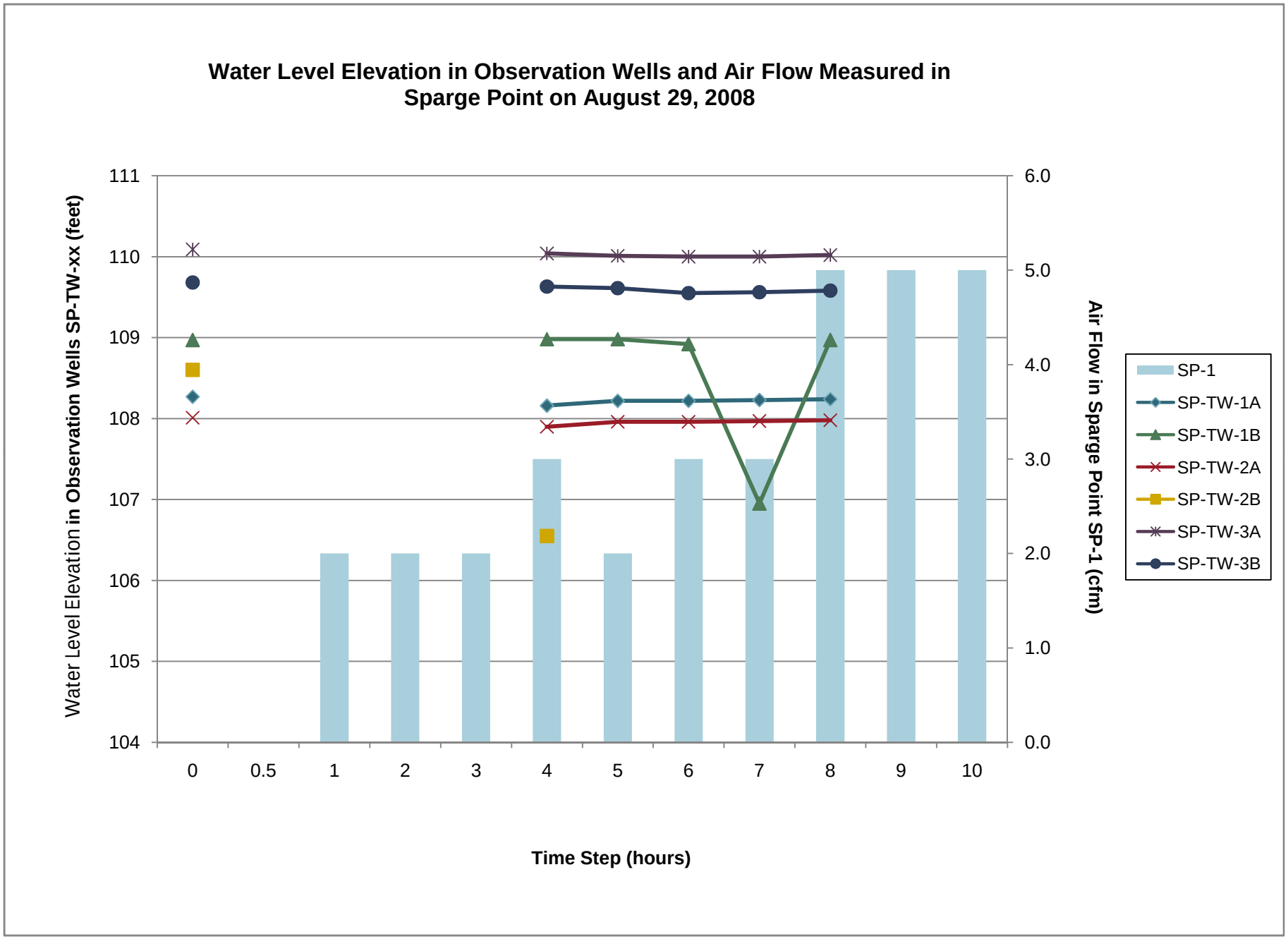
ATTACHMENT D

Groundwater Level Elevation Graphs and Field Data

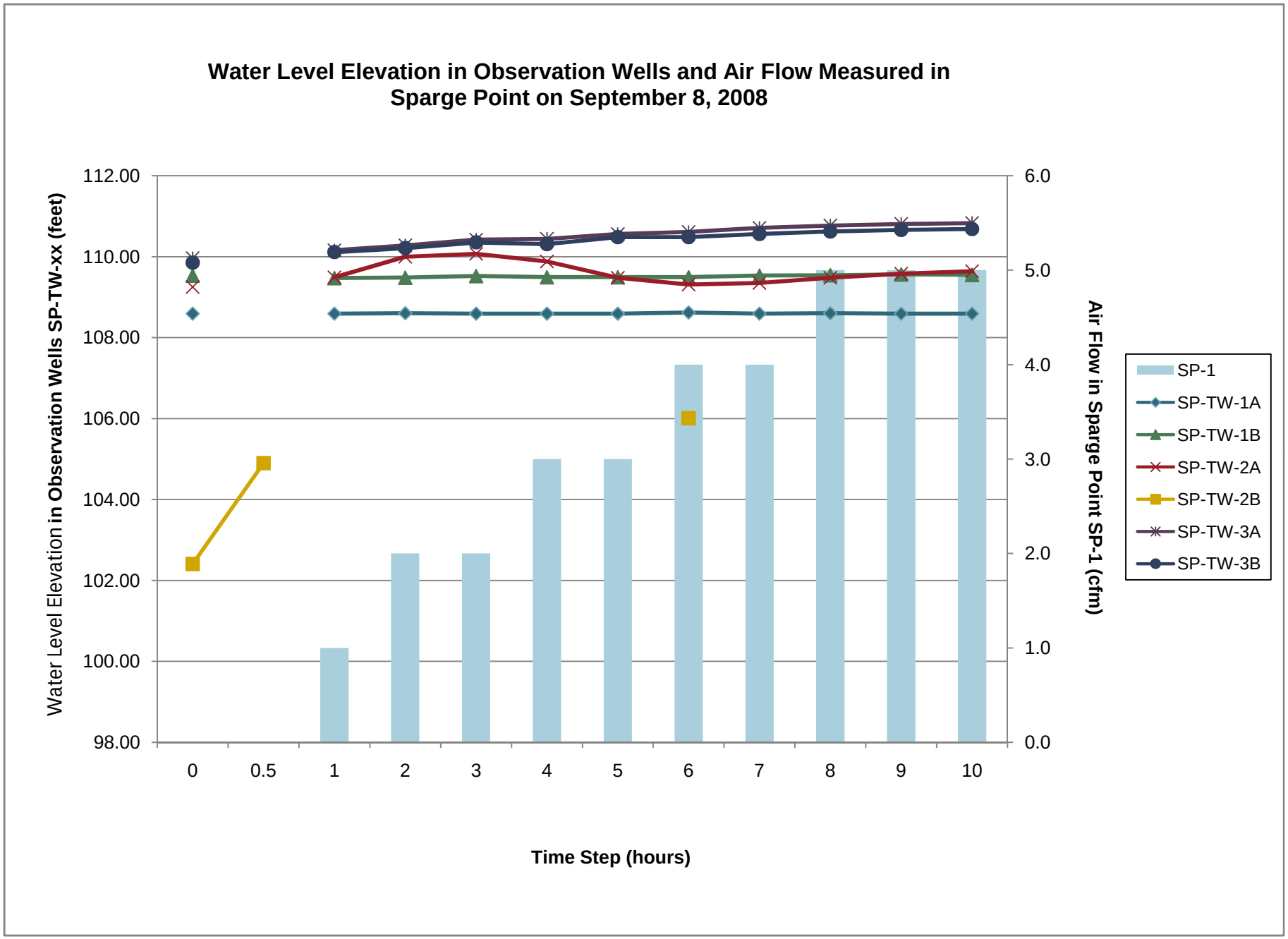
ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on August 28, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
111
110
109
108
107
106
105
104
Air Flow in Sparge Point SP-1 (cfm)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

