CTS	I		LOG	OF Boring	Page 1-off
roject Number: 1 coation: C	Broad River Amoco B-6580 Columbia SC RCH 22 7019 VINNESANGER	Method Sampling Method: Sidecontractus/Disters: SC Registration Monitoring Equipment:	Elite Tech/ Dearal rogers	Total Depth (ft) Measuring Point Elev. Lathuda Longkude	
			DIL DESCRIPTION	Geologiat/Engineer	William D Woo
FRESH	AIR CAlibri	4TION	Isobuty	ENE GAS	Юррм
LOCATION SMH # 1 SMH # 3 CLEANON	17:30 17:33 17:39 17:38 17:36 17:36	7.6 5.0 2.5 2.0 3.8 2.1	1208 1218 1230		
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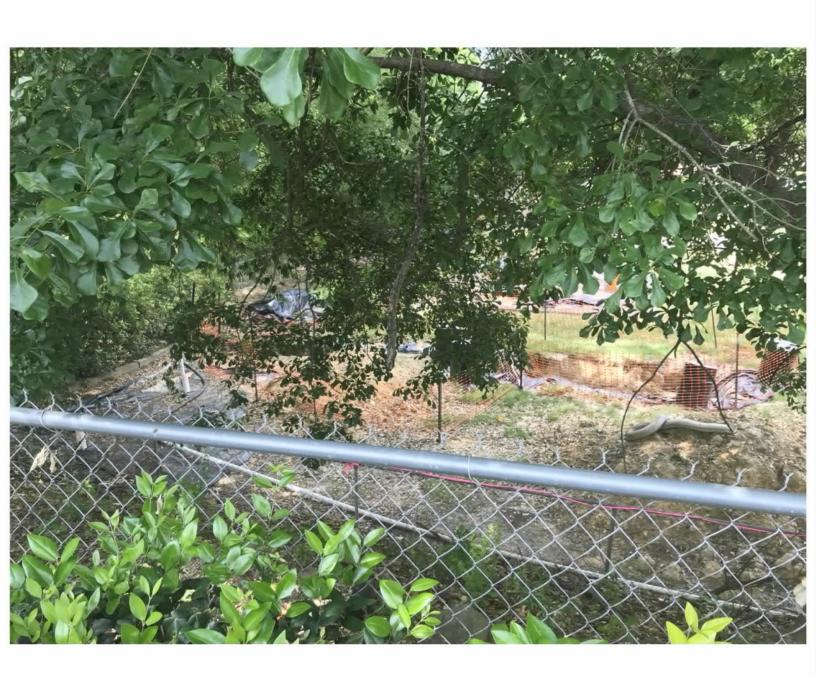
СТЗІ				LOG OF Bo		10FZ
Project Number: 18-61 Lacation: Colu Date/Time Started: MAR	ad River Amoco 580 mbia 8C CH 25 2019 V WESSINGER	Method: Sampling Method: Gubcont/actor/Drillers. SC Registration Monitoring Equipment:	Elite Techí Dear		Point Ellev. (ft-mail):	Grade am D Wood
II -Oplin		SC	DIL DESCRIPTIO	N		R-lags
1= FRESH A 2= 9:10AN	IR CAlibr			DUTYLENE AM 104		PPM = 1
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5 SMH #2	9:54	7.3		200		8 9
11 - 12 - 13 - 17	9:59	2,4 3,1 7,5	12	208 218 230		10 11 12 13
5- SMH#1 8- SMH#2	11:50	66.1	7			14 15 18
SWH#Z	12:05	6.2	12	08		17
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MMENTS:				NOTES:		

Ö

NOTES:
In - indicates inches
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It-lags - indicates feet below ground surface
it-mail - indicates feet above mean sea level
N/A - indicates not applicable to this baring
MC - 4-foot Macrocore sampler
SS - Spirt Spoon sampler

стві			LOG	OF Boring	Page Toff
Project Number: 18-858 constine: Colum Data/Time Started: WHAC	bia SC 8	Method Sampling Method Authorithmethod C Registration Ionitoring Equipment:	Elite Tech/ Dearal rogers	Total Cepth (ft): Measuring Point Elev. (ft Letitude Longitude Geologist/Engineer:	-msli: Grade William D Wood
No.		so	DIL DESCRIPTION		at the same of the
3_	R CAlibra	TION	Isobuty	ENE GAS	Юррм
LOCATION SMH# 1 SMH# Z SMH#3 CLEANOUT	Time 16:25 16:29 16:38 16:35 16:33 16:31	28.3 12.5 2.3 3.7 2.7 11.1			
MENTS:				MOTES: in - indicates inches if - indicates appth in feet hogs - indicates feet below it-mal - indicates feet above N/A - indicates not applicab MC - 4-foot Mecrocore sam SS - Spit Spoon sampler	mean see level le to this boring





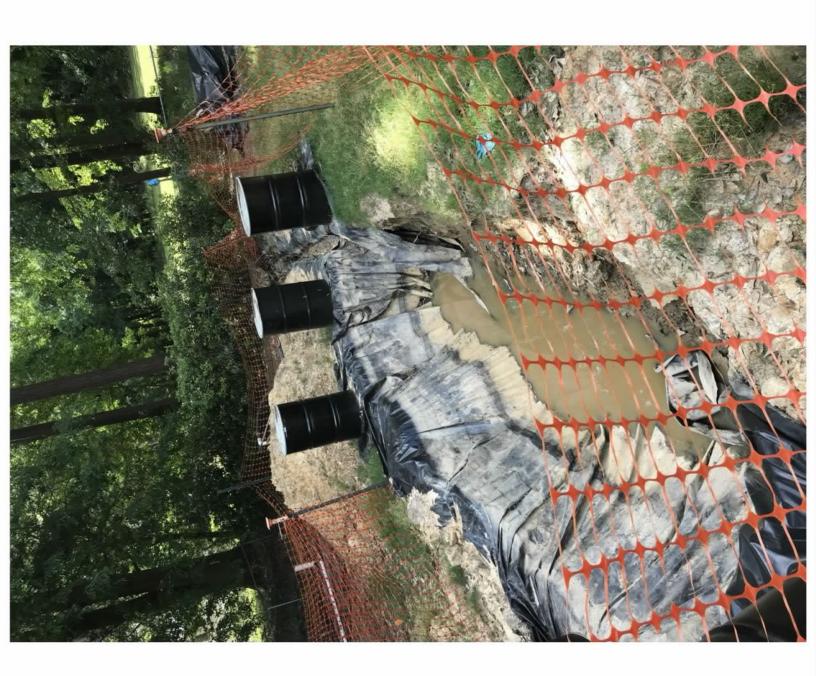








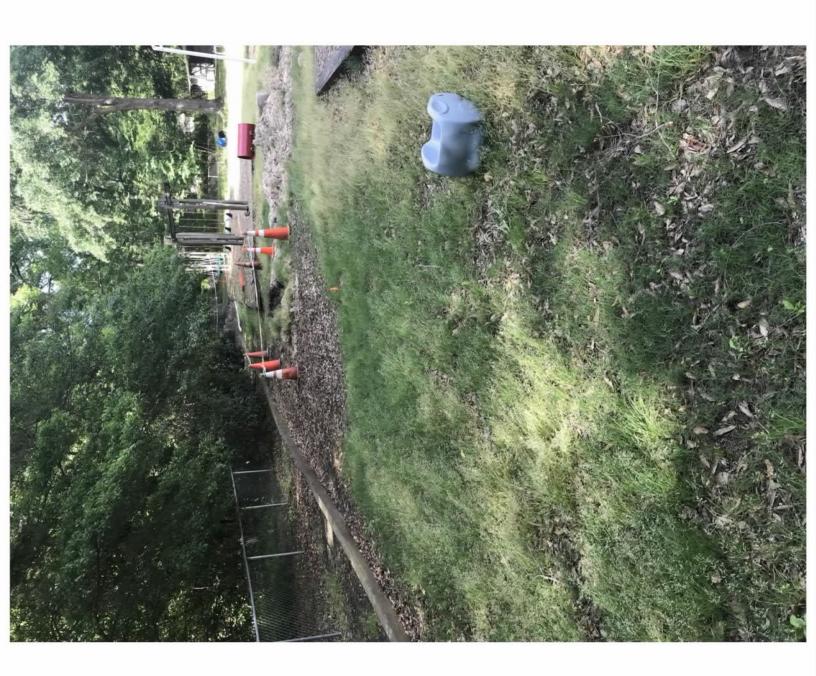














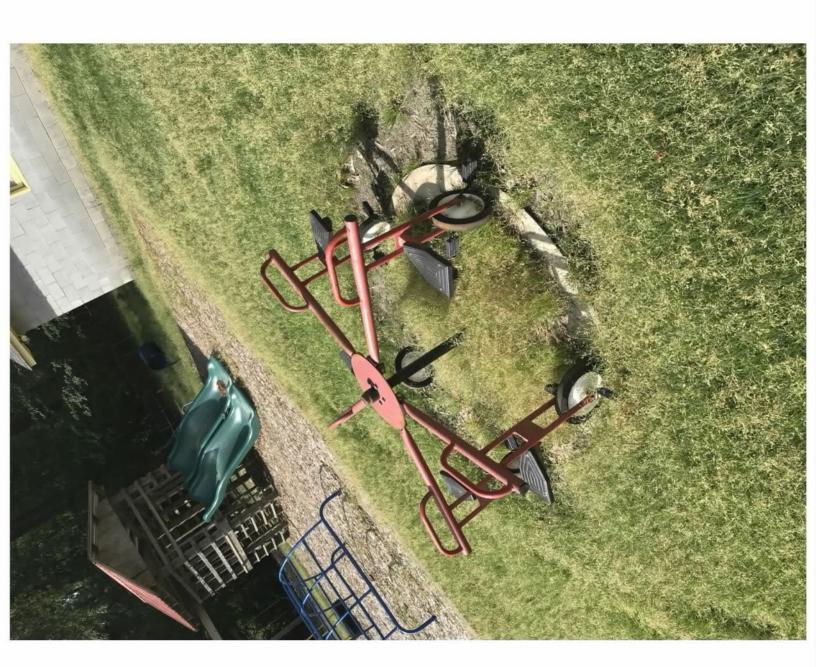
















C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

FEB 2 3 2012

FREDRICK N CECCHINI **BROAD RIVER AMOCO** 4335 BROAD RIVER ROAD COLUMBIA SC 29210-4009

> Re: Required Revision of Site Specific QAPP Contractor Addendum Broad River Amoco, 4335 Broad River Road, Columbia, SC UST Permit # 11946 Release reported January 4, 2011 Tier I Report received April 11, 2011 Monitoring Well Installation Report received June 21, 2011

QAPP Contractor Addendum for Tier II Directive dated January 20, 2012

QAPP Contractor Addendum received February 21, 2012

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the Quality Assurance Program Plan (QAPP) submitted by Enviro Services on your behalf. The following deficiencies must be corrected before approval of the QAPP Contractor Addendum:

- Signature by both laboratories.
- Need to include GCAL in Table 2A. This should be the same entry as in Table A1 on page 4.
- Section A8 Table 3A needs to list the OSHA training dates for all on site personnel (Terry Tate and Rick Dowell as a minimum).
- Section B2. Well purging must be in accordance with Page 92 of the Master QAPP. Please include turbidity meter in Table 13A.
- Appendix C. Please include a blank Access Analytical, Incorporated Chain of Custody form.

A revised Site Specific QAPP Contractor Addendum for Broad River Amoco is due on or before March 16, 2012. Please reference UST Permit number 11946 on all correspondence. If you have any questions, please contact me by phone at (803) 896-6669, by fax at (803) 896-6245, or by email at shradeaa@dhec.sc.gov.

Sincerely,

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

cc: Enviro-Test Services, PO Box 2237, Irmo, SC 29063

Technical File

RE: Vapor sampling

Michael Faris <mfaris@armenv.com>

Tue 5/7/2019 12:09 PM

To: Moores, Carolyn T. <mooresct@dhec.sc.gov>;

ccThoma, Debra L. <thomadl@dhec.sc.gov>;

@ Tattachments (42 KB)

BroadRiverAmoco_May2019 SoilGas&Air proposal.pdf;



*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
Carolyn,

Please find attached the cost proposal for soil vapor and indoor/outdoor, as well as crawl space, air sampling at the Broad River BP / Play Pals site.

The setup, locations, and quantity (12) of samples are proposed to be identical to what was collected the last time at this site as summarized in the March 2019 Emergency Response Report.

We can schedule the sampling immediately upon your approval.

Michael

Michael L. Faris, P.G. ARM Environmental Services, Inc.

1210 First Street South

Columbia, SC 29209 <u>www.armenv.com</u> ph: 803 783-3314 cell: 803 269-3913

From: Moores, Carolyn T. [mailto:mooresct@dhec.sc.gov]

Sent: Wednesday, April 10, 2019 3:30 PM

To: terryteate@aol.com

Cc: Michael Faris <mfaris@armenv.com>; Thoma, Debra L. <thomadl@dhec.sc.gov>

Subject: Vapor sampling

Terry,

We need to get another round of the air quality sampling that ARM performed last year at the Broad River Road Play Pals site before we put the bid out. It would be the same as before, using the sub slab sample ports, the ambient air, indoor air, and crawlspace sampling for BTEX vapors.

Can you please send a cost proposal for this? Then I can get you a cost agreement and a notice to proceed, since we don't have preset rates for this.