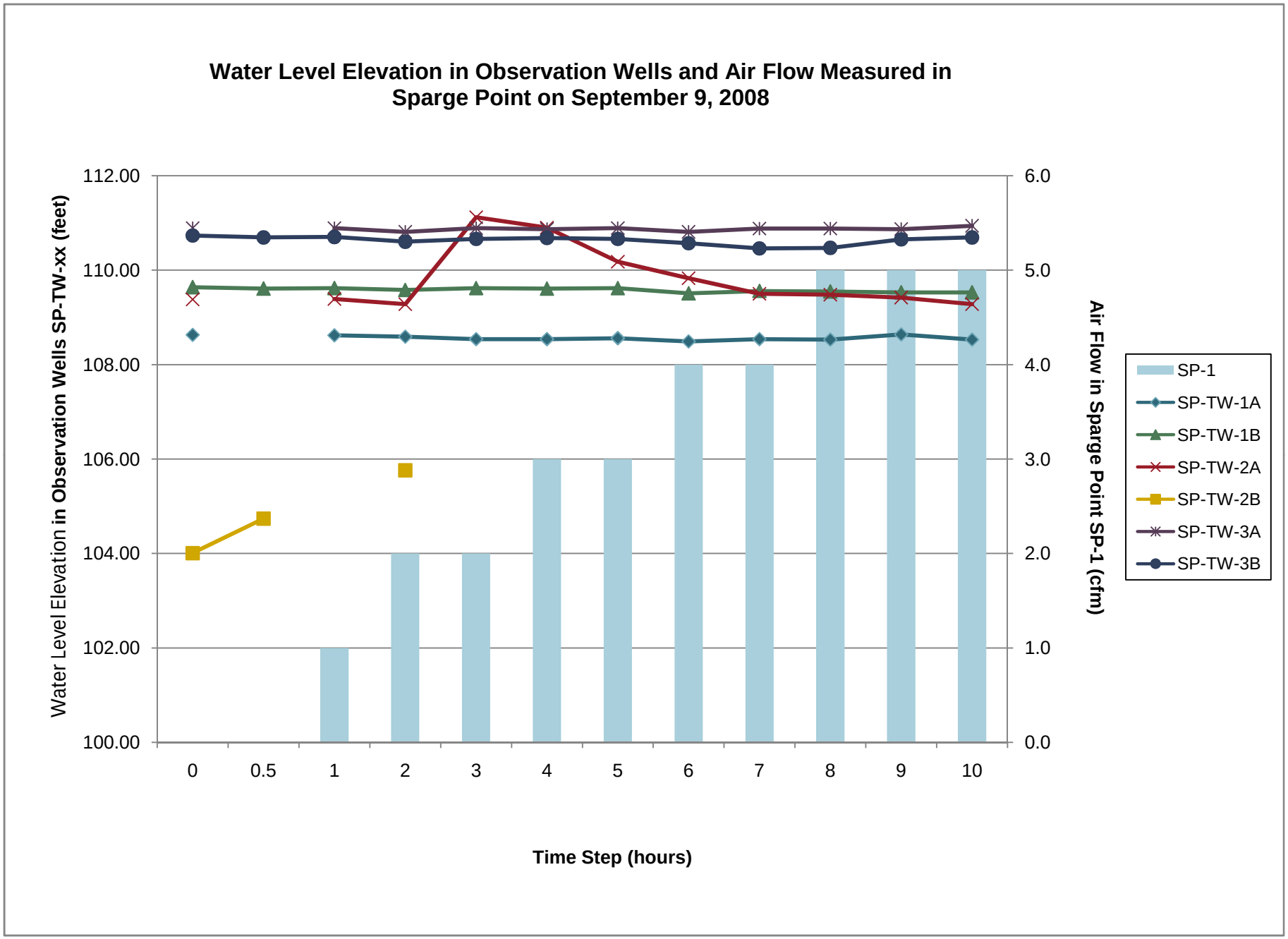
ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on August 29, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
111
110
109
108
107
106
105
104
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Air Flow in Sparge Point SP-1 (cfm)
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

ARCADIS

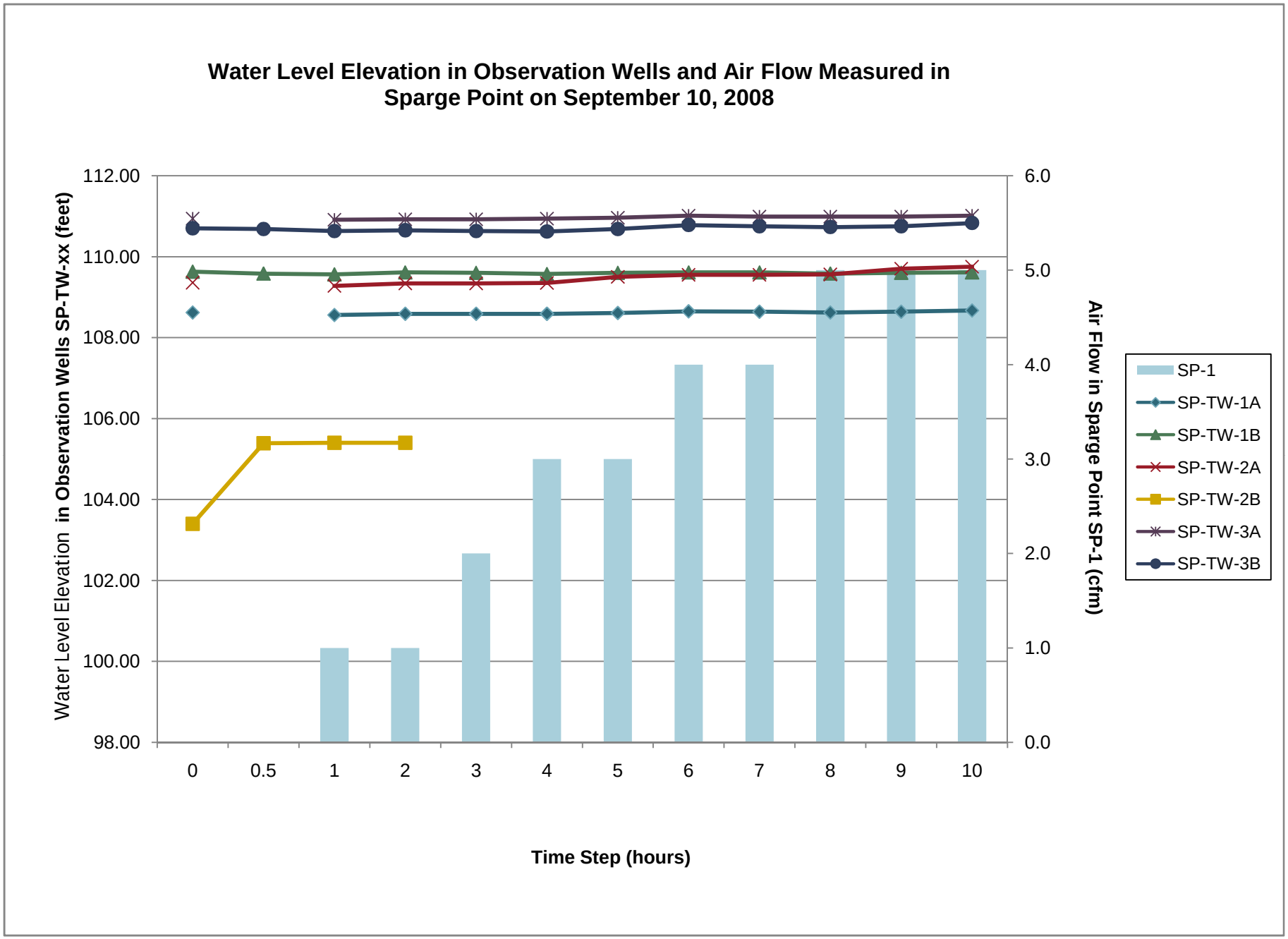

Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on September 8, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
112.00
110.00
108.00
106.00
104.00
102.00
100.00
98.00
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Air Flow in Sparge Point SP-1 (cfm)
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