Thank you,

Carolyn Moores Hydrogeologist Corrective Action & Quality Assurance

UST Management Division

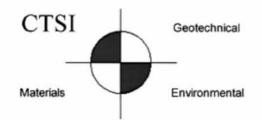
Bureau of Land & Waste Management

2600 Bull Street Columbia SC 29201-1708 Office: (803) 898-2622 Fax: (803) 898-0673



Broad River BP; UST Permit #11946; 4335 Broad River Rd., Columbia, SC Indoor / Outdoor Air & Sub-Slab Soil Vapor Sampling - Proposal

Description	Amount
Personnel mobilization (@ \$423 - ACI #4.B1)	\$ 846.00
Personnel: Project Scientist & Tech 2 to conduct leak tests, deploy, collect samples, collect equipment	\$ 3,497.00
FedEx Standard Overnight delivery of SUMA Cannisters for air sampling (12 cannisters)	\$ 1,150.00
Laboratory Air Analysis: TO-15 for indoor/outdoor air & subslab soil vapor (12 samples)	\$ 3,300.00
Subtotal	\$ 8,793.00
Project Management & Reporting	\$ 1,055.16
Total	\$ 9,848.16







TRANSMITTAL FORM

TO:	Mr. Ed Men	denhall	FROM:	William Wood	
Undergro	und Storage T	ank Management	CTSI		
Bureau of	Land and Wa	ste Management	P O Box 1	115	
2600 Bull	Street, Colum	bia, SC 29201	Irmo SC 2	29063	
1979 74-0073	ver Amoco, site		DATE:	5/21/2019 SEPARATELY VIA	
Item	No. Copies				
1	1	Broad River Amoco	11946, Tier II	IDW - Soil Disposal	
2	2 Manifest and Weight Ticket				

These Items Are Submitted:

	Х	As Rec	uested	0	For	You
--	---	--------	--------	---	-----	-----

o For Your Review and Comment o For Your Information

o For Your Files o For Your Signature

X For Approval

Comments:

3

5

As indicated in the Tier II report, attached please find documentation of IDW soil

diposal at the Waste Management Richland County landfill in Elgin SC

By:

William Wood (



Richland County LF 1047 Highway Church Road Elgin, SC, 29045 Ph: (803) 788-3054

Original Ticket# 1667573

Customer Name WMCOLUMBIAHAULI0000016 WM-COL Carrier

WM COLA Vehicle# 417025

HA Columbia Hauling

Ticket Date 04/23/2019 Payment Type Credit Account

Container

Volume

Manual Ticket#

Driver

Hauling Ticket# Roite

Check#

Billing # 00000016

State Waste Code Manifest

Gen EPA ID N/A

Destination

PO Profile

18-6580 610168SC (PETROLEUM PRODUCT IMPACTED SOIL)

Generator

126-BROADRIVERCSTORE BROAD RIVER C STORE

Time

Scale

ScaleMaster

Gross 54700 1b

04/23/2019 11:47:34 In Out 04/23/2019 12:11:03

Inbound #2 Outbound

kenny1 kenny1

Tare Net

Tons

33060 15 21640 lb

10.82

Comments

Product LD% Qty MOU Rate Fee Amount Origin

Special Misc-Tons- 100

James Anderson

10.82 Tons

40-RICHLAN

T-584224

Total Fees Total Ticket

403\VM

ű



NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST	1. Generator's US EPA	A ID No.	Manifest Doc	No.	2. Par.	~ :		
3. Generator's Mailing Address: BROAD RIVER C STORE LLC 4335 BROAD RIVER ROAD COLUMBIA, SC 29210 4. Generator's Phone 843-6:	10-1953	erator's Site Ad	dress (if different than m	alling):	A. Manife	B. State	Generator's ID	
5. Transporter 1 Company Name	10-1333	6.	US EPA ID Number			ransporter's I		
7. Transporter 2 Company Name 8. US EPA ID Number					D. Transporter's Phone E. State Transporter's ID F. Transporter's Phone			
9. Designated Facility Name and Site RICHLAND COUNTY LANDFILL 1047 HIGHWAY CHURCH ROA ELGIN, SC 29045	, INC.	10.	US EPA ID Number		G. State F		803-744-3373	
11 Description of March March late			12. Co	ntainers	13. Total	34. Unit		
a PERTROLEUM PRODUCT IMPACTED	SOIL		No.	Туре	Quantity	Wt./Vol.	I. Misc. Comments	
N E	file # 610168SC		500 1000	injordani	5865215.5-5	SMALL AND	MODERATE MINERS	
b.	MEW BADIOGSC		1.55.50 (48)	100 A 100	\$170,000			
	M Profile #		LTECHE		Market E		88,740au1100	
	M Profile #		1.000	自然原料	No.	5319102x 3693	Recorded to	
d. Will. Additional Descriptions for Materia	M Profile #			al Location				
			Cell	Location			Level	
15. Special Handling Instructions and A RICHLAND COUNTY	Additional Information		Grid					
Purchase Order# 18-6580		EMERGE	NCY CONTACT / PHO	NE NO.:				
GENERATOR'S CERTIFICATE: I hereby certify that the above-describe accurately described, classified and pace Printed Name	ed materials are not haz kaged and are in prope	r condition for	as defined by 40 CFR transportation according to behalf of	Part 261 o	r any applica licable regula	ble state law,	have been fully and	
17. Transporter 1 Acknowledgement o	f Receipt of Materials							
Printed Name WILLIAM W		Signature	lin Wood	for Br	and Pair	n C 840	Month Day Year 4 23 2019	
18. Transporter 2 Acknowledgement of Printed Name Flory And B 19. Certificate of Final Treatment/Dispu	v son	Signature	Young,	And	· Arch		Month Day Year 4 23 2019	
I certify, on behalf of the above listed tr applicable laws, regulations, permits an	eatment facility, that to d licenses on the dates	listed above.			ed waste was	managed in o	compliance with all	
20. Facility Owner or Operator: Certific Printed Name Kennett Rabi	audn of receipt of non-	Signature	erials covered by this	s manifest.			Month Day Year	



<u>CERTIFIED MAIL</u> 9214 8969 0099 9790 1414 8842 69

MR FREDERICK CECCHINI 429 PRESS LINDLER ROAD COLUMBIA SC 29212 MAY 2 3 2019



Re:

Notice of Alleged Violation

Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST Permit #11946

Release Reported January 4, 2011

Directive for Report of February Abatement Activities dated March 20, 2019

Richland County

Dear Mr. Cecchini:

Late Report:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) directed you on <u>March 20,2019</u> to complete a February Abatement Activity Report with the report due within <30> days. To date the required report has not been received.

Additionally, a summary is needed of Enviro-Test response activities for the dates prior to ARM's involvement (November 16, 2018 through November 26, 2018). Also, please clarify if the ARM report includes all of the response activities by Enviro-Test from November 26, 2018 through January 31, 2019 or if the report is detailing solely ARM's activities. If any additional work was performed by Enviro-Test from November 26, 2018 through January 31st that is not included in the ARM report, a summary is needed detailing these activities, as was requested in the letter dated February 4, 2019.

In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above Risk-Based Screening Levels (RBSLs). Implementation of this scope of work should proceed upon receipt of this correspondence.

Please submit the reports on or before <u>June 24,2019</u>. Should you not submit the report on or before this date, this office will initiate further enforcement action.

On all correspondence regarding this site, please reference UST Permit #11946. If you have any questions concerning this correspondence, please call me at (803) 898-2622, e-mail me at mooresct@dhec.sc.gov, or fax me at (803) 898-0673.

Sincerely,

Carolyn Moores, Hydrogeologist

Corrective Action and Quality Assurance Section Underground Storage Tank Management Division

Bureau of Land and Waste Management

Carely Moores

cc: Enviro-Test Services, Inc., P.O Box 2237, Irmo, Sc 29063

Technical File



CERTIFIED MAIL 9214 8969 0099 9790 1414 8842 52

MAY 2 3 2019



MR FREDERICK N CECCHINI 429 PRESS LINDLER ROAD COLUMBIA SC 29212-8322

Re: Request for April 2019 Activities Report

Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST Permit # 11946

Release reported January 4, 2011

Summary report received March 26, 2019

Richland County

Dear Mr. Cecchini:

The UST Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by ARM Environmental Services Inc. (ARM) on behalf of Enviro-Test Services, Inc. (Enviro-Test). The next appropriate step for this site is a report documenting the abatement activities on the site for the month of April, 2019. This report should include the dates and descriptions of the work performed and the quantities of free product and contaminated storm water recovered and any other notable observations. It should also include recommendations of solutions for remediation and restoration of the impacted facility and adjacent properties.

Please have your contractor complete and submit the report detailing the April 2019 abatement activities within thirty (30) days of the date of this letter.

The letter that was sent with the waste disposal manifests had no dates of the seven vacuum recovery events listed. This is not sufficient to pay the invoice, as no other documentation was received.

On all correspondence regarding this site, please reference UST Permit # 11946. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-2622, by fax at (803) 898-0673, or by e-mail at mooresct@dhec.sc.gov.

Sincerely,

Gooly Moores Carolyn Moores, Hydrogeologist

Corrective Action & Quality Assurance Section Underground Storage Tank Management Division Bureau of Land and Waste Management

Enviro-Test Services, Inc., PO Box 2237, Irmo, SC 29063 CC:

Technical File



MR FREDERICK N CECCHINI 429 PRESS LINDLER ROAD COLUMBIA SC 29212-8322

MAY 2 9 2019



Air Quality Vapor Sampling Directive Re:

Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST# 11946; CA# 59677

Release reported January 4, 2011 Cost Proposal received May 7, 2019

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced Cost Proposal submitted on your behalf by Enviro-Test Services, Inc. The next appropriate scope of work at the site is an air quality vapor sampling event. All work should be conducted in accordance with Enviro-Test Services, Inc.'s approved Annual Contractor Quality Assurance Plan (ACQAP), industry standards, and must be conducted in compliance with all applicable regulations. Enviro-Test Services, Inc. can use the UST Quality Assurance Program Plan (QAPP) Revision 3.1 as a guideline. A copy of the UST QAPP is available at http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentCleanup/QualityAssurance/.

Air quality vapor sampling activities at the site should begin immediately upon receipt of this letter. Cost agreement #59677 has been approved for the amount shown on the enclosed cost agreement form for conducting the sampling associated with the referenced release. Air quality samples should be collected and analyzed for BTEX, naphthalene, MTBE, 1, 2-DCA.

In accordance with Enviro-Test Services, Inc.'s ACOAP, a weekly status report of the project should be provided via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in Enviro-Test Services, Inc.'s ACQAP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Enviro-Test Services, Inc. can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved.

Please note that applicable South Carolina certification requirements regarding laboratory services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from DHEC is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by DHEC for the cost to be paid. DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note if unnecessary dilutions are completed resulting in reporting limits of individual chemicals of concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

DHEC grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the Enviro-Test Services, Inc.'s ACQAP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit #11946. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-2622, by fax at (803) 898-0673, or by email at mooresct@dhec.sc.gov.

Sincerely,

Carolyn Moores, Hydrogeologist

Caroly Moores

Corrective Action & Quality Assurance Section Underground Storage Tank Management Division

Bureau of Land and Waste Management

Enc: Approved Cost Agreement

Cc: Enviro-Test Services, Inc., PO Box 2237, Irmo, SC 29063 (w/enc)

ARM Environmental Services, Inc., 1210 First Street South, Columbia, SC

29209 (w/ enc)

Technical File (w/ enc)

Approved Cost Agreement

Facility: 11946 BROAD RIVER AMOCO

MOORESCT PO Number:

Qty / Pct **Unit Price Amount** Task / Description Categories Item Description 04 MOB/DEMOB B1 PERSONNEL 2.0000 \$423.000 846.00 18 MISCELLANEOUS 12 CANNISTERS AND DELIVERY 1.0000 \$1,150.000 1,150.00 3,497.00 1.0000 \$3,497.000 CANNISTERS AND DELIVERY 3,300.00 LAB ANALYSIS FOR INDOOR, OUTDOOR, AND SUBL 12.0000 \$275.000 19 RPT/PROJECT MINGT & COORDINATIO \$8,793.000 1,055.16 PRT REPORT PREPARATION 0.1200

59677

Total Amount

9,848.16

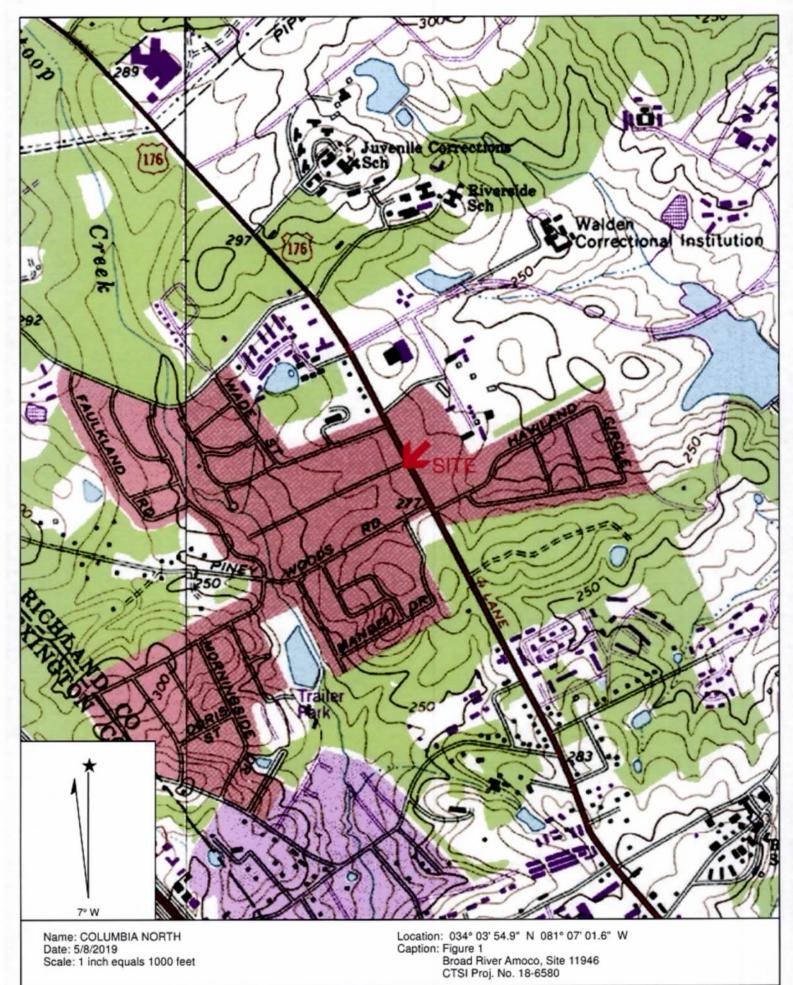


Site-Specific Work Plan for Approved ACQAP UZ Underground Storage Tank Management Division

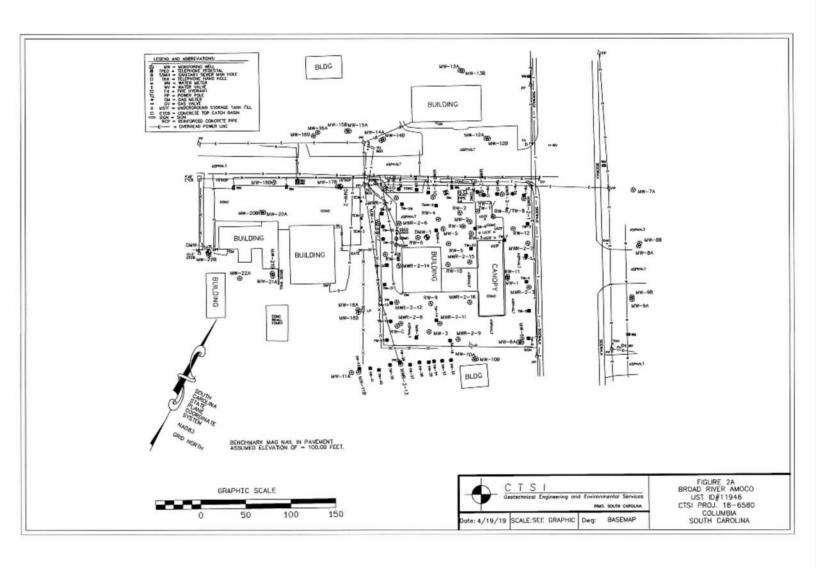
MAY	3	0 2019
		-013

To: Jeffery Mendenhall From: William Wood	200		CDHEC Project Manager) ntractor Project Manager)
Contractor: Carolina Technical Services,	Inc UST Contra	actor Certification Number: 263	
Facility Name: Broad River Amoco Facility Address: 4335 Broad River Rd.	Columbia SC	UST Permit #:	11946
Responsible Party: Broad River C Stor	e LLC	Phone: 803-47	77-7575
RP Address: 41 Cromwell Court, Irmo S	C 29063		
Property Owner (if different):			
Property Owner Address:		202	
Current Use of Property: Convenience	se store		
Scope of Work (Please check all the	nat apply)		<u></u>
☐ IGWA ☐ Tier II		☐ Groundwater Sampling	☐ GAC
☐ Tier I ☐ Monitori	ng Well Installation	✓ Other Free Product Recovery,	AFVR
Analyses (Please check all that ap	ply)	e-anti-	
Groundwater/Surface Water:			
☐ BTEXNMDCA (8260B)	☐ Lead	☐ BOD	
Oxygenates (8260B)	☐ 8 RCRA Metals	☐ Nitrate	☐ Ethanol
☐ EDB (8011)	☐ TPH	☐ Sulfate	☐ Dissolved Iron
☐ PAH (8270D)	☐ pH	☐ Other	
Drinking Water Supply Wells:			
☐ BTEXNMDCA (524.2)	☐ Mecury (200.8 245)	.1 or 245.2)	.1)
Oxygenates & Ethanol (8260B)	RCRA Metals (200	.8)	
Soil:			
()	RCRA Metals	☐ TPH-DRO (3550B/8015B)	<u> </u>
	Oil & Grease (9071)	☐ TPH-GRO (5030B/8015B)	☐ TOC
Air:			
BTEXN			731111 9 2 3 2 - VZ
Sample Collection (Estimate the n	10 M 4 M 20 M 20 M 1 M 1 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2		
Soil	Water Supply We		Field Blank
Monitoring Wells	Surface Water	Duplicate	Trip Blank
Field Screening Methodology Estimate number and total complete # of shallow points proposed: # of deep points proposed: Field Screening Methodology:	Est	imated Footage:imated Footage:	feet per point feet per point
Permanent Monitoring Wells			
Estimate number and total complete	ed depth for each well, and	include their proposed locations	on the attached map.
# of shallow wells:			
# of deep wells:			
# of recovery wells:	Estimated	f Footage:	feet per point
Comments, if warranted:			
	1.22		E C
. 			