ARCADIS

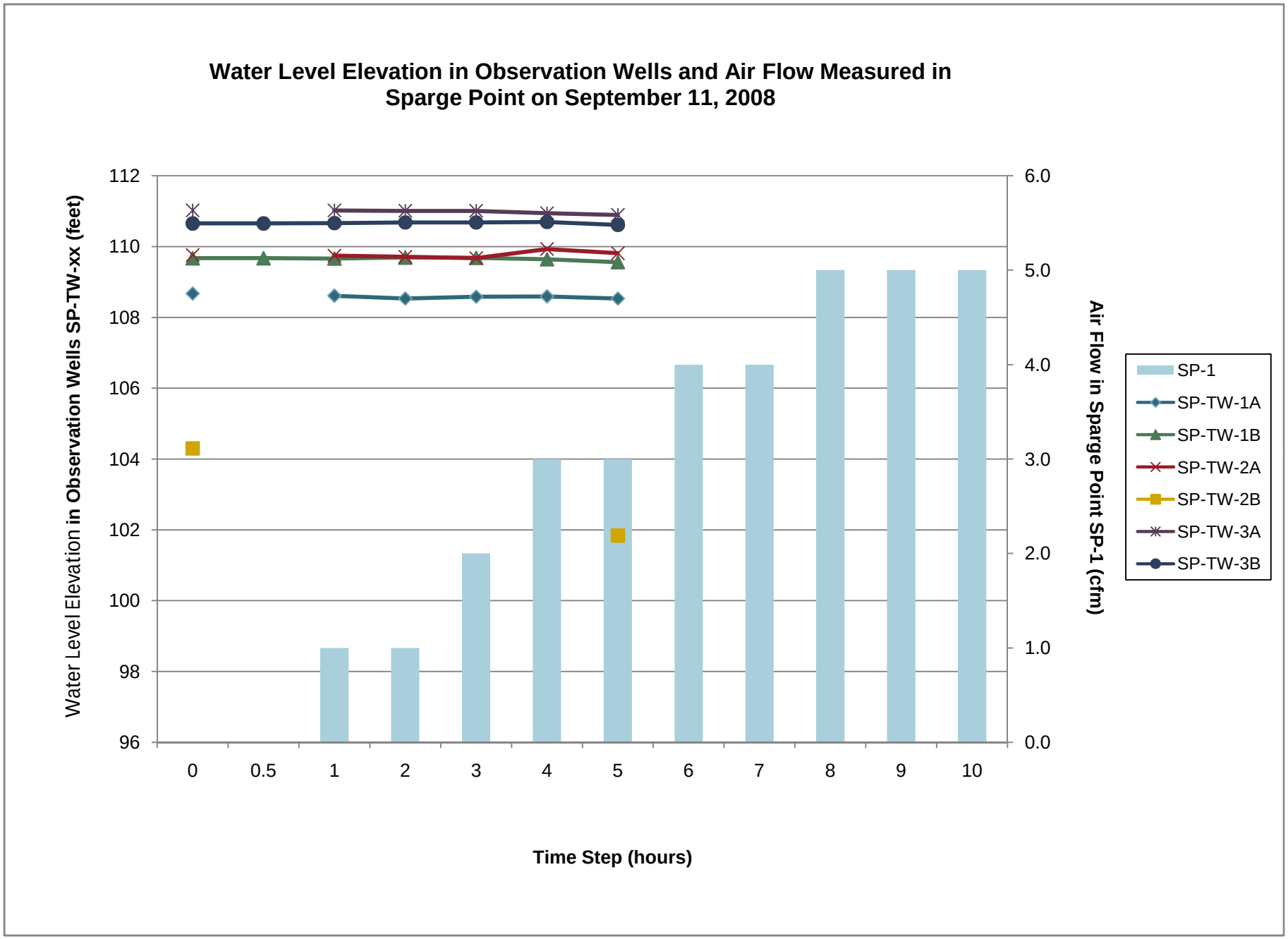


Miss Bluffs/2656.1/T/Air Sparge/2/090908/egp

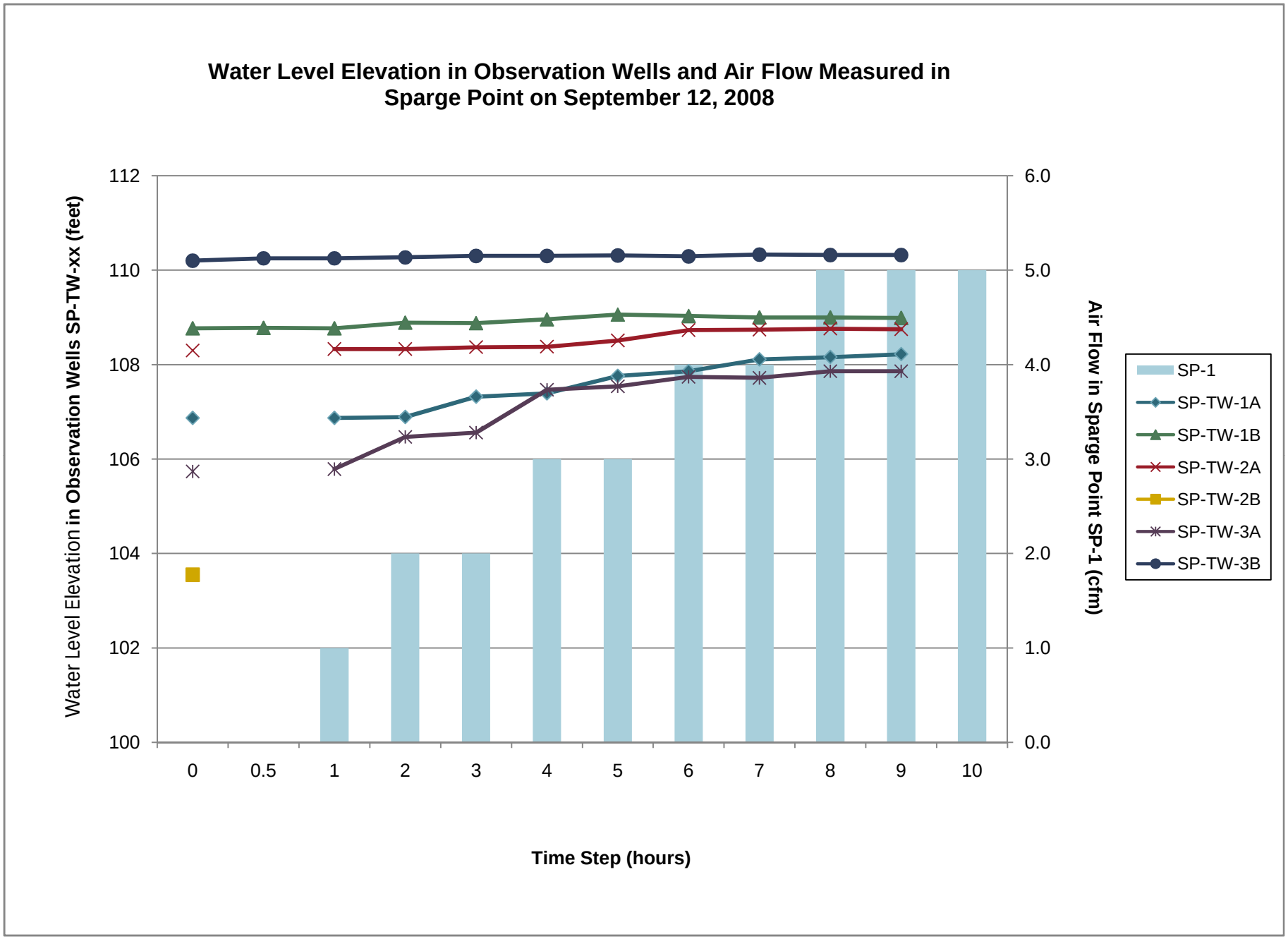
ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on September 10, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
112.00
110.00
108.00
106.00
104.00
102.00
100.00
98.00
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Air Flow in Sparge Point SP-1 (cfm)
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

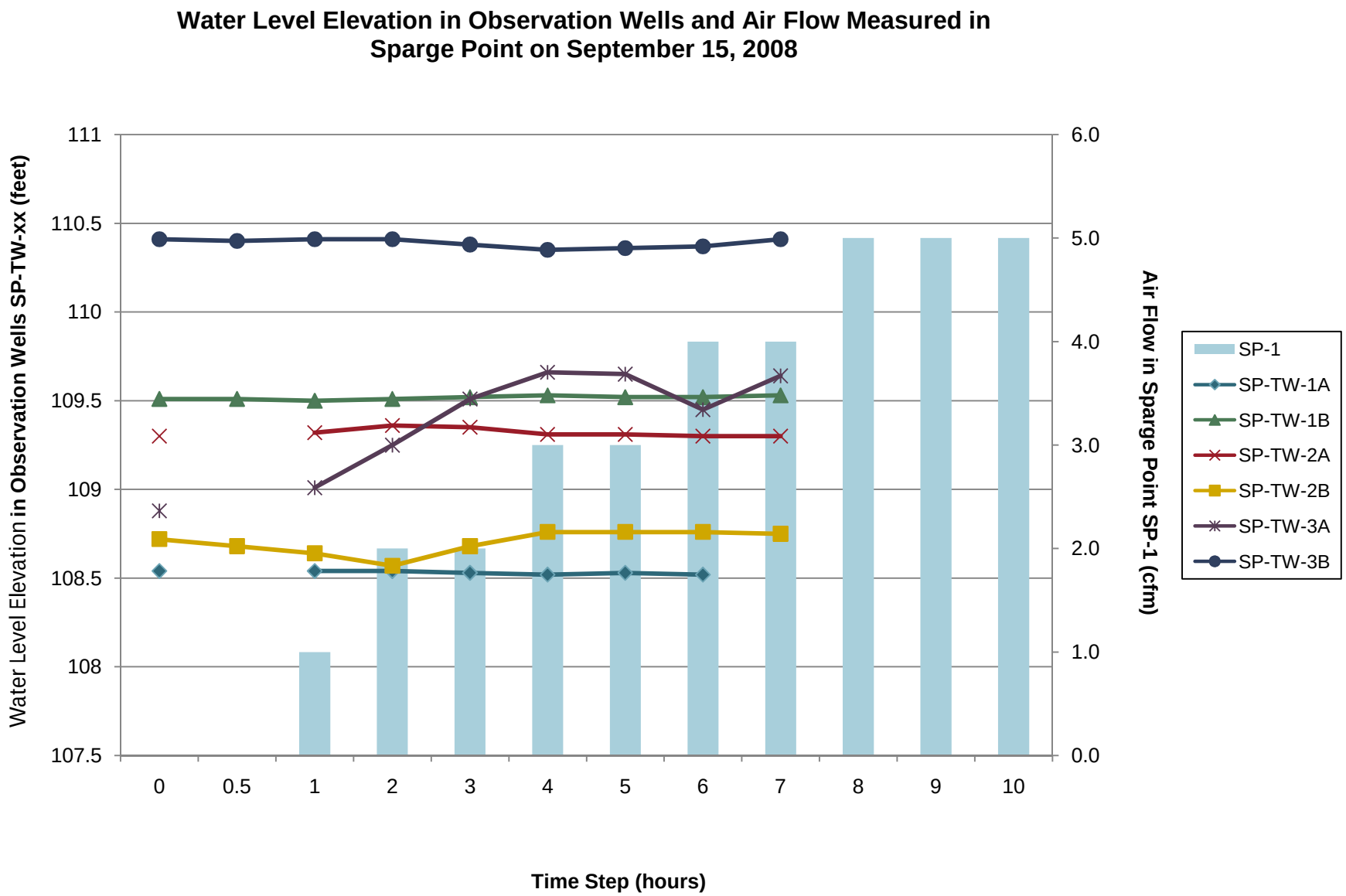
ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on September 11, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
112
110
108
106
104
102
100
98
96
Air Flow in Sparge Point SP-1 (cfm)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on September 12, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
112
110
108
106
104
102
100
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Air Flow in Sparge Point SP-1 (cfm)
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

ARCADIS


Water Level Elevation in Observation Wells and Air Flow Measured in Sparge Point on September 15, 2008
Water Level Elevation in Observation Wells SP-TW-xx (feet)
111
110.5
110
109.5
109
108.5
108
107.5
Air Flow in Sparge Point SP-1 (cfm)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
0.5
1
2
3
4
5
6
7
8
9
10
Time Step (hours)
SP-1
SP-TW-1A
SP-TW-1B
SP-TW-2A
SP-TW-2B
SP-TW-3A
SP-TW-3B

ARCADIS

Table D-1. Summary of Air Sparge Field Data, Sparge Well, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well	Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-1													
	8/28/2008	Air Pressure @ well head (psi)	0	16.5	16.0	15.0	14.0	--	15.0	14.5	14.5	13	13
		Air Flow measured @ well head (cfm)	0.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	8/29/2008	Air Pressure @ well head (psi)	0	*	*	*	*	15	15	15	15	--	--
		Air Flow measured @ well head (cfm)	0.0	2.0	2.0	2.0	3.0	2.0	3.0	3.0	5.0	5.0	5.0
	9/8/2008	Air Pressure @ well head (psi)	0	14	14.5	14.0	14.0	13.0	12.5	13.5	13.0	13.5	13.5
		Air Flow measured @ well head (cfm)	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	9/9/2008	Air Pressure @ well head (psi)	0	13	11.5	12.5	13.0	12.5	12.5	12.0	12.0	13.0	13.0
		Air Flow measured @ well head (cfm)	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	9/10/2008	Air Pressure @ well head (psi)	0	11.5	11.0	12.0	12.5	12.5	12.0	12.0	12.0	12.0	12.0
		Air Flow measured @ well head (cfm)	0.0	1.0	1.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	9/11/2008	Air Pressure @ well head (psi)	0	11.5	12.5	13	14	13	--	--	--	--	--
		Air Flow measured @ well head (cfm)	0.0	1.0	1.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	9/12/2008	Air Pressure @ well head (psi)	0	11	12.5	13.0	14.0	13	13.5	12	12	12	--
		Air Flow measured @ well head (cfm)	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0
	9/15/2008	Air Pressure @ well head (psi)	0	13	14	13	13	13	13	13	--	--	--
		Air Flow measured @ well head (cfm)	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0

cfm Cubic feet per minute.
psi Pounds per square inch.
* System off.
-- Data not collected.