UST Permit #: 11946 Facility Name: Broad River Amoco
Implementation Schedule (Number of calendar days from approval) Field Work Start-Up: 3 days following approval Field Work Completion: 90 days following approval Report Submittal: 30 days following completion # of Copies Provided to Property Owners:
Aquifer Characterization Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)
Investigation Derived Waste Disposal Soil: Tons Purge Water: 4000 Gallons
Soil: Tons Purge Water: 4000 Gallons Drilling Fluids: Gallons Free-Phase Product: 450 Gallons
Additional Details For This Scope of Work For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc. Free product will be pumped from recovery and monitoring wells three days per week for 13 weeks, dependent upon free product accumulation rates Selected wells will be gauged on a regular basis for free product presence An 8 hour AFVR will be conducted in in UST pit area using Recovery wells RW-A and RW-B. Minimal stenger depth so that excessive drawdown is avoided
Compliance With Annual Contractor Quality Assurance Plan (ACQAP) Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below. Name of Laboratory:SCDHEC Certification Number:Name of Laboratory Director:Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below. Name of Well Driller:SCLLR Certification Number:
Other variations from ACQAP. Please describe below.
Attachments Attachments Attachments
 Attach a copy of the relevant portion of the USGS topographic map showing the site location. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following: North Arrow Location of property lines Location of buildings Previous soil sampling locations Previous monitoring well locations Previous monitoring well locations Previous monitoring well locations Proposed soil boring locations Assessment Component Cost Agreement, SCDHEC Form D-3664



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ASSESSMENT COMPONENT COST AGREEMENT SOUTH CAROLINA

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
June 15, 2017

Facility Name:

Broad River Amoco

UST Permit #:

11946

Cost Agreement #:

UST Permit #:	Cost Ag	reement #:		
ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation	1 1			
A1. Site-specific Work Plan	1 1	each	\$150.00	\$150.00
B1. Tax Map	1 1	each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
2. A1. Receptor Survey *		each	\$551.00	\$0.00
3. Survey (500 ft x 500 ft)				
A1. Comprehensive Survey	1 1	each	\$1,040.00	\$0.00
B. Subsurface Geophysical Survey	1 1			
1B. < 10 meters below grade	1 1	each	\$1,300.00	\$0.00
2B. > 10 meters below grade	1	each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
4. Mob/Demob				
A1. Equipment	1 1	each	\$1,020.00	\$1,020.00
B1. Personnel	40	each	\$423.00	\$16,920.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
5. A1. Soil Borings (hand auger)*		foot	\$5.00	\$0.00
6. Soil Borings (requiring equipment, push techn				
Field Screening (including water ssample, soil	sample, soil gas	sample, etc.)*		
AA. Standard	1 1	per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
7. A1. Soil Leachability Model		each	\$60.00	\$0.00
8. Abandonment (per foot)*				
A1. 2" diameter or less	1 1	per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter	1 1	per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
9. Well Installation (per foot)*				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping		per foot	\$50.00	\$0.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens	1 1	per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)		per foot	\$45.00	\$0.00
II. Pushed Pre-packed screen (1.25" dia)	1	per foot	\$15.00	\$0.00
J1. Rotosonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00

10. Groundwater Sample Collection / Gauge Depth	to Water or P	roduct *		
A1. Groundwater Purge		per well/receptor	\$60.00	\$0.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply	3	per well/receptor	\$22.00	\$0.00
D1. Groundwater No Purge or Duplicate		per well/receptor	\$28.00	\$0.00
E1. Gauge Well only	325	per well	\$7.00	\$2,275.00
F1. Sample Below Product	020	per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank		each	\$24.60	\$0.00
Groundwater (low flow purge)		per well/receptor	\$91.00	\$0.00
11. Laboratory Analyses-Groundwater		per wearresopter	\$ 1.00	9
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)		per sample	\$122.00	\$0.00
AA1. Lead, Filtered		per sample	\$13.80	\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60	\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40	\$0.00
D1. PAH's		per sample	\$60.60	\$0.00
E1. Lead		per sample	\$16.00	\$0.00
MATERIA (SATING) - programs - mercanic.			\$45.20	\$0.00
F1. EDB by EPA 8011		per sample	\$68.20	\$0.00
FF1. EDB by EPA Method 8011 Rush		per sample	H102	\$0.00
G1. 8 RCRA Metals		per sample	\$63.40	
H1. TPH (9070)		per sample	\$41.00	\$0.00
II. pH		per sample	\$5.20	\$0.00
J1. BOD		per sample	\$20.00	\$0.00
PP. Ethanol		per sample	\$14.80	\$0.00
11. Analyses-Drinking Water		·		
L. BTEXNM+1,2 DCA (524.2)		per sample	\$124.05	\$0.00
M. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$91.75	\$0.00
N. EDB (504.1)		per sample	\$79.50	\$0.00
O. RCRA METALS (200.8)		per sample	\$100.00	\$0.00
11. Analyses-Soil		CROSS SMARES MAN HER I	****	••••
Q1. BTEX + Naphth.		per sample	\$64.00	\$0.00
R1. PAH's		per sample	\$64.04	\$0.00
S1. 8 RCRA Metals		per sample	\$56.40	\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00	\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96	\$0.00
W1. Grain size/hydrometer		per sample	\$104.00	\$0.00
X1. Total Organic Carbon		per sample	\$30.60	\$0.00
11. Analyses-Air		2003.00.0000	••••	
Y1. BTEX + Naphthalene 11. Analyses-Free Phase Product	0.00	per sample	\$216.00	\$0.00
			6257.00	****
Z1. Hydrocarbon Fuel Identification 12. Aquifer Characterization		per sample	\$357.00	\$0.00
		por hour	\$23.00	\$0.00
A1. Pumping Test*		per hour	\$23.00	\$0.00
B1. Slug Test* C1. Fractured Rock		per test	\$191.00	\$0.00
13. A1. Free Product Recovery Rate Test*		per test each	\$38.00	\$0.00
14. Fate/Transport Modeling		eaul	\$30.00	\$0.00
A1. Mathematical Model		each	\$100.00	\$0.00
B1. Computer Model		each	\$100.00	\$0.00
15. Risk Evaluation		Gaul	φ100.00	φυ.ου
A. Tier I Risk Evaluation		each	\$300.00	\$0.00
B1. Tier II Risk Evaluation		each	\$100.00	\$0.00
16. A1. Subsequent Survey*	-	each	\$260.00	\$0.00
10.7.11 Subsequent Suitey		Caul	φ200.00	φυ.υυ

17. Disposal (gallons or tons)*	1	1	1 1	
AA. Wastewater		gallon	\$0.56	\$0.00
BB. Free Product	400	gallon	\$0.50	\$200.00
C1. Soil Treatment/Disposal	400	ton	\$60.00	\$0.00
D1. Drilling fluids		gallon	\$0.42	\$0.00
18. Miscellaneous (attach receipts)		gallon	φυ.42	φ0.00
10. miscentificous (attach receipts)		each	\$0.00	\$0.00
		10000000	\$0.00	\$0.00
		each each	\$0.00	\$0.00
20. Tier I Assessment (Use DHEC 3665 form)		standard	\$0.00	\$0.00
21. IGWA (Use DHEC 3666 form)		standard		\$0.00
22. Corrective Action (Use DHEC 3667 form)		PFP Bid		\$0.00
23. Aggressive Fluid & Vapor Recovery (AFVR)		PPP BIQ	_	\$0.00
			84 975 99	64 275 00
A1. 8-hour Event*	1	each	\$1,375.00	\$1,375.00
AA. 24-hour Event*		each	\$3,825.00	\$0.00
A3. 48-hour Event*		each	\$6,265.00	\$0.00
A4. 96-hour Event*		each	\$12,567.50	\$0.00
C1. Off-gas Treatment 8 hour	1	per event	\$122.50	\$122.50
C2. Off-gas Treatment 24 hour		per event	\$241.50	\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00	\$0.00
C4. Off-gas Treatment 96 hour	1	per event	\$780.00	\$780.00
D. Site Reconnaissance		each	\$203.25	\$0.00
E1. Additional Hook-ups	9,00000	each	\$25.75	\$0.00
F1. Effluent Disposal	4000	gallon	\$0.44	\$1,760.00
G. AFVR Mobilization/Demobilization		each	\$391.50	\$0.00
24. Granulated Activated Carbon (GAC) filter system	m installation	& service:		
A1. New GAC System Installation*		each	\$1,900.00	\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00	\$0.00
C1. Filter replacement/removal*		each	\$350.00	\$0.00
DD. GAC System removal, cleaning, & refurbishmen	nt*	each	\$275.00	\$0.00
E1. GAC System housing*		each	\$250.00	\$0.00
F. In-line particulate filter		each	\$150.00	\$0.00
G1. Additional piping & fittings	one contract of	foot	\$1.50	\$0.00
25. Well Repair				
A1. Additional Copies of the Report Delivered		each	\$50.00	\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00	\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00	\$0.00
D1. Repair well vault*		each	\$118.00	\$0.00
F1. Replace well cover bolts		each	\$2.60	\$0.00
G. Replace locking well cap & lock		each	\$15.00	\$0.00
H1. Replace/Repair stick-up*		each	\$134.00	\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00	\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00	\$0.00
Report Prep & Project Management	12%	percent	\$24,602.50	\$2,952.30
TOTAL				\$27,554.80

DHEC 2495 6-2017 *The appropriate mobilization cost can be added to complete these tasks, as necessary



MR FREDERICK N CECCHINI 429 PRESS LINDLER ROAD COLUMBIA SC 29212-8322

MAY 2 9 2019



Re:

Cost Agreement for ongoing FP containment measures

Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST Permit # 11946; CA# 59552 Release reported January 4, 2011

MW Replacement report received April 9, 2019

Richland County

Dear Mr. Cecchini:

The UST Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by Enviro-Test Services, Inc. (Enviro-Test). To address the current site conditions that began in November of 2018, and the containment of migrating free product, DHEC has written a cost proposal for removing and disposing of the accumulating free product on the adjacent Play Pals property downgradient from the site.

The cost proposal includes costs for weekly vacuuming and removal of the free product from the trenches and areas where it collects as well as removing free product and storm water from trenches after rain events and disposal. Additionally, the cost proposal includes expenses relating to the prevention of plume migration such as boom replacement in areas that are at risk of contributing to surface water contamination and to prevent migration.

On all correspondence regarding this site, please reference UST Permit # 11946. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-2622, by fax at (803) 898-0673, or by e-mail at mooresct@dhec.sc.gov.

Sincerely,

Carolyn Moores, Hydrogeologist

arola Moores

Corrective Action & Quality Assurance Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

cc: Enviro-Test Services, Inc., PO Box 2237, Irmo, SC 29063

Technical File

Approved Cost Agreement

59552

Facility: 11946 BROAD RIVER AMOCO

MOORESCT PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
17 DISPOSAL				
	AA WASTEWATER	6,500.0000	\$0.560	3,640.00
	BB FREE PRODUCT	100.0000	\$0.500	50.00
18 MISCELLANEOUS				
	ARM INVOICE 0319 B	1.0000	\$6,203.040	6,203.04
	ENVIRO-TEST INVOICE A	1.0000	\$16,000.000	16,000.00
19 RPT/PROJECT MINGT & COORDINATK	0			
	PRT REPORT PREPARATION	0.1200	\$25,893.040	3,107.16

Total Amount

29,000.20



MR PAUL DESAI **BROAD RIVER C STORE LLC** 41 CROMWELL COURT IRMO, SC 29063

MAY 3 T 2019



Re:

Free Product Removal Notice to Proceed

Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST Permit #11946; CA #59685

Release #2 reported November 16, 2018

Site-Specific Work Plan and cost proposal received May 17, 2019

Richland County

Dear Mr. Desai:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed and approved the referenced Site-Specific Work Plan (SSWP) submitted by your contractor. All work should be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan (ACQAP) and in compliance with all applicable regulations. A copy of the current revision of the UST QAPP is available for reference at https://scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessmentclean/quality-assurance.

The Cost Agreement (CA) 59685 above has been approved for the amount shown on the enclosed cost agreement form. Please note the following changes to the cost agreement and SSWP:

- Item 4A Equipment Mob has been removed.
- Item 4B Personnel Mob has been reduced from 40 to 15.
- Item 23G AFVR Mobilization/Demobilization has been increased from 0 to 1.

The Contractor must provide the UST Project Manager with a weekly status report via e-mail to include depth to free product, depth to ground water and groundwater elevation in tabular format. The Free Product (FP) removal is to be performed for 4 weeks beginning June 3, 2019 and ending June 30, 2019. All onsite monitoring wells and recovery wells are to be gauged prior to the beginning of FP removal, with a final gauging event for the same wells to be completed on July 5, 2019. The UST Project Manager must be notified via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes or conflicts with the date(s) of site activities, the UST Project Manager must be contacted within 24 hours of those changes. All reports submitted for these activities should include the required information outlined in the UST QAPP. The Final FP Removal and Gauging Report needs to be submitted via e-mail on July 8, 2019 with the hard copy due July 12, 2019.

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Section 44-2-130 of the SUPERB Statute states that no costs will be allowed unless prior approval is obtained from the Department. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Division for the cost to be paid. The Division reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Division reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. Any site rehabilitation activity associated with the UST release must be performed by a DHEC-certified site rehabilitation contractor as required by R.61-98.

The Division grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility following each sampling event. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to each report. If the Chemical of Concern (CoC) concentrations based on laboratory analysis is below Risk-Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on-site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit #11946. Should you have any questions regarding this correspondence, please feel free to contact me by phone at (803) 898-7542, by fax at (803) 898-0673, or by e-mail at mendenje@dhec.sc.gov.