ARCADIS

Table D-2. Summary of Air Sparge Field Data, Observation Well SP-TW-1A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-TW-1A												
8/28/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	1	--	1	2	0	1	1.4
	OVA (ppm)	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.91	--	--	4.08	4.15	--	4.25	4.19	4.16	4.18	4.18
	Dissolved Oxygen	5.2		6.5		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	0.6	--	--	--	1.8	1.0	1.0	0.2	0.2	--	--
	OVA (ppm)	0	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	4.22	--	--	--	4.33	4.27	4.27	4.26	4.25	--	--
	Dissolved Oxygen	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	0	0	0	0.5	0.4	0.6	0.4	1.4	1.3	1.2	1.6
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.90	3.90	3.89	3.90	3.90	3.90	3.87	3.90	3.89	3.90	3.90
	Dissolved Oxygen	4.4		4.5		5.0		5.1		4.7		5.0
9/9/2008	Observed Pressure on well head (in H_2O)	0	0.8	0.4	0.8	1	1.20	1.8	1.4	1.4	1.6	1.8
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.86	3.87	3.90	3.95	3.95	3.93	4.00	3.95	3.96	3.85	3.96
	Dissolved Oxygen	4.5		5.4		4.1		4.5		4.4		4.3
SP-TW-1A												
9/10/2008	Observed Pressure on well head (in H_2O)	0.2	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.4	1.8
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.87	3.93	3.90	3.90	3.90	3.88	3.84	3.85	3.87	3.85	3.82
	Dissolved Oxygen	4.1		3.8		3.8		3.7		3.9		3.9

ARCADIS

Table D-2. Summary of Air Sparge Field Data, Observation Well SP-TW-1A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
9/11/2008	Observed Pressure on well head (in H_2O)	0	0.4	0.6	1.0	1.0	1.4	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.82	3.88	3.96	3.91	3.90	3.96	--	--	--	--	--
	Dissolved Oxygen	4.5		3.7		3.8		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	4.8	>5	>5	>5	>5	>5	>5	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--		--		--		0		--		--
	Depth to Water (ft)	5.62	5.62	5.60	5.17	5.10	4.73	4.63	4.38	4.33	4.27	--
	Dissolved Oxygen	5.2		4.8		4.7		4.6		4.6		--
9/15/2008	Observed Pressure on well head (in H_2O)	0	0.1	0.4	1.4	1.4	1.4	1.6	1.8	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.95	3.95	3.95	3.96	3.97	3.96	3.97	--	--	--	--
	Dissolved Oxygen	4.2		4.8		4.6		4.7		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-3. Summary of Air Sparge Field Data, Observation Well SP-TW-1B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10	10:00
SP-TW-1B													
8/28/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	4.0	4.0	>5	--	>5	3	1.8	3	1.6
	OVA (ppm)	0	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	3.61	4.30	--	--	4.28	4.18	--	4.11	3.97	3.90	3.90	3.80
	Dissolved Oxygen	5.2	5.6		6.3		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	0	--	--	--	--	0.8	0.8	1.4	1.2	1.2	--	--
	OVA (ppm)	0	0	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	3.54	--	--	--	--	3.53	3.53	3.59	5.56	3.54	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	0.8	--	3.0	3.4	2.4	2.3	2.6	2.3	2.8	2.0	2.2	1.4
	OVA (ppm)	0	--	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.98	--	3.04	3.03	2.99	3.02	3.02	3.02	2.98	2.97	2.95	2.96
	Dissolved Oxygen	4.7	--		4.4		4.7		4.9		4.5		4.4
9/9/2008	Observed Pressure on well head (in H_2O)	0	2.0	2.8	1.2	1.4	1.4	2.0	1.6	2.2	0.8	1.4	1.6
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.87	2.90	2.89	2.93	2.89	2.90	2.89	3.00	2.95	2.96	2.98	2.98
	Dissolved Oxygen	4.0	4.5		4.1		4.2		4.3		4.2		4.2

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Table D-3. Summary of Air Sparge Field Data, Observation Well SP-TW-1B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10	10:00
SP-TW-1B													
9/10/2008	Observed Pressure on well head (in H_2O)	0.2	1.4	2.0	2.2	0.2	2.0	2.0	2.2	2.4	2.0	2.5	3.0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.88	2.93	2.95	2.90	2.91	2.94	2.91	2.90	2.90	2.93	2.91	2.90
	Dissolved Oxygen	3.7	3.8		3.9		3.5		3.9		4.0		4.1
9/11/2008	Observed Pressure on well head (in H_2O)	0	0.2	1.4	2.0	2.8	2.4	2.2	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.84	2.84	2.85	2.82	2.83	2.87	2.95	--	--	--	--	--
	Dissolved Oxygen	4.0	--		3.9		3.9		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	3.4	3.0	3.2	3.0	3.2	3.2	3.2	3.4	3.4	3.0	3.8	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--	--		--		--		0		--		--
	Depth to Water (ft)	3.74	3.73	3.74	3.62	3.63	3.55	3.45	3.48	3.51	3.51	3.52	--
	Dissolved Oxygen	5.1	--		5.0		4.6		4.8		4.8		--
9/15/2008	Observed Pressure on well head (in H_2O)	0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.4	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	3.00	3.00	3.01	3.00	2.99	2.98	2.99	2.99	2.98	--	--	--
	Dissolved Oxygen	5.1	--		5.0		4.6		4.8		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-4. Summary of Air Sparge Field Data, Observation Well PZ-22B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
PZ-22B												
8/28/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	--	0	0	0	0	0
	OVA (ppm)	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	4.51	--	--	4.55	4.28	--	4.29	4.19	4.14	4.16	3.98
	Dissolved Oxygen	8.0		5.6		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	0	--	--	--	0	0	0	0	0	--	--
	OVA (ppm)	0	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--		--		--		0		--		--
	Depth to Water (ft)	4.50	--	--	--	4.42	4.42	4.38	4.33	4.25	--	--
	Dissolved Oxygen	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	0	0	0	0	0	0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.75	3.76	3.70	3.62	3.60	3.54	3.51	3.51	3.43	3.42	3.45
	Dissolved Oxygen	2.7		2.5		3.0		3.4		2.9		3.2
9/9/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	0	0	0	0	0	0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.95	3.95	3.93	3.80	3.78	3.68	3.75	3.63	3.63	3.65	3.65
	Dissolved Oxygen	2.0		2.6		2.5		2.5		2.7		2.8