Sincerely,

Éd Mendenhall, Hydrogeologist

Assessment & Unregulated Petroleum Section
Underground Storage Tank Management Division

Bureau of Land and Waste Management

E Mendell

enc: Approved Cost Agreement (ACA)

cc: Carolina Technical Services, Inc., 7130-A Broad River Road, Irmo, SC 29063 (w/enc)

Technical file (w/enc)

Approved Cost Agreement

59685

Facility: 11946 BROAD RIVER AMOCO

MENDENJE PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN				
	A1 SITE SPECIFIC WORK PLAN	1.0000	\$150.000	150.00
04 MOB/DEMOB	***************************************	00.000000000000000000000000000000000000	1-2-	
	B1 PERSONNEL	15.0000	\$423.000	6,345.00
10 SAMPLE COLLECTION				
	E1 GAUGEWELL ONLY	325.0000	\$7.000	2,275.00
17 DISPOSAL			-3(4-4)-31	
	BB FREE PRODUCT	400.0000	\$0.500	200.00
19 RPT/PROJECT MNGT & COORDINATIO				
	PRT REPORT PREPARATION	0.1200	\$12,619.000	1,514.28
23 EFR		Company of the Compan		
	A1 8 HOUR EVENT	1.0000	\$1,375.000	1,375.00
	C1 OFF GAS TREATMENT 8 HOUR	1.0000	\$122.500	122.50
	F1 EFFLUENT DISPOSAL	4,000.0000	\$0.440	1,760.00
	G AFVR EQUIPMENT MOB	1.0000	\$391.500	391.50
		Total Am	ount	14,133.28

follow up email from 5/30/19 meeting

Moores, Carolyn T.

Thu 5/30/2019 3.14 PM

To:terryteate@aol.com <terryteate@aol.com>;

1 attachments (392 KB)

11946 AQVS Directive and CA59677.pdf;



I have included the air sampling directive as a .pdf attachment. The document was mailed yesterday, so you should receive it any day now. The CA# for the air sampling is 59677.

The May activities CA# is 59552.

As discussed in the meeting, DHEC needs a report (individual reports by month or a report covering multiple months) detailing monthly abatement activities from the months of February, March, April, May (and eventually June) 2019. It was our understanding that you would be submitting a report detailing the activities for the months of February through May by June 7. Please note, upon receipt of that report, the invoice received for the April abatement activities will be processed for payment.

Thank you for your work in controlling runoff at the site while assessment was ongoing. I have included some report guidance for your reference below:

Section A9 of the QAPP contains required elements for submitted reports. I have pulled out what I think is most important:

A. Introduction

- 1. UST Facility Name, Permit Number, Address, and Telephone Number.
- 2. UST Owner's and Operator's name, Address, and Telephone Number.
- 3. Property Owner's Name, Address, and Telephone Number.
- 4. DHEC Certified UST Site Rehabilitation Contractor's Name, Address, Telephone Number, and Certification Number

F. AFVR Information

- 1. A brief description of each completed work scope and any relevant descriptions pertaining to data tables generated.
- 4. The total volume of water recovered (gallons) for each event.
- 5. The total volume of free phase product (FPP) recovered in gallons for each event.
- 8. A scaled base map depicting the location of the extraction wells (trenches) (Figure 2)
- 9. An original copy of the weight ticket and disposal manifest from the permitted treatment facility that clearly designates the quantity of effluent received, applicable permit numbers, and dates must be included as Appendix H in the final report.

J. Figures

1. Topographic Map - the report shall include a copy of the relevant portion of a USGS 7.5 min topographic map showing the site location and the locations of all public and private water supply wells and other potential receptors within 1,000 feet of the site or within 500 feet of the down gradient edge of the plume, whichever is



greater. The figure will be captioned with the facility name and address, UST Permit number, date, and bar scale. The map must include a north arrow. Label as Figure 1.

2. Site base map as Figure 2

K. Appendices

7. Appendix G: Disposal manifests

Additional requested information - site photographs that depict observed site conditions.

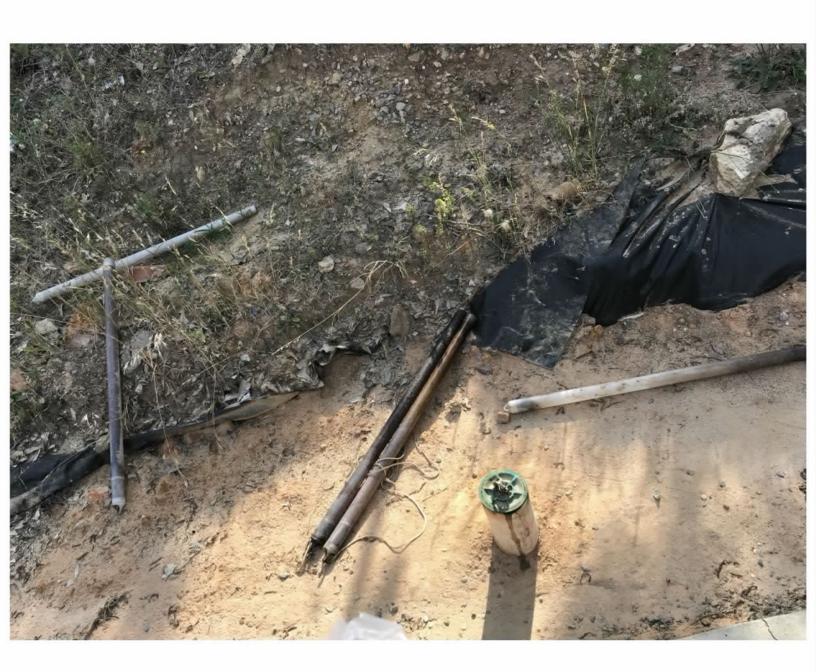
Carolyn Moores
Hydrogeologist
Corrective Action & Quality Assurance
UST Management Division
Bureau of Land & Waste Management

2600 Bull Street Columbia SC 29201-1708 Office: (803) 898-2622 Fax: (803) 898-0673

https://outlook.office365.com/owa/?realm=dher.sc.gov&eveurd=1&ll_cc=1033&modud=0&nath=/mail/sentitems











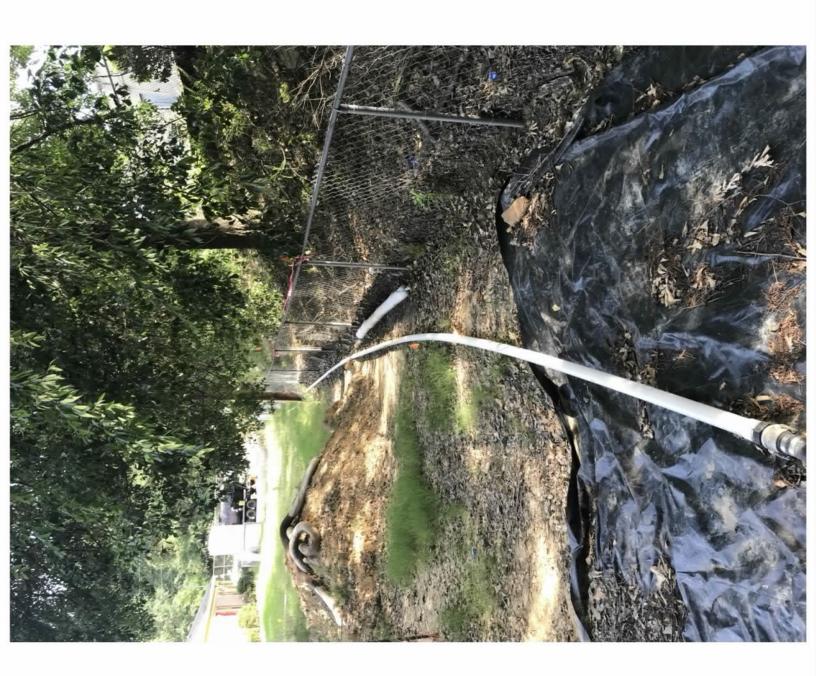


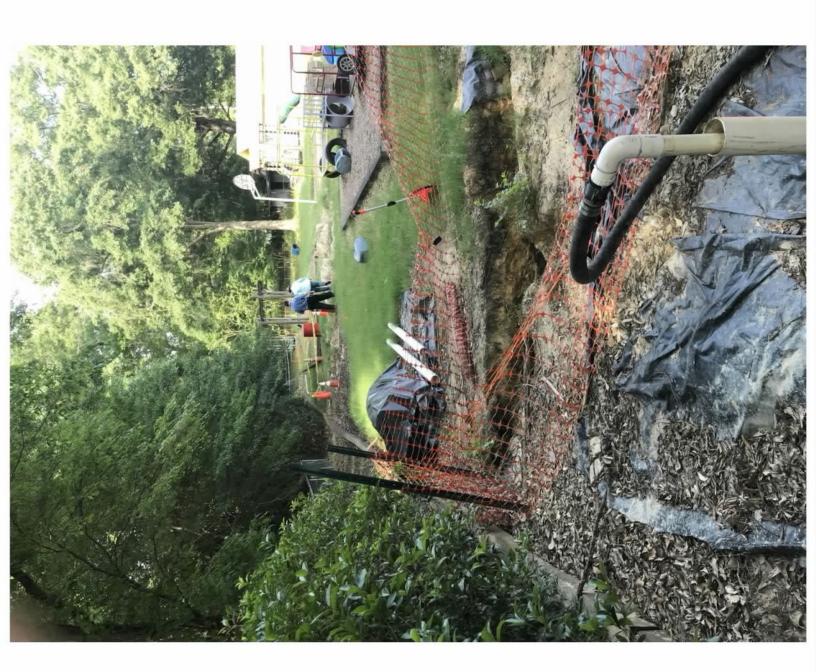






























































Broad River Amoco (BP) Revision Number 1 UST Permit #11946 Date: February 20, 2012

Section A: Project Management A1 Title and Approval Page

GCAL



GRAM

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For

Broad River Amoco, UST Permit # 11946

US P CKETY

4335 Broad River Road, Columbia, SC - Richland County

Prepared by: Terry L. Teate
Enviro-Test Services Inc. - SCDHEC Certified Contractor No. 14

Date: February 20, 2012

Approvais		*
Arthur Shrader, Hydrogeologist SCDHEC Project Manager	Signature	_ Date
Terry L. Teate Site Rehabilitation Contractor Enviro-Test Services, Inc.	Juny Leate Signature	Date 2-17-12
Jim Kotti, P.G Contractor QA Manager	Signature	Date 2-17-12
Ashley B. Amick Laboratory Director Access Analytical, Inc.	Signature	DateZ-17-1Z
Scott Bailey Laboratory Director	Brenda Martinez Wed Mar 14 2012 10:41:36 Signature	_Date_ 03/14/12

A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Arthur Shrader, Hydrogeologist	SCDHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Enviro-Test Services Inc.	Site Rehabilitation Contractor	Enviro-Test Services, Inc. P.O. Box 2237 Irmo, SC 29063	803-413-4936	-	terryteate@ gmail.com
Terry Teate	Field Manager, SC Certified Well Driller	Enviro-Test Services, Inc. P.O. Box 2237 Irmo, SC 29063	803-413-4936	-	terryteate@ gmail.com
Jim Kotti, P.G.	Project Verifier	Enviro-Test Services, Inc. P.O. Box 2237 Irmo, SC 29063	803-413-4936	-	jdkottboy@ aol.com
Ashley B. Amick	Laboratory Director, Access	Access Analytical, Inc. 7478 Carlisle St. Irmo, SC 29063	803-781-4243	803-781-4303	aamick@axs- inc.com
Scott Bailey	Laboratory Director, GCAL	GCAL 7979 GSRI Rd. Baton Rouge, LA 70820	225-769-4900	225-767-5717	scott.bailey@c

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Technical Project Manager	Arthur Shrader, Hydrogeologist	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Site Rehabilitation Contractor	Terry Teate	Enviro-Test Services, Inc. P.O. Box 2237 Irmo, SC 29063	803-413-4936	-	terryteate@ gmail.com
Field Manager	Terry Teate	Enviro-Test Services P.O. Box 2237 Irmo, SC 20963	803-413-4936	-	terryteate@ gmail.com
Project Verifier	Jim Kotti P.G.	Enviro-Test Services P.O. Box 2237 Irmo, SC 20963	803-413-4936	-	jdkottboy@ aol.com
Analytical Laboratory Director	Ashley Amick	Access Analytical, Inc. 7478 Carlisle St. Irmo, SC 29063	803-781-4243	803-781-4303	aamick@ axs-inc.com
Laboratory Director, GCAL	Scott Bailey	GCAL 7979 GSRI Rd. Baton Rouge, LA 70820	225-769-4900	225-767-5717	scott.bailey@gc al.com

Table 2A Addendum Role Identification and Contact Information

Broad River Amoco (BP) Revision Number 1 UST Permit #11946 Date: February 20, 2012

Technical Project Manager: The Technical Project Manager (Art Shrader) is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites. The Technical Project Manager performs day-to-day review of plans and reports related to site rehabilitation activities on his or her assigned sites. These reviews include verification and analysis of data laboratories and recommendations for future work. The Technical Project Manager is responsible for the review of and approval of the site-specific QAPPs to ensure compliance with the UST Master QAPP. The Technical Project Manager is also responsible for validating the Project Data.

Site Rehabilitation Contractor: The role of the Contractor (Enviro-Test Services, Inc. - ETS) is to manage and coordinate field and office activities in order to complete all phases of the project. This includes, but not limited to, preparation of Quality Assurance Project Plan Contractor Addendum, property access, oversight of field activities, data analysis and interpretation, validating and verifying project data and preparation of a report. Enviro-Test is a Class I and Class II site Rehabilitation Contractor.

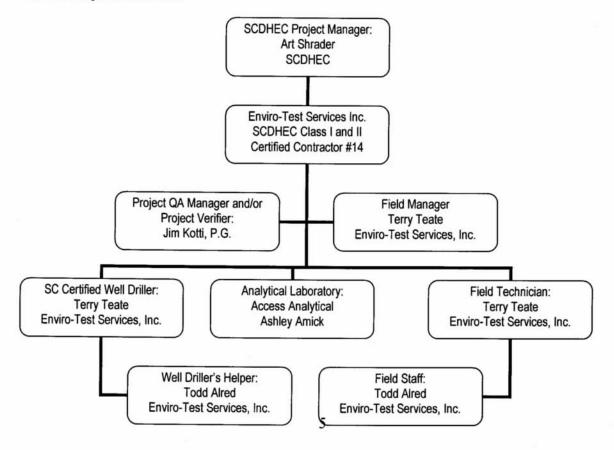
Project QA Manager: The Contractor Quality Assurance Manager (Jim Kotti - ETS) is responsible for the oversight of all quality assurance activities associated with this project, including independent review of field data and laboratory analytical data. The QA Manager will resolve any issues when correctitude actions are needed to address data quality issues.

Field Manager: Responsibilities of the Field Manager (Terry Teate - ETS) include, but are not limited to, preparation of field files detailing the project description and necessary task for the field crewman, oversight of field activities conducted by the technician, onsite data collection and decision making, verification of the collected field and laboratory analytical data and report preparation.

Field Technician: The Field Technician (Terry Teate - ETS) will collect groundwater samples for analytical qualitative and quantitative analyses.

Field Staff: The Field Staff (Rick Dowell - ETS) will assist the Field Manager with field activities as necessary to complete the project.

Figure 1A: Organizational Chart



The subject property is bounded by Broad River Road to the northeast and beyond Broad River Road, a property currently occupied by the South Carolina Law Enforcement Division (SCLED). The adjacent property to the southeast is apparently commercially utilized (Nail and Beauty Salon). The adjacent property to the southwest is commercially utilized as a nursery school and day care (Play Pal Day Care). The Play Pal Day Care facility encompasses two properties fronting Dothan Road. The subject property is bounded to the northwest by Dothan Road and a commercially utilized property beyond (MDC Associates, an apparent mechanical engineering firm). The commercial usage of the subject property and adjacent properties is expected to remain the same in the future.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Site Rehabilitation Contractor – Field Manager	Terry L. Teate Enviro-Test Services, Inc.	SCDHEC Certification, OSHA Training	1995, 2-27-2012	Class I and II	14
SC Certified Well Driller	Terry L. Teate Enviro-Test Services, Inc.	SC LLR Certification Criteria	1995	Class A	1242
Driller's Helper, Field Technician	Todd Alred	OSHA Training	8-10-2011	-	
QA Project Manager	James D. Kotti	SC LLR Certification Criteria	1990	Registered Professional Geologist	888
Lab Director, Access	Ashley B. Amick	BS – Biology	05-1991	SCDHEC Certified Lab	32575001
Lab Director, GCAL	Scott Bailey	BS – Environmental Health	12-1991	SCDHEC Certified Lab	73006001

Table 3A Required Training and Licenses

Terry L. Teate of Enviro-Test Services, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: Enviro-Test Services 1621 Lake Murray Blvd. Columbia, SC 29212.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory:

Access Analytical, Inc.

Name of Lab Director:

Ashley B. Amick

SC DHEC Certification Number:

32575001

Parameters this Lab will analyze for this project: N/A (field parameters if required)

Full Name of the Laboratory:

GCAL (NOTE: partner / sub lab for Access)

Name of Lab Director:

Scott Bailey

SC DHEC Certification Number:

73006001

Item	Start Date	End Date	Comments
Week 13 or 14			survey will provide a scale base map and elevations for the monitoring well network.
Tier II Report Preparation Weeks 15, 16 and 17.	July 9, 2012	July 30, 2012	A Tier II Assessment report will be prepared and submitted to the Technical Project Manager no later than July 30, 2012.

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

Soil	0	
Ground Water from monitoring wells	31	
From Drinking/Irrigation water wells	0	
From surface water features	0	
Trip Blank	1	
Field Blank	2	
Duplicates	2	
Total number of Water samples	36	
The samples will be (check as many as apply):	Homogenized	Split
lf any of the above are circled please indicate ho	w will it be done and th	e equipment needed.
N/A		

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All sampling equipment is disposable with the exception of the ORS Oil/Water Interface Probe, the YSI Dissolved Oxygen (DO) Meter, the Hanna pH/Conductivity Meter and the Martini Mi415 Turbidity Meter.

Drilling tools, including solid stem auger, hollow stem auger, drill rod for mud rotary, direct push (GeoprobeTM) drill rod and stainless-steel retractable well screen, are instrumental for soil and groundwater sample collection and for monitoring well installation. Obviously, these items are non-disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

		LIMS system.	waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	their facility.
All	Water	60 days after analysis the sample custodian will stage completed samples for disposal. The sample custodian will scan all the samples segregated for disposal as "STD" (sent to disposal) using the Horizon LIMS system.	55-gallon tight head poly drum located in the Satellite Accumulation Area. Labeled according to the characteristics and waste stream. Waste streams are determined by analysis of the waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	Waste disposal is provided by various DOT certified vendors who come to the facility and label, placard, and manifest the drums according to 49 CFR Part 173 before transporting to their facility.

Table 10A Sample Disposal

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

 Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Thermo Environmental PID Detector	580B	Lamp Cleaning and Battery Charging	Prior to starting project	Calibration Gas 250 ppm of Isobutene ETS Columbia, SC	Field Manager Terry Teate
Hanna pH/Conductivity Meter	87936	Clean with de-ionized water and isopropyl alcohol	Before and after each use	Replace / battery	Field Manager Terry Teate
YSI DO Meter	06A2805	Clean with de-ionized water, replace membrane and electrolyte solution as necessary	Prior to each use	Replace / battery	Field Manager Terry Teate
ORS Oil/Water Interface Probe	06-1466	Indicator Probe Cleaning	Prior to each use	Replace probe/battery	Field Manager Terry Teate
Martini Mi415 Turbidity Meter	(Back Ordered)	IR LED and Photocell Cleaning	Prior to each use	Replace battery	Field Manager Terry Teate

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, reinspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this.

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
FIELD EQUIPMENT	-	-	-	-
Thermo Environmental Photo- lonization Detector – 590B	Lamp Cleaning	Inspect for obstructions in probe and polish PID lamp.	Field Manager Terry Teate	Clean/replace PilD Lamp.
Hanna pH/Conductivity Meter - 87936	Visual	Clean with de-ionized water and isopropyl alcohol; calibration	Field Manager Terry Teate	Clean and repair as necessary to achieve QAQC objectives
YSI DO Meter 06A2805	Visual	Replace membrane and electrolyte solution as necessary; calibration	Field Manager Terry Teate	Clean and repair as necessary to achieve QAQC objectives
ORS Oil/Water Interface Probe 06-1466	Press test button and observe for audible tone and visual light indicator.	Inspect probe sensor for dirt or contact between sensors	Field Manager Terry Teate	Check Batteries
Martini Mi415 Turbidity Meter	Visual	IR LED and Photocell Cleaning	Field Manager Terry Teate	Replace battery
LABORATORY EQUIPMENT	•	-		(A)
HP or Agilent GC/MS for VOC's S/N: Various	Daily calibration checks	Calibrates within acceptable range for initial calibration and passes ongoing daily calibration standard & batch QC analysis checks	Analyst / Laboratory department supervisor	Repair and /or recalibrate as needed. Samples may be re-analyzed instrument fails QC checks.
Agilent GC for EDB via 8011 S/N: Various	Daily calibration checks	Calibrates within acceptable range for initial calibration and passes ongoing daily calibration standard & batch QC analysis checks	Analyst / Laboratory department supervisor	Repair and /or recalibrate as needed. Samples may be re-analyzed instrument fails QC checks.
ICP for Lead S/N: Various	Daily calibration checks	Calibrates within acceptable range for initial calibration and passes ongoing daily calibration standard & batch QC analysis checks	Analyst / Laboratory department supervisor	Repair and /or recalibrate as needed. Samples may be re-analyzed if instrument fails QC checks.

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

- Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
- 2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
- Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible	SOP Reference*
				(6.7)	for CA	Notoronoc
Thermo Environmental Photo-Ionization Detector (PID)	Zero calibration and Span gas calibration	Prior to use	Verify span gas against 250 ppm of isobutylene	Raise or lower span gas output to match span gas concentration	Field Manager - Terry Teate	Thermo Environmental Volatile Organic Compound Detector Calibration Procedures
Hanna pH/Conductivity Meter	pH and EC/TDS calibration solutions	Prior to use	Dependent upon specific calibration solution used	Re-calibrate (use back-up meter if calibration efforts are unsuccessful)	Field Manager - Terry Teate	Hanna, Inc. Users Guide
YSI DO Meter 06A2805	Moisten sponge in calibration sleeve with de-ionized water; commence calibration mode.	Prior to use	Dependent on accurate barometric pressure readings; calibrate barometric reading.	Replace membrane and electrolyte solution as necessary; re- calibrate	Field Manager - Terry Teate	YSI DO Meter Owners Manual
OSR Interface Probe	Calibrate against an invar surveyor's chain or steel tape	Prior to use	Within 0.01 foot per 10 feet length.	Replace interface probe.	Field Manager - Terry Teate	See Master QAPP
Martini Mi415 Turbidity Meter	MI 515-100 Calibration Unit, AMCO-AEPA-1 @ FNU Calibration solution, 30 mL	Prior to use	Operating ranges: 1) 0.00 to 50.00 FNU and 50 to 1,000 FNU	IR LED and Photocell Cleaning, Battery Replacement (9 v)	Field Manager - Terry Teate	Mi415 Owner's Manual
HP or Agilent GC/MS for VOC's	Once a BFB Tune and initial calibration meet criteria then a BFB Tune and continuing calibration verification (CCV) is performed every 12hrs.	CCV performed every 12 hours	Calibrates within Acceptable Range (See SOP for specific info)	If the CCV fails criteria a new initial calibration is performed. Also, see section 4.7 of lab QAP for detailed corrective action procedures.	Laboratory Department Supervisor / Analyst	Method 8260B GCMSV-003 r22
Agilent GC for EDB via 8011	Once an initial calibration meets criteria then a CCV is performed at the beginning of analysis and every 10 samples.	Daily, at beginning of analysis and then every 10 samples.	Calibrates within Acceptable Range (See SOP for specific info)	If the CCV fails criteria a new initial calibration is performed. Also, see section 4.7 of lab QAP for detailed corrective action procedures.	Laboratory Department Supervisor/ Analyst	Method 8011 – GC 034 r6
ICP for Lead	One point plus a zero performed daily and meet criteria CCV	CCV performed at beginning, after every 10 samples and at closing	Calibrates within acceptable range	If the CCV fails criteria, it can be reanalyzed once prior to a new calibration being performed	Laboratory Department Supervisor/ Analyst	MET-010 r18

Table 13A Instrument Calibration Criteria and Corrective Action

^{*} This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

 Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.

2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Disposable Bailer	Eon Products	New Material	Stored in clean supply room located at ETS office	Field Manager Terry Teate
Nitrile Gloves	Eon Products	New material	Stored in clean supply room located at ETS office	Field Manager Terry Teate
String	Various	Sufficient strength for lifting a water-filled disposable bailer repeatedly	Stored in clean supply room located at ETS office; in the field string is stored in a plastic bag	Field Manager Terry Teate
Sample Containers - ETS	Access Analytical, Inc.	Laboratory prepared and provided to ETS via Access Analytical, Inc.	Kept in supplied storage containers; individually sealed	Field Manager Terry Teate
Sample Containers – Access Analytical	Daniels Scientific	All bottles purchased are lot certified contaminant free environmental sample containers	Stored in controlled lab / warehouse space	Lab Manager / Bottle prep technician at Access Analytical Facility
PID Calibration Gas	Air Products	Canister of 250 ppm factory verified Isobutylene calibration gas	Store away from heat in padded protective case	Field Manager Terry Teate
55-gallon steel open-head drums	Dependable Drum Company	New or reconditioned. Drums with holes or cracks will not be accepted	Storage at ETS office until transportation to site. At site, drums will be staged in a safe location. Drums will be moved w/ the drill rig.	Field Manager Terry Teate
Non-hazardous waste labels (vinyl)	Granger	New material	Store in clean supply room located at ETS office	Field Manager Terry Teate
Laboratory Calibration Standards (Access/GCAL)	Fisher Scientific	All standards purchased are certified standards of guaranteed purity / known concentrations.	Stored at laboratory facility. Standards are stored based on the storage requirements of the individual solution.	Analyst, Laboratory Manager, Department Supervisors, Laboratory QC Manager
Laboratory Chemicals / Solutions (Access/GCAL)	Fisher Scientific, VWR, Restek,	Certificates of analysis, in- house laboratory verifications	Chemicals stored at lab under conditions appropriate for each solution.	Analyst, Laboratory Manager, Department Supervisors

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

- Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
- Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
- 3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Richland County GIS	Identifying adjacent property owners, property boundaries, subsurface municipal utilities, etc.	Facilitate access to adjacent properties, history of usage and/or ownership of the subject property and adjacent properties.	This website also provides detailed topographic maps and information regarding storm-
Phase II Subsurface Investigation Report, Broad River BP, Partner Engineering and Science, Inc., El Segundo, California, December, 2010	Preliminary information concerning soil quality and groundwater occurrence	The laboratory analytical results from the Phase II subsurface investigation were reported to the SCDHEC as an apparent release (January 4, 2011).	water runoff. A copy of the report was provided to ETS by Mr. Fredrick N. Cecchini.

Table 15A Non-Direct Measurements

 Identify key resources/support facilities needed. Not applicable to this scope of work.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

As generated by the Environmental Rehabilitation Contractor (Enviro-Test Services, Inc. - ETS) in completing Tier II Assessment component tasks, field notes and logs will be stored in hardback bound field books and/or on 8 $\frac{1}{2}$ x 11" field data sheets. Field data sheets are signed by staff upon completion of daily work. Copies of field notes and driller 1903 forms are provided on a daily basis and placed in the project file. Field boring logs are kept on a backed-up digital library.

LAB USE ON	ILY	William St.	135.73		Alla	iyucai -	Cilaiii	OI C	usio	dy Rec	ora	Proje	ct Work C	rder #	
Sales Order #				PO #			Ac	cess C	uote#_			Labor	atory ID:		
Company Name:					Preserv (*see c							1/	0	Access	Color Systematics
Report To:					Contai (*see c	ner Type:					- (ANALYTICA	L, INC.
Address:					A char y						-	0	00		
City: S	State:	Zip:				. → SIS:						78 Carlis no, SC 29		Phone: (803) Fax:	781-4243 781-4303
Phone:	F	ax:				ANALYSIS					*Pres	ervative Co		axs-inc.com sponding # in block abov HsOo, 4 = NaOH, 5 = N	e analysis field)
Email:						LAB A					- IN	60100 9090	SOL WILLIAM CONTROL	CHOCH, I = NaUH/ZhO	AU. B = H:PU.
Project ID:						STED					GW = SL = s (speci	ground wat sludge, A = fy in comme	er, WW = waste sir, IW = industri ents section)	ing code in matrix column water, DW = drinking wat al waste, WO = waste oil,	or, S = soil, OT = other
Sampled By:					1000	1 REQUESTED LAB					*Prog Safe I Waste	ram Area C Orinking War s (for soils,	odes: CWA = 0 er Act (for drinki ground waters a	clean Water Act (for waste ng waters), SHW = Solid nd waste samples)	owaters), SDWA and Hazardous
	Date Collected:	Time Collected:	Type:	Matrix: Program (see codes) Area	TOTAL	3.					*Cont	ainer Type:	G + Glass	comments	3
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ness day on date required)	(specify)_													(°C)	(N/A
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Site-Specific Work Plan for Approved ACQA Underground Storage Tank Management Division

To: Corie White	1.00	(SC	DHEC Project Manager)
From: C. Moores			tractor Project Manager)
Contractor: SC DHEC	UST Contra	actor Certification Number:	
Facility Name: Broad River Amoco		UST Permit #:	11946
Facility Address: 4335 Broad River	Road, Columbia, SC		
Responsible Party: FN Cecchini		Phone:	
RP Address: 429 Press Lindler Road	I, Columbia, SC 29212		
Property Owner (if different): Bro	ad River C-Store LLC		
Property Owner Address: 41 Cron	nwell Ct, Irmo, SC 29063		
Current Use of Property: Gas Sta	tion / Convenience Store		
Scope of Work (Please check a			
☐ IGWA ☐ Tier I		☐ Groundwater Sampling	☐ GAC
☐ Tier I ☐ Monit	toring Well Installation	✓ Other Soil and SW sampling	
Analyses (Please check all that	apply)		
Groundwater/Surface Water:	440 50444400		
☑ BTEXNMDCA (8260B)	☐ Lead	□ BOD	Methane
Oxygenates (8260B)	■ 8 RCRA Metals	☐ Nitrate	☐ Ethanol
☐ EDB (8011)	□ трн	☐ Sulfate	☐ Dissolved Iron
☐ PAH (8270D)	☐ pH	Other	
Drinking Water Supply Wells:		_	
BTEXNMDCA (524.2)	☐ Mecury (200.8 245		1)
Oxygenates & Ethanol (82608	B) RCRA Metals (200	.8)	
Soil:			
	RCRA Metals	☐ TPH-DRO (3550B/8015B)	☐ Grain Size
	Oil & Grease (9071)	☐ TPH-GRO (5030B/8015B)	□ тос
Air:			
BTEXN			V13000000000
		matrix that are expected to be co	0.550 Pagantan 11
3-5 Soil	Water Supply W		1 Field Blank
Monitoring Wells	1 Surface Water	2 Duplicate	1 Trip Blank
Field Screening Methodology			
477	leted depth for each point, and	d include their proposed locations	on the attached map.
# of shallow points proposed:			
# of deep points proposed:			
Field Screening Methodology:			And the Committee of th
Dormanant Manifesius Well-	222		1000
Permanent Monitoring Wells		inalised their necessary leading	an the attached man
75	690	include their proposed locations	and the second second
# of shallow wells: # of deep wells:			
# of recovery wells:		41. 41. 11. 11. 11. 11. 11. 11. 11. 11.	
Comments, if warranted:	Estimated	u i oolage.	reer ber bount
Comments, ii warranted.			
	2011		18000
			41/41/4