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Table D-4. Summary of Air Sparge Field Data, Observation Well PZ-22B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
PZ-22B												
9/10/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	0	0	0	0	0	0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.91	3.93	3.85	3.80	3.75	3.72	3.67	3.70	3.68	3.62	3.58
	Dissolved Oxygen	2.0		2.2		2.3		2.2		2.1		2.2
9/11/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	0	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.86	3.84	3.82	3.76	3.70	3.68	--	--	--	--	--
	Dissolved Oxygen	2.0		2.0		2.1		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	0	0	0	0	0	0	0	0	0	0	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--		--		--		0.4		--		--
	Depth to Water (ft)	4.40	4.37	4.37	4.33	4.35	4.26	4.11	4.07	4.05	4.01	--
	Dissolved Oxygen	7.0		6.5		6.5		6.5		6.5		--
9/15/2008	Observed Pressure on well head (in H_2O)	--	--	--	--	--	--	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	4.07	4.05	4.01	3.98	3.92	3.93	3.94	3.94	--	--	--
	Dissolved Oxygen	2.0		2.4		2.4		2.4		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-5. Summary of Air Sparge Field Data, Observation Well SP-TW-2A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-TW-2A												
8/28/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	--	>5	>5	1.6	4.6	4.8
	OVA (ppm)	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.10	--	--	4.79	4.48	--	4.27	4.12	3.99	3.97	3.83
	Dissolved Oxygen	5.5		--		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	0	--	--	--	0	0	0	0	0	--	--
	OVA (ppm)	0	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	4.22	--	--	--	4.33	4.27	4.27	4.26	4.25	--	--
	Dissolved Oxygen	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	1.8	>5	>5	0	0	0	0	0.2	0.2	0	0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	2.98	2.74	2.23	2.16	2.35	2.75	2.92	2.88	2.75	2.65	2.59
	Dissolved Oxygen	4.3		4.0		4.2		4.6		4.2		4.2
9/9/2008	Observed Pressure on well head (in H_2O)	0	2.2	2.4	2.2	0	0	0	0	0	0	0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	2.85	2.84	2.95	1.11	1.33	2.05	2.40	2.73	2.75	2.81	2.95
	Dissolved Oxygen	3.2		3.9		3.9		3.9		3.2		12.8
9/10/2008	Observed Pressure on well head (in H_2O)	0	1.4	2.0	3.0	4.0	2.8	1.8	1.8	1.0	1.5	1.6
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	2.87	2.95	2.89	2.89	2.88	2.73	2.68	2.68	2.67	2.53	2.48
	Dissolved Oxygen	3.0		3.2		3.2		3.3		3.6		3.8

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Table D-5. Summary of Air Sparge Field Data, Observation Well SP-TW-2A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-TW-2A												
9/11/2008	Observed Pressure on well head (in H_2O)	0	0	0.2	0.4	>5	0	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	--		--		0		--		--		--
	Depth to Water (ft)	2.47	2.49	2.52	2.56	2.30	2.42	--	--	--	--	--
	Dissolved Oxygen	3.3		3.3		3.1		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	>5	>5	4.8	4.4	4.3	4.4	4.6	4.8	>5	>5	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--		--		--		0		--		--
	Depth to Water (ft)	3.93	3.90	3.90	3.86	3.85	3.72	3.50	3.49	3.47	3.48	--
	Dissolved Oxygen	5.2		5.0		5.0		5.1		5.2		--
9/15/2008	Observed Pressure on well head (in H_2O)	0	0	0	2.8	3.2	3.3	3.9	3.8	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	2.93	2.91	2.87	2.88	2.92	2.92	2.93	2.93	--	--	--
	Dissolved Oxygen	3.0		3.4		3.4		3.3		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-6. Summary of Air Sparge Field Data, Observation Well SP-TW-2B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	0.5	1	2	3	4	5	6	7	8	9	10
SP-TW-2B													
8/28/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	--	>5	>5	>5	>5	>5
	OVA (ppm)	0	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube (ppm)	--	--		--		--		5		--		--
	Depth to Water (ft)	3.23	5.62	--	--	5.0	3.92	--	3.40	4.00	3.33	4.50	3.65
	Dissolved Oxygen	4.7	4.5		--		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	1.8	--	--	--	--	cap off	>5	cap off	cap off	cap off	--	--
	OVA (ppm)	0	--	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	3.54	--	--	--	--	5.59	*	*	*	*	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	>5	--	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5
	OVA (ppm)	0	--	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	9.73	7.24	--	--	--	--	--	6.13	--	--	--	--
	Dissolved Oxygen	5.8	8.0		--		--		9.9		--		--
9/9/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	8.13	7.40	--	6.38	--	--	--	--	--	--	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--

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Table D-6. Summary of Air Sparge Field Data, Observation Well SP-TW-2B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	0.5	1	2	3	4	5	6	7	8	9	10
SP-TW-2B													
9/10/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	8.74	6.75	6.74	6.74	--	--	--	--	--	--	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--
9/11/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	--	--		--		0		--		--		--
	Depth to Water (ft)	7.84	--	--	--	--	--	10.30	--	--	--	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--	--		--		--		0.2		--		--
	Depth to Water (ft)	8.59	--	--	--	--	--	--	--	--	--	--	--
	Dissolved Oxygen	4.7	--		--		--		--		--		--
9/15/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	>5	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	3.42	3.46	3.50	3.57	3.46	3.38	3.38	3.38	3.39	--	--	--
	Dissolved Oxygen	5.0	4.8		4.8		4.6		4.5		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-7. Summary of Air Sparge Field Data, Observation Well SP-TW-3A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-TW-3A												
8/28/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	--	>5	>5	3.3	4.8	4.8
	OVA (ppm)	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	1.82	--	--	2.90	2.59	--	2.48	2.40	2.33	2.39	2.31
	Dissolved Oxygen	7.3		--		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	1.2	--	--	3.5	3.0	1.6	3.0	3.0	3.0	--	--
	OVA (ppm)	0	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	0		--		--		--		--		--
	Depth to Water (ft)	2.20	--	--	--	2.25	2.28	2.29	2.29	2.27	--	--
	Dissolved Oxygen	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	4.8	4.6	4.2	3.8
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	2.33	2.13	2.01	1.87	1.85	1.73	1.68	1.58	1.52	1.48	1.46
	Dissolved Oxygen	3.8		3.8		4.0		3.8		3.8		3.8
9/9/2008	Observed Pressure on well head (in H_2O)	0	2.4	2.4	2.8	2.0	2.2	3.0	3.2	1.4	2.6	3.0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	1.40	1.40	1.48	1.40	1.42	1.40	1.48	1.41	1.41	1.42	1.35
	Dissolved Oxygen	--		3.8		3.7		3.9		4.1		4.4
9/10/2008	Observed Pressure on well head (in H_2O)	1.0	1.4	2.4	2.2	2.4	2.4	2.2	2.0	2.0	2.0	2.4
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	1.35	1.38	1.37	1.37	1.35	1.33	1.28	1.30	1.30	1.30	1.28
	Dissolved Oxygen	3.5		3.4		3.4		3.4		3.5		3.4