UST Permit #: 11946	Facility Name:	Broad River Amoco	
Implementation Schedule (Nu Field Work Start-Up:		Field Work Completion:	
Report Submittal:	7 Y.S. N. S.	# of Copies Provided to Property Owners:	
Aquifer Characterization Pump Test: Slug Test:	(Check one and prov	vide explanation below for choice)	
Investigation Derived Waste D Soil:	Tons	Purge Water:	
Drilling Fluids:	Gallons	Free-Phase Product:	Gallons
Additional Details For This Score For example, list wells to be same event, etc. 3-5 Shallow soil samples in Play Pals plays 1 SW sample after rain in drainage ditch be	pled, wells to be abar ground area plus 1 duplicate,		e, details of AFVR
Name of Laboratory: SCDHEC Certification Nur	ACQAP? (Yes/No)	rance Plan (ACQAP) If no, indicate laboratory information below	
Well Driller as indicated in A		If no, indicate driller information below.	
SCLLR Certification Numb			
Other variations from ACQ	AP. Please describe l	below.	
-			
Attachments 1. Attach a copy of the rele	vant portion of the US	GGS topographic map showing the site location.	Į
must include the following North Arrow Location of property lines Location of buildings Previous soil sampling to Previous monitoring well Proposed soil boring locations	g: Proposed Legend w Streets or cations Location locations ations	d monitoring well locations with facility name and address, UST permit num highways (indicate names and numbers) of all present and former ASTs and USTs of all potential receptors	
Assessment Component	Cost Agreement, SC	DHEC Form D-3664	



State Lead Option coperty Access Agreement for Site Ren

mplete this Confi. You are the legal owner of the property OR are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

UST Permit # 11946					
Facility Name: Broad River Road	1		700000000000000000000000000000000000000		
Facility Address: 4335 Broad R	tiver Road, Columbia, SC 29210		200 100 100 100 100 100 100 100 100 100		
Facility Phone Number:					
Is facility within city limits	? (check yes/no)		Yes		No
Name of nearest intersecti	ng street/road/highway:	Broad River Ro	ad and Dothan Road		
Does public water/sewer u			Yes		No
*If no, please provide a conta	act name/number that can assi	ist in the local	tion of private wa	ater and sept	ic tank lines:
Name:		Phone Nur		CANCEL CONTROL OF THE SECOND	
Were USTs previously remethis facility?		1	Yes		No
*If yes, please provide the na	ame/contact number of a perso	on that can as	sist in the location	on of the form	ner UST(s):
Name:		Phone Nun			
Is the facility currently leas	Control of the Contro		Yes		No
*If yes, notify them of the pen	nding work scope, and please i	provide their	name/contact nu	mber:	
Name: Bhavile Pas	tel	Phone Nun			832
*Please note that if vehi former USTs, the	icles or other mobile structu by should be moved prior to	ires are park DHEC's con	ed over the loc tractor mobilize	ation of the	existing or ility.
Name of Bronasty Owner (f	DOCO and Pivar	the CHYA			
Name of Property Owner (P Signature of Property Owner		-C->10/-	- 112		
authorized representative:	er or			Date 4	11/2019
Affiliation (if applicable)					7. 75
Signature of Witness		00 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Date	
Phone Numbers:	Contac	t Info	~		
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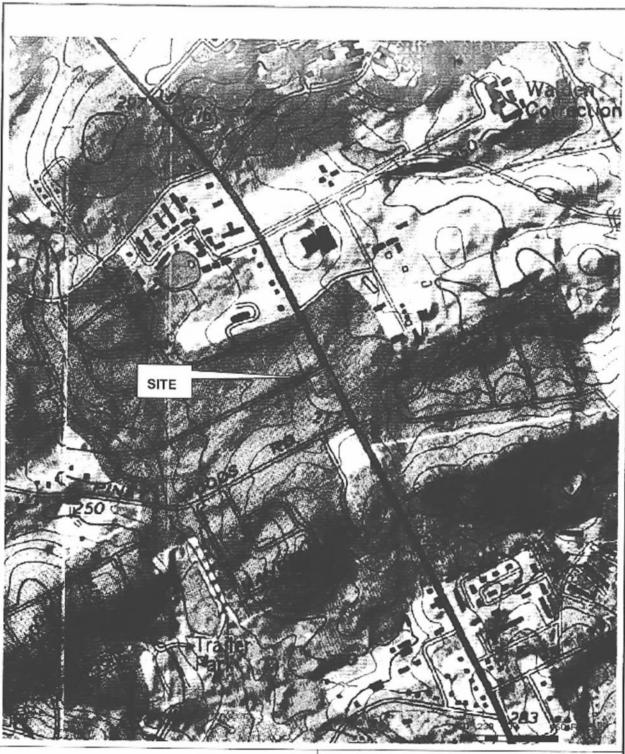


FIGURE 1: USGS Topographic Map

Enviro-Test Services, Inc.

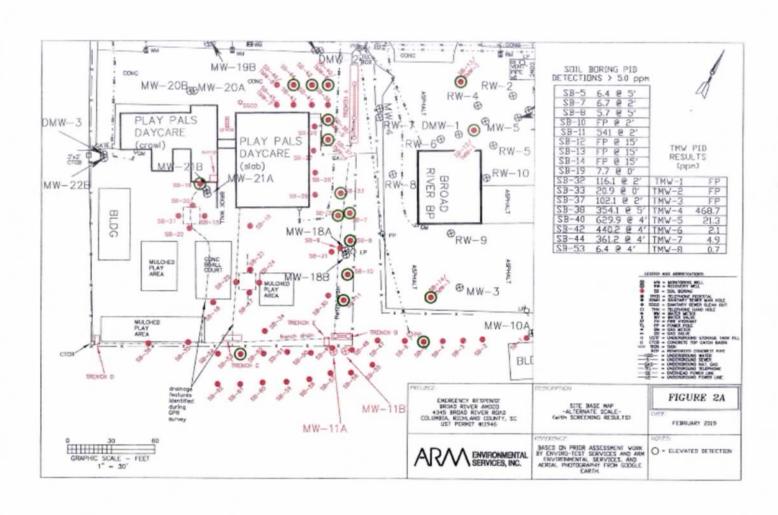
Site Name:

Source: Richland County GIS System

Broad River Amoco (BP)
4335 Broad River Road
Columbia, SC 29210

Project Number:

SCDHEC # 11946



SCDHEC UST Management Tracking

BOTH billable and unbillable tanks

Site Information for R-11946 Facility: BROAD RIVER AMOCO

4335 BROAD RIVER RD Bus. Phone 803-798-3051 Address COLUMBIA SC 29210-4009 County Richland District Columbia EQC Office Category Retail Sales Last Inspection 03/12/19 Trans. of Ownership 07/10/18 Tank Owner BROAD RIVER C STORE LLC Financial Responsibility Bus. 41 CROMWELL CT Address SC 29063 Financial Mechanism **Expiration Date** Phone 803-477-7575 PATEL, BHAVIK Operator Guarantee 01 May 2020 4335 BROAD RIVER RD Bus. Address COLUMBIA SC 29210 Phone 803-741-4832 Land Owner BROAD RIVER C STORE LLC 41 CROMWELL CT Bus. Address IRMO SC 29063 Phone 803-477-7575 Tanks Billable 3 Aband. 5 Other 0 Compliance Operator(s) D **Training Date** PATEL, BHAVIK 06983 01/31/2019

Significant? Y Memo Date: 04/25/11

Site Memo: Also UST Permit # 12156 Associated Oil (Read only site).

Across Broad River is SLEAD (UST Permit # 13776). Block to the east across Broad River is Pitt Stop #11 (UST Permit # 11946)

Significant? N Memo Date: 02/24/01

Site Memo: 8-13-98-- tanks 2 and 3 manifolded -- one pump and leak i detector--could not verify lld at diesel tank due to

dirt--gave in i compliance letter based on testing data which showed lid was i 08/31/00--Associated Oils is supplier and helps with guidance on i

compliance issues. Mr Cecchini's name is pronounced chuh-keen-ee. i He is using his ATG to give him

readings for SIR reports. Impressed i current system was covering all steel components including ALL steel i

connections, according to the commissioning report. Impact valves i under the 8-

hose dispenser were not anchored. Leak at first i dispenser on Silver product. A very slow drip. Mr C call for Palmetto to come and take care of that and the impact valve i made a service i

anchoring. WKG 09/26/00--revisited site to deliver NOV from inspection on 08/30/00. i

NOV was sent certified but was returned with a "No Such Number" i stamp. Drip has been stopped. Dirt has not been cleaned. Impact i valves have not been anchored. CP test has been done, but paperwork i

not ready. I have adjusted due date. WKG 12/1/00 Received cpst results indicating

piping is fiberglass but, i steel or flex piping in tank area is protected & flex or buried i

steel at dispenser is not protected. Matt Low e w / PTS indicated on i test results that lines are fiberglass.

Issued NOV - requested i

clarification. RSM

Memo Date: 01/22/04 Significant? N

Site Memo: ow ner called to inform us that his piping is steel

Significant? N Memo Date: 10/24/07

Site Memo: Per 8/3/06 cp test, no flexes at STPs, only at Dispensers

Site Information for R-11946 Facility: BROAD RIVER AMOCO

Rel. No. 1	Reported	01/04/11	Status Confirmed - Active	Product	Petroleum	Compl Required	Y
Active Tnks Y	NFA		Fin. Type With SUPERB	RBCA/Score	1C 300300	Compliance Met	Y
	Confirmed	01/05/11	Emer. Resp.	Superb Qualified	Y	Compliance Met Dt	01/06/11
	CU Init.	02/04/11	Abate. Met	Superb Determ. Dt	02/08/11	Fin Res Mechanism	SELF101
	CU Compl.		Transferred	Project Manager	MOORES CAROLY	NT	-//
	CU > MCL		Source UST	Responsible Party	CECCHINI FREDERIO	CKN	

Ranking Rel. No.	1	SCRBCA:	1C-	Vapors or	FP in stru	/util			FP Thick: > 1 Foot		
Analyticals	•	Contaminant Benzene	_	ug/L 16000	RBSL 5		SSTL's		Other Contaminants	ug/L	SSTL's
		Toluene		31000	1000	4 AT 17 TO THE			DCA (MW-1)	58	
		Ethylbenzene		3000	700	4			EDB RW-3	2.3	
		Xylene		16000	10000	2			ETHANOL MW-1,	20000	
		Naphthalene		900	25	36			MW-2, MW-5, RW-1 &		
		MTBE		31000	40	775			RW-5		
				Total S	core:	4048			NO FP DURING GWS 6/7-9/2016		
Receptor Tty	pe:	_ 1	CNO			Ground Wat	ter Flow:	N	TAA MW-2	57000	
Distancd to	Re	ceptor:	1500			Seepage Vel	locity:	1	TAME MW-2	450	
GW Depth:			16						TBA MW-2	25000	

Rel. No. 2	Reported	11/16/18	Status Confirmed - Active	Product	Petroleum	Compl Required	1
Active Tnks Y	NFA		Fin. Type With SUPERB 25	K RBCA/Score	1C 300300	Compliance Met	1
	Confirmed	11/19/18	Emer. Resp.	Superb Qualified	Υ	Compliance Met Dt	
	CU Init.		Abate. Met	Superb Determ. Dt	11/20/18	Fin Res Mechanism	SUAR
	CU Compl.		Transferred	Project Manager	MENDENHALL JEF	FERY E	
	CU > MCL		Source UST	Responsible Party	BROAD RIVER C S	TORELLC	

Ranking Rel. No. 2		RBCA: 1C-	Vapors or	FP in stru/u	til		FP Thick: > 1 Foot		3/2/1
Analyticals		taminant	ug/L	RBSL	Score	SSTL's	Other Contaminants	ug/L	SSTL's
	Benz	ene	0	5	0		EDB	0	
	Tolue	ene	0	1000	0		FP IN STORM WATER		
	Ethy	benzene	0	700	0		& CREEK		
	Xyle	ne	0	10000	0		LEAD	0	
	Naph	thalene	0	25	0		VAPORS IN		
	MTB	E	0	40	0		ADJACENT		
			Total S	core:	0		DAYCARE		
Receptor Ttyp	e:_	CREE	<	9	Ground Wa	ter Flow:			
Distance to R	Recepto	or: 400		5	Seepage Ve	ocity:			
GW Depth:									

Tank No.	1	Const	Class	R	Tank Const. Mat.	SL		Pipe Const. Mat.	FP	
		Operate 06/06/9	7 T Status	EOU	Tank Protect.	IC	CP 06/04/18	Pipe Protect.	FC .	CP 06/04/18
		Notify 12/28/8	8 Capacity	2,000	Tank Cont. Meth.	SW		Pipe Cont. Meth.	SW	
		Variance	Product	DL	Overfill Type		Ver	Piping Type	PR	
		Compl. 03/12/	9 C Status	FROT	Age @ Notif.	10		Dist. to Well	101	
		Spill Det. 02/10/9	7 Left Gal.		Owner @ ABD				Last Us	ie_
		Aband.	Method		CAS No.	Che	<u>m.</u>			
		Under Dispenser	Cont. N	Drop Tube	N Tank Leak De	et.	ATG	Pipe Leak Det.	_ LLD	11/29/16 LT
							11/21/18		11/29	/16