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Table D-7. Summary of Air Sparge Field Data, Observation Well SP-TW-3A, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	1	2	3	4	5	6	7	8	9	10
SP-TW-3A												
9/11/2008	Observed Pressure on well head (in H_2O)	1.4	1.6	2.0	2.2	2.0	3.0	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	0		--		--		--		--		--
	Depth to Water (ft)	1.27	1.27	1.28	1.28	1.35	1.40	--	--	--	--	--
	Dissolved Oxygen	3.7		3.8		3.8		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	>5	>5	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--		--		--		0.2		--		--
	Depth to Water (ft)	6.55	6.50	5.82	5.73	4.82	4.75	4.55	4.57	4.43	4.43	--
	Dissolved Oxygen	6.2		6.0		6.1		5.8		5.8		--
9/15/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	>5	>5	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--		--		--		--		--		--
	Depth to Water (ft)	3.41	3.28	3.04	2.78	2.63	2.64	2.84	2.65	--	--	--
	Dissolved Oxygen	3.5		3.8		3.9		3.8		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
--	Not applicable.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.

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Table D-8. Summary of Air Sparge Field Data, Observation Well SP-TW-3B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	0.5	1	2	3	4	5	6	7	8	9	10
SP-TW-3B													
8/28/2008	Observed Pressure on well head (in H_2O)	>5	>5	>5	>5	>5	>5	--	>5	>5	4.2	>5	4.8
	OVA (ppm)	0	0	0	0	0	0	--	0	0	0	0	0
	Chloroform Draeger tube (ppm)	--	--		--		--		--		--		--
	Depth to Water (ft)	2.33	3.90	--	--	3.60	3.18	--	3.00	3.92	2.79	2.82	2.70
	Dissolved Oxygen	7.7	5.1		--		--		--		--		--
8/29/2008	Observed Pressure on well head (in H_2O)	1.6	--	--	--	--	3.0	2.2	2.8	2.0	2.0	--	--
	OVA (ppm)	0	--	--	--	--	0	0	0	0	0	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.60	--	--	--	--	2.65	2.67	2.73	2.72	2.70	--	--
	Dissolved Oxygen	--	--		--		--		--		--		--
9/8/2008	Observed Pressure on well head (in H_2O)	>5	--	4.8	>5	5	>5	>5	>5	>5	4.4	4.4	4.2
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	2.43	--	2.17	2.07	1.93	1.97	1.80	1.80	1.72	1.66	1.62	1.60
	Dissolved Oxygen	3.9	--		4.0		4.0		4.0		3.7		3.4
9/9/2008	Observed Pressure on well head (in H_2O)	2.0	2.2	2.4	0.2	2.4	2.0	1.6	2.6	3.0	2.0	2.4	3.0
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	1.55	1.59	1.58	1.68	1.62	1.60	1.62	1.71	1.82	1.81	1.63	1.59
	Dissolved Oxygen	--	4.4		4.1		4.5		4.3		4.2		4.0
9/10/2008	Observed Pressure on well head (in H_2O)	1.0	1.4	1.8	1.8	2.6	2.4	2.2	2.2	2.0	1.8	2.0	2.4
	OVA (ppm)	0	0	0	0	0	0	0	0	0	0	0	0
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	1.58	1.60	1.65	1.63	1.65	1.66	1.60	1.50	1.53	1.55	1.53	1.45
	Dissolved Oxygen	4.4	4.1		4.3		4.3		4.2		4.1		4.2

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Table D-8. Summary of Air Sparge Field Data, Observation Well SP-TW-3B, Air Sparge Pilot Study, Former Vicksburg Chemical Company, Vicksburg, Mississippi.

Well/Date	Time Step: (Hours)	0	0.5	1	2	3	4	5	6	7	8	9	10
SP-TW-3B													
9/11/2008	Observed Pressure on well head (in H_2O)	1.0	1.0	1.2	1.4	1.8	2.4	2.4	--	--	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	--	--	--	--	--
	Chloroform Draeger tube	0	--		--		0		--		--		--
	Depth to Water (ft)	1.63	1.63	1.62	1.60	1.60	1.59	1.67	--	--	--	--	--
	Dissolved Oxygen	4.5	--		4.3		4.2		--		--		--
9/12/2008	Observed Pressure on well head (in H_2O)	>5	4.8	>5	3.8	3.6	3.2	3.0	3.0	3.0	2.6	2.6	--
	OVA (ppm)	0	--	0	0	0	0	0	0	0	0	0	--
	Chloroform Draeger tube	--	--		--		--		0		--		--
	Depth to Water (ft)	2.08	2.03	2.03	2.01	1.98	1.98	1.97	1.99	1.95	1.96	1.96	--
	Dissolved Oxygen	6.8	6.7		6.2		6.1		6.2		6.3		--
9/15/2008	Observed Pressure on well head (in H_2O)	0	0	1.4	1.6	2.8	3.0	3.2	3.2	3.4	--	--	--
	OVA (ppm)	0	0	0	0	0	0	0	0	0	--	--	--
	Chloroform Draeger tube	--	--		--		--		--		--		--
	Depth to Water (ft)	1.87	1.88	1.87	1.87	1.90	1.93	1.92	1.91	1.87	--	--	--
	Dissolved Oxygen	4.2	4.1		4.2		4.4		4.2		--		--

--	Data not collected.
cfm	Cubic feet per minute.
ft	Foot.
in H_2O	Inches of water.
OVA	Organic vapor analyzer.
ppm	Parts per million.
psi	Pounds per square inch.