Site Information for R-11946 Facility: BROAD RIVER AMOCO

Tank No.	2	Const.		Class	R	Tank Const. Mat.	SL			Pipe Const. Mat.	FP	
		Operate	06/06/97	T Status	ABD	Tank Protect.	IC	CP	06/04/18	Pipe Protect.	FC	CP 06/04/18
		Notify	12/28/88	Capacity	3.000	Tank Cont. Meth.	sw	_		Pipe Cont. Meth.	SW	
		Variance		Product	**************************************	Overfill Type		Ver	09/02/97	Piping Type	PR	
		Districted control	11/26/18		FRLDOT	Age @ Notif.	10	101	03/02/3/	Dist. to Well	101	
		Compl.		Acres and a second	HELOI			D D C /				
			02/10/97	Left Gal.	71	Owner @ ABD			ER C STOR	ELLC	Last	Jse
		Aband.	02/26/19	Method	FI	CAS No.	Chem	70 CO		1222 HELLINGTON		
		Under Dis	penser Co	nt. N	Drop Tube	N <u>Tank Leak D</u>		IAN 1/20/	14	Pipe Leak Det.	_ MA	N
Tank No.	3	Const.		Class	R	Tank Const. Mat.	SL			Pipe Const. Mat.	FP	
		Operate	06/06/97	T Status	ABD	Tank Protect.	IC	CP	06/04/18	Pipe Protect.	FC	CP 06/04/
		Notify	12/28/88	Capacity		Tank Cont. Meth.	sw			Pipe Cont. Meth.	SW	
		Variance	12/20/00	Product		Overfill Type	The Late Con-	Var	09/02/97	Piping Type	PR	
		Name of the second	44/00/40	$\overline{}$		Charles and the second second		vei	09/02/97	A CONTRACTOR OF THE PARTY OF TH	101	
		Compl.	11/26/18	C Status	, IN	Age @ Notif.	10			Dist. to Well		•
		13.55	02/10/97	Left Gal.		Owner @ ABD	BROAL) RIV	ER C STOR	ELLC	Last	Jse
		Aband.	02/26/19	Method	_FI	CAS No.	Chem	RESON.		122100000000000000	2000	
		Under Dis	penser Co	nt. N	Drop Tube	N Tank Leak D		MN	414	Pipe Leak Det.		
							1	1/20/	14			N LTT 05/17
Tank No.	4	Const.		Class	N	Tank Const. Mat.				Pipe Const. Mat.	SL	Ar de Halves
		Operate		T Status	ABD	Tank Protect.		CP		Pipe Protect.		CP
		Notify	11/01/89	Capacity	3,000	Tank Cont. Meth.	SW	95700		Pipe Cont. Meth.	SW	
		Variance		Product		Overfill Type	•00 000 000	Ver		Piping Type		
		Compl.		C Status		Age @ Notif.	0			Dist. to Well		
		Spill Det.		The same of the same	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Owner @ ABD	777	NA TE	D OILS OF		1	lee.
		Statistics of the state of the	44/04/00	Left Gal.	-	25.00	0.00-120.00-000		D OILS OF	SCINC	Last	126
		Aband. Under Dis	11/01/89 spenser Co	Method nt. N	RG Drop Tube	CAS No. N Tank Leak D	Chemet.	<u>ı. </u>		Pipe Leak Det		
Tank No.	5	Const.		Class	N	Tank Const. Mat.				Pipe Const. Mat.	S008	90
		Operate		T Status	ABD	Tank Protect.		CP		Pipe Protect.		CP
		Notify	11/01/89	Capacity		Tank Cont. Meth.				Pipe Cont. Meth.	SW	_
		Variance	11/01/05	Amelia de la fina		Contract of the second		·/		allow when the many course	311	
				Product		Overfill Type		<u>Ver</u>		Piping Type		
		Compl.		C Status	ABD	Age @ Notif.	0			Dist. to Well	1. 10	25
		Spill Det.		Left Gal.	AF STREET	Owner @ ABD	1111111111111111111		DOILS OF	SC INC	Last	Jse
		Aband.	11/01/89	Method	RG	CAS No.	Chem	<u>ı.</u>				
			penser Co		Drop Tube	N Tank Leak D				Pipe Leak Det		
Tank No.	6	Const		Class	R	Tank Const. Mat.				Pipe Const. Mat.		
		Operate	06/06/97	T Status	CIU	Tank Protect.	IC	<u>CP</u>	06/04/18	Pipe Protect.	FC	CP 06/04/1
		777								Dine Cont Math	CIAL	
		Notify	12/28/88	Capacity	8,000	Tank Cont. Meth.	sw			Pipe Cont. Meth.	sw	
		Notify Variance		Capacity Product		Tank Cont. Meth. Overfill Type		<u>Ver</u>	09/02/97	Piping Type	PR	
		Variance	12/28/88	Product	RUL	Overfill Type		<u>Ver</u>	09/02/97	30 A R 200		
		Variance Compl.	12/28/88	Product C Status	RUL EQFROT	Overfill Type Age @ Notif.	DTSO	<u>Ver</u>	09/02/97	Piping Type	PR 101	Jse
		Variance Compl. Spill Det.	12/28/88	Product C Status Left Gal.	RUL EQFROT	Overfill Type Age @ Notif. Owner @ ABD	DTSO 20		09/02/97	Piping Type	PR	<u>Jse</u>
		Variance Compl. Spill Det. Aband.	12/28/88 03/12/19 02/10/97	Product C Status Left Gal. Method	RUL EQFROT	Overfill Type Age @ Notif. Owner @ ABD CAS No.	DTSO 20 Chem	<u>. </u>	09/02/97	Piping Type Dist. to Well	PR 101 <u>Last I</u>	
		Variance Compl. Spill Det. Aband.	12/28/88	Product C Status Left Gal. Method	RUL EQFROT	Overfill Type Age @ Notif. Owner @ ABD CAS No.	DTSO 20 Chemet. A			Piping Type	PR 101 Last I	17
Tank No.	7	Variance Compl. Spill Det. Aband. Under Dis	12/28/88 03/12/19 02/10/97 spenser Co	Product C Status Left Gal. Method nt. N	RUL EQFROT Drop Tube	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat.	DTSO 20 Chemet. A 1	1. TG 1/21/	18	Pipe Leak Det Pipe Const. Mat.	PR 101 <u>Last I</u> LTT 03/	11/21/18 L 13/19
Tank No.	7	Variance Compl. Spill Det. Aband. Under Dis	12/28/88 03/12/19 02/10/97	Product C Status Left Gal. Method nt. N	RUL EQFROT Drop Tube	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D	DTSO 20 Chemet. A 1	1. TG 1/21/	18	Piping Type Dist. to Well Pipe Leak Det	PR 101 <u>Last (</u> _ LTT 03/	11/21/18 L 13/19
Tank No.	7	Variance Compl. Spill Det. Aband. Under Dis	12/28/88 03/12/19 02/10/97 spenser Co	Product C Status Left Gal. Method nt. N Class T Status	RUL EQFROT Drop Tube R CIU	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat.	Chemet. A	1. TG 1/21/	18	Pipe Leak Det Pipe Const. Mat.	PR 101 Last I 03/ FP FC	11/21/18 L 13/19
Tank No.	7	Variance Compl. Spill Det. Aband. Under Dis Const. Operate	12/28/88 03/12/19 02/10/97 spenser Cor 06/06/97 12/28/88	Product C Status Left Gal. Method nt. N Class T Status	RUL EQFROT Drop Tube R CIU 8,000	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat. Tank Protect. Tank Cont. Meth.	Chemet. A 1 SL IC SW	1. TG 1/21/	18 06/04/18	Pipe Leak Det Pipe Const. Mat. Pipe Protect. Pipe Cont. Meth.	PR 101 Last I 03/ FP FC	11/21/18 L 13/19
Tank No.	7	Variance Compl. Spiil Det. Aband. Under Dis Const. Operate Notify Variance	12/28/88 03/12/19 02/10/97 spenser Cor 06/06/97 12/28/88	Product C Status Left Gal. Method nt. N Class T Status Capacity Product	RUL EQFROT Drop Tube R CIU 8,000 PREM	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat. Tank Protect. Tank Cont. Meth. Overfill Type	Cherret. A 1 SL IC SW DTSO	1. TG 1/21/	18	Pipe Leak Det Pipe Const. Mat. Pipe Protect. Pipe Cont. Meth. Piping Type	PR 101 Last I 03/ FP FC SW PR	11/21/18 L 13/19
Tank No.	7	Variance Compl. Spiil Det. Aband. Under Dis Const. Operate Notify Variance Compl.	12/28/88 03/12/19 02/10/97 spenser Cor 06/06/97 12/28/88 03/12/19	Product C Status Left Gal. Method nt. N Class T Status Capacity Product C Status	RUL EQFROT Drop Tube R CIU 8,000	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat. Tank Protect. Tank Cont. Meth. Overfill Type Age @ Notif.	Chemet. A 1 SL IC SW	1. TG 1/21/	18 06/04/18	Pipe Leak Det Pipe Const. Mat. Pipe Protect. Pipe Cont. Meth.	FP FC SW PR 101	11/21/18 L 13/19 <u>CP</u> 06/04/
Tank No.	7	Variance Compl. Spiil Det. Aband. Under Dis Const. Operate Notify Variance Compl. Spiil Det.	12/28/88 03/12/19 02/10/97 spenser Cor 06/06/97 12/28/88	Product C Status Left Gal. Method nt. N Class T Status Capacity Product C Status Left Gal.	RUL EQFROT Drop Tube R CIU 8,000 PREM	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat. Tank Protect. Tank Cont. Meth. Overfill Type Age @ Notif. Owner @ ABD	Chemet. A 1 SL IC SW DTSO 20	1. TG 1/21/ CP Ver	18 06/04/18	Pipe Leak Det Pipe Const. Mat. Pipe Protect. Pipe Cont. Meth. Piping Type	PR 101 Last I 03/ FP FC SW PR	11/21/18 L 13/19 <u>CP</u> 06/04/
Tank No.	7	Variance Compl. Spill Det. Aband. Under Dis Const. Operate Notify Variance Compl. Spill Det. Aband.	03/12/19 02/10/97 spenser Cor 06/06/97 12/28/88 03/12/19 02/10/97	Product C Status Left Gal. Method nt. N Class T Status Capacity Product C Status Left Gal. Method	RUL EQFROT Drop Tube R CIU 8,000 PREM EQFROT	Overfill Type Age @ Notif. Owner @ ABD CAS No. N Tank Leak D Tank Const. Mat. Tank Protect. Tank Cont. Meth. Overfill Type Age @ Notif.	Chemet. A 1 SL IC SW DTSO 20 Chem	1. TG 1/21/ CP Ver	18 06/04/18	Pipe Leak Det Pipe Const. Mat. Pipe Protect. Pipe Cont. Meth. Piping Type	FP FC SW PR 101 Last!	11/21/18 LI 13/19 <u>CP</u> 06/04/1

SCDHEC UST Management Tracking

BOTH billable and unbillable tanks

Site Information for R-11946 Facility: BROAD RIVER AMOCO

Tank No.	8	Const.	09/27/89	Class	P	Tank Const. Mat.	SL			Pipe Const. Mat.	FP	
		Operate	04/06/90	T Status	ABD	Tank Protect.	C	CP	06/04/18	Pipe Protect.	FC	CP 06/04/18
		Notify	09/20/89	Capacity	1,000	Tank Cont. Meth.	SW			Pipe Cont. Meth.	sw	
		Variance		Product	KN	Overfill Type	DTSO	Ver	09/20/89	Piping Type	PR	
		Compl.	11/26/18	C Status	IN	Age @ Notif.	0	CH-SEPT I		Dist. to Well	101	
		Spill Det.	09/20/89	Left Gal.		Owner @ ABD	BROA	DRIV	ER C STOR	ELLC	Last	lse
		Aband.	02/26/19	Method	FI	CAS No.	Cher	n.			0.5%	
		Under Dis	penser Co	nt. N	Drop Tube	N Tank Leak De	t.	ATG		Pipe Leak Det.	LLD	12/05/17 LT
			6/7/20					1/20/	/14		12/0	5/17



JUN 0 6 2019



ANGELA BAIONI
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

Re: Laboratory Analyses Approval

(Analytical) Bid #IFB-5400012961-04/06/17-EMW; PO #4600704184

Dear Ms. Baioni:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number listed below. Please reference the CA number and Purchase Order number on the appropriate invoice submitted for payment against the facility.

UST #	FACILITY NAME	CA#	# of SOIL Samples (Include Duplicate)	# of SW FB & TB	# of WSW Samples (Include Duplicate)	# of WSW FB & TB	Vials/ Cooler to be provided by Lab	RUSH (24hr Notice Required)
11946	Broad River Amoco	59780	7	4	0	0	N	N
			BTEX+Nap	(4) 8260B				
				(3) 8011				

If you have any questions or need further assistance, please contact Robert A. Dunn by phone (803) 898-0671 or email dunnra@dhec.sc.gov.

Sincerely,

Carolyn Moores, Hydrogeologist

Corrective Action& Quality Assurance Section

Golf Mones

UST Management Division

Bureau of Land & Waste Management

Enc: Approved Cost Agreement

Cc: Robert A. Dunn, UST Management Division, Corrective Action & Field Support Section Technical File

Approved Cost Agreement

59780

Facility: 11946 BROAD RIVER AMOCO

MOORESCT PO Number:

Task / Description Categories Item Description Qty / Pct Unit Price Amount 11 ANALYSES GW GROUNDWATER A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B 4.0000 \$21.000 84.00 F1 EDB BY 8011 3.0000 \$18.000 54.00 SOIL SOIL Q1 BTEX+NAPTH 7.0000 \$16.000 112.00

Total Amount 250.00



Underground Storage Tank Management Division Field Data Information Sheet – Notes

	Site Information	
Date: U U 2019	Site ID#: 11946	Site Name: Broad River
County: Richland	Project Manager: C M 00	res Field Personnel: C. White
Notes: Soil Samples	1	
	. 14	130
SSI: By doub	ole ditch 8	25
55 2. By di	tch. c	835 FETIN
55 3 1 Bfnn	Playground	845
SS-4: mal ev		
SS-5: Warkway	E a company	
SS-5: DUP 0143	1980	*
SS- 事: Sump. 2143	0	
Creek Dry		
VICE VI	1	
		70' 9"13 6" fence
	01/61	
·20 9' x x	5 163-	7 10' 10' 1
The RIV	Blds	3
13/96 P	1, 3	Della
Q X		- D1015
9		
-		
Road a	.1	. 11 110
Signature: SOUTH CAROLU	$W \cup W$	Date:(Q Q S S S S S S S S

-UST Field Data Information Sheet - Notes

- -Purpose of the form is to record information gathered during a field activity
- -DHEC UST Project Managers and Field Staff
- -Item-by-item instructions for completing the form: Fill in all Site Information boxes Record any applicable notes Sign and date the form

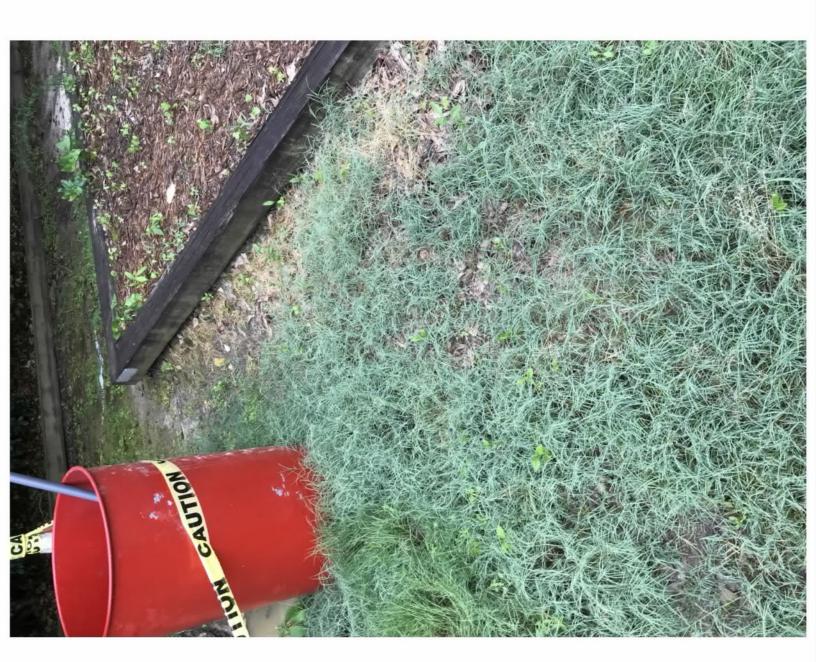
-Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304



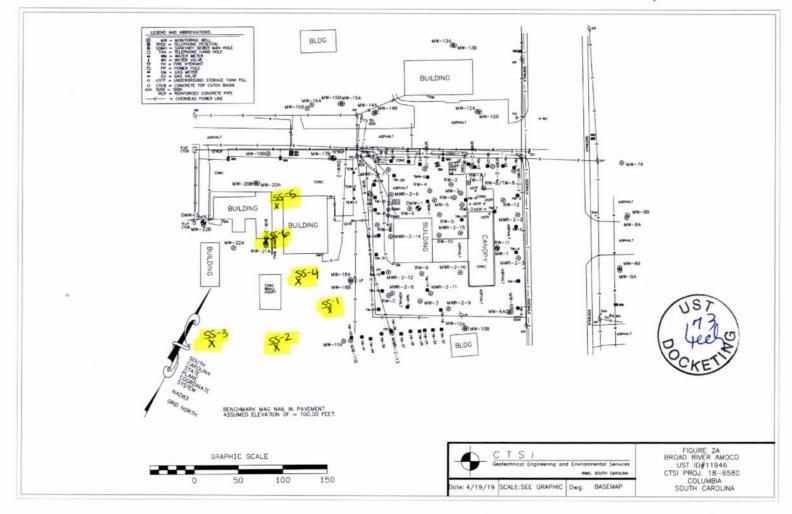
551: By double ditch 825
552 By ditch 825
553 Byn Playglumol

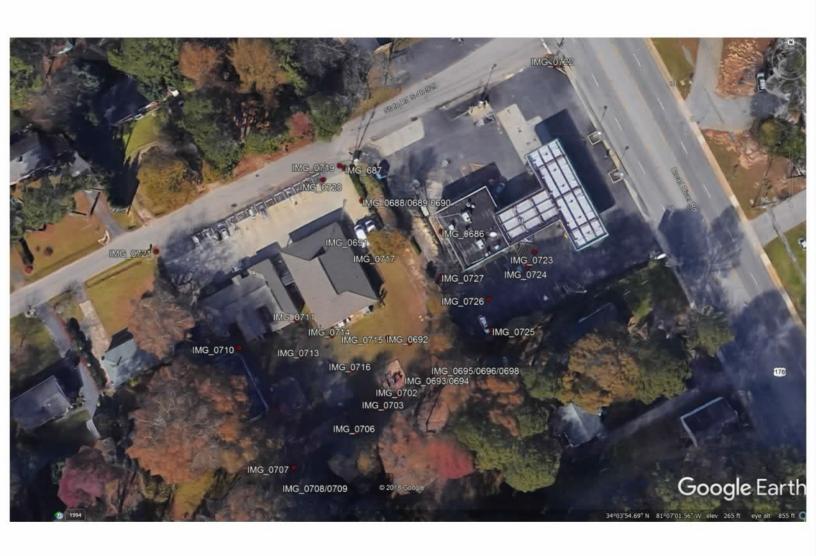
creek on











June 11, 2019





ENVIRO-TEST SERVICES

Ms. Carolyn Moores, Hydrogeologist Corrective Action Section UST Program Bureau of Land and Waste management



RE: January, February March, & April , 2019 Summary Report for Emergency Free Product Abatement at Play Pals Day Care Broad River Amoco Permit # 11946; CA # 59405 4335 Broad River Rd Columbia, SC Richland County

Dear Ms. Moores,

Enviro-Test Services January abatement activities are included in the ARM report dated November 2018 through January 31, 2019 however there are additional work that was not included. There were 5 Vacuum Events performed. They Began on January 5th, January 17th, January 26th, and January 29th, 2019 these Free Product abatement Vacuum events were performed on Recovery Trench A, Recovery Trench B, open Trench C, D and E, the recovery sumps under the play Pals day Care and on top of the ground due to the unusually heavy Rains that would cause the free product to flow out of the side of the embankment between the product source (Broad River BP Station) and the Day Care Property.

See Site Map: Figure 1

There was 200 gallons of dark Brown free Product recovered and 6,872 gallons of petroleum contact water removed this month.

On January 3rd the sewer lines were scoped with a camera checking for any breaks or leaks for product intrusion. Sewer line Vapor PID readings were also taken in the sewer line at three different locations along Dothan Rd. Located at (1) the BP station next to the dumpster this is the beginning of the sewer line. (2) at the residence at 1230 Dothan Rd. reading and 3rd at the residence at 1158 Dothan Rd. These test were done on January 25th and January 29, 2019. Attachment (A). Other activities also included absorbent boom replacement at the ditches, the storm water drain in the rear of the day care and against the fence along property boundary. On going activities also include the maintenance of the open pits, removal of leaves, trash, walls caving in and protective fencing replacement.

1.

February, 2019:

February 2019 Abatement Activities continued due to more unusually heavy rain fall. With each rain event free product would be pushed from the gas station into the french drains and on the surface of the Play Pal Day Care property and towards the Storm Drains. Enviro-Test would keep the water levels down before the heavy rains and then remove the free product after it rained in order to keep it from going into the storm drains and into Stoop Creek.

There were a total of six Free Product Vacuum abatement Events performed. February 5th, 9th, 14th, 21st 25th, 27th, 2019 which produced 105 gallons of free product and 21,338 gallons of petroleum contact water from all the source points which were the French Drains and 3 recovery pits, under the building of the Day Care and on top of the ground surrounding the Day Care.

On February 8, 2019 Palmetto Utilities lined the sewer man hole at the BP Gas station in order to stop any free product intrusion in to the sewer system due to the petroleum vapors that residence were complaining about in there houses in the neighborhood on Dothan Rd. PID Vapor readings were taken on February 8th, 14th, 22nd, 28th 2019 in three different manholes on Dothan Rd. at the same addresses listed above Recovery pits and boom replacement continued.

March, 2019:

The unusually heavy rains continued through out the month of March which have a direct effect on the Play Pals day Care. Every time it rains the Free Product from the BP gas station is pushed on to Play Pals property and collected in the french drain located between the property along the chain link fence.

During these rain storms dark brown gas will pour out of the 15 ft. embankment between the gas station and the day care in two locations (1) above collection pit (A) and (2) between monitor wells 18 and collection pit (B). There appears to be two distinct path ways the product travels. (1) at Dothan Rd above recovery pit (A) and (2) in the corner at the rear of the BP Station above recovery pit (B). The Absorbent boom here was replaced twice.

There were a total of six free product recovery events performed in the month of March beginning on March 6th. The other 5 were on March 9th, March 14th, March 16 March 24 and March 28 for a total of 12,639 gallons of petroleum contact water recovered and 16 gallons of Free Product.

There was also two hours of maintenance on the pits performed.

On March 7th three additional Monitor wells were drilled as requested by the DHEC Project manager Carolyn Moores. MW- 16 A and MW 16B were installed across the street at the residence on Dothan Rd. which were actually replacement wells because the residence had requested the original wells be abandoned several yeas ago. The third well MW-22A was located behind Play Pals between MW-21A and MW-22B. See: Attachment A 1903 Completion Forms.

April, 2019:

Enviro-Test continued to remove Free product and contaminated petroleum contact water at the Play Pals facility through the month of April. The unusually heavy rain also continued in April. Enviro-Test performed a total of (7) Vacuum Events beginning on April 8th then on April 13th, 17th, 20th, 26th, 28th, 30th, of April. These events produced 8,050 gallons of contact water and . 5 gallon of free product.

These task include vacuuming petroleum contact water from these 5 recovery wells located in the two Recovery Trenches A & B and the three open trenches and under the Play Pals Day Care.

Four hours of trench maintenance was performed which includes the safety net barricades and the debris that falls into the open pits.

The Absorbent booms that no longer absorbed the free product were replaces next to the fence at the embankment and in the storm drain going to Stoop Creek.

Enviro-Test will continue the Emergency Free Product Abatement until the Corrective Action begins at the Play Pals Day Care facilities ad directed by DHEC.

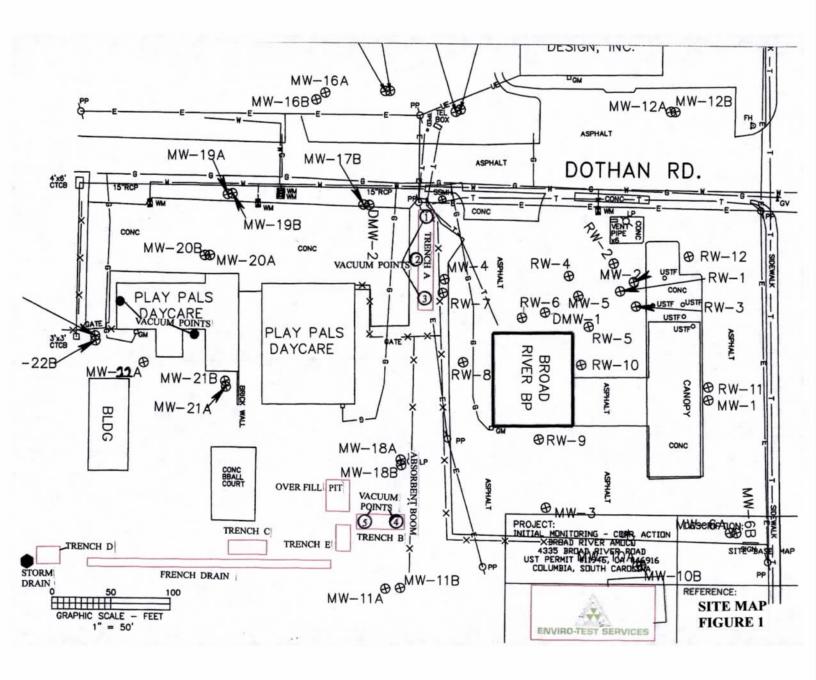
Thank You, for Recognizing our commitment to continue working on this site.

Teny L. Teate

Terry L. Teate Project Manager

Enviro-Test Services Inc.

SITE MAP FIGURE 1



ATTACHMENT A 1903 Well Forms



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

PROMOTE PROTECT PROSPER			
1. WELLOWNER INFORMATION:			7. PERMIT NUMBER: DHEC Permit # UMW-27419
Name: DHEC	16		
(last)	(fire	st)	8. USE:
Address: 2600 Bull Street			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 20	9201-0000	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony Columbia out. SC	2.1. 2.	201-0000	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: (803) 898-3432	Home:		9. WELL DEPTH (completed) Date Started: 03-7-2019
2. LOCATION OF WELL: CO		land	8.0 ft. Date Completed: 03-08-2019
Name: Broad River Amoco	iden	uanu	10. CASING: Threaded Welded
Street Address: 4335 Broad Riv	D 1		Diam.: 2 Inch Height: Above/Below
City: G. 1 1: GG	Zin:	12120	Type: PVC Galvanized Surface
City: Columbia, SC	Zip: 29018-	9330	☐ Steel ☐ Other Weight — Ib./ft.
Latitude: N 34.0650391 Longitude	· W 91 1174	256	in. to ft. depth Drive Shoe?
Lautude. N 34,0030391 Congitude	. W 01.11/4	230	in. to1.0 ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NI IMRER:	11. SCREEN:
Monitor Well-22A	MW-		Type: PVC Diam.: 2 Inch
		ZZA	Slot/Gauge:
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 8.0 ft. and 1.0 ft. NOTE: MULTIPLE SCREENS
Give Details Below			ft. and ft. USE SECOND SHEET
Grouted Depth: from			Sieve Analysis ☐ Yes (please enclose) ☐ No
	*Thickness		12. STATIC WATER LEVEL 0.57 ft. below land surface after 24 hours
Formation Description	of	Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum	Stratum	NA ft. after hrs. Pumping G.P.M.
Lt Tn mxln Sndy Cly	0 ft.	2 ft.	Pumping Test: Yes (please enclose) No
			Yield:
Lt Tn fxln Cly Gumbo	2 ft.	4 ft.	
			14. WATER QUALITY
Orange mxln sndy cly dry	4 ft.	8 ft.	Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
g,,,			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			□ Neat Cement □ Bentonite ☑ Bentonite/Cement □ Other
			Depth: From 1.0 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 200 ft. N direction
			Type Petroleum
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: NA Not installed
		2-18:50 F13, 500= 10:10 10	
			Mfr. Name: Model No.: H.P Volts Length of drop pipe ft. Capacity gpm
		1	TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	111		
		i i	
**************************************			Address: (Print) Level: A B C D (circle one)
		1	P.O. Box 2237 Irmo, SC 29063
*Indicate Water Bearing Zones		-	Telephone No.: 803-413-4936 Fax No.:
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	Reserve to the second		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		CONTRACTOR OF THE	,
			Signed: Date: 03/24/2019
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	1	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot	ary 🗆 ı	Driven	
☐ Cable tool ☐ Other			



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

4 WELL OWNED INFORMATION.			7 DEDMITHURDED.
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: DHEC Permit # UMW-27419
Name: DHEC (last)	(fir	st)	
Address: 2600 Bull Street	(8. USE:
2600 Bull Street			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 2	9201-0000	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	100		☐ Test Well
Telephone: Work: (803) 898-3432			9. WELL DEPTH (completed) Date Started: 03-7-2019
2. LOCATION OF WELL: CO	DUNTY: Rich	land	30 ft. Date Completed: 03-08-2019
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Riv	er Road		Diam.: 2 Inch Height: Above/Below
	Zip: 29018-	9330	Type: PVC Galvanized Surface ft.
			Steel Other Weight — Ib./ft.
Latitude: N 34.0655340 Longitude	: W 81.1175	1621	in. to 0 ft. depth Drive Shoe? ☐ Yes ☑ No
			in. to20_ft. depth
k = 12 [1일] : [2] : [1] : [2] : [2] : [4] : [2]	BLIC SYSTE	A Deliver of the second second second	11. SCREEN: Type: PVC Diam: 2 Inch
Monitor Well-16B	MW-	-16B	Type: PVC Diam.: 2 Inch Slot/Gauge:010 Length: 10.0 ft
4. ABANDONMENT: Yes	No		Set Between: 30.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Give Details Below			ft. andft. USE SECOND SHEET
Grouted Depth: fromf	t. to	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness		
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 9.58 ft. below land surface after 24 hours
AFFECTOR'S HISTORY BOOK SHOOL HISTORY BOOK OF HE SHOOL SHOUL SHOOL SHOUL SHOOL SHOL SH	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
Lt TN mxln sandy-cly	0 ft.	5 ft.	NA ft. after hrs. Pumping G.P.M.
Di III iliali dallay diy	V 11.		Pumping Test: ☐ Yes (please enclose) ☐ No
Lt Brn fxln cly-snd	5 ft.	10 ft.	Yield:
Et Bili ixii ciy-siid	J 11.	10 10.	14. WATER QUALITY
Tn Lt Brn fxln cly-snd	10 ft.	15 ft.	Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
The Let Bill 1xm Ciy-shd	10 10.	13 10.	Please enclose lab results.
Lt Tn fxln sndy Cly	15 ft.	20 ft.	15. ARTIFICIAL FILTER (filter pack)
Lt III ixiii shdy Ciy	15 16.	2011.	Installed from 30.0 ft. to 19.0 ft.
Lt Gry fxln hd snd dry	20 ft.	25 ft.	Effective size No. 2 Uniformity Coefficient
Et Gry IXIII lid slid dry	20 11.	23 10.	16. WELL GROUTED? ☑ Yes ☐ No
Gry fxln hd snd dry	25 ft.	30 ft.	☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other
Gry IXIII nd sild dry	25 11.	30 11.	Depth: From 19.0 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 200 ft. NE direction
			Type Petroleum
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: NA Not installed
			Mfr. Name: Model No.:
	7701744		H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 2237 Irmo, SC 29063
*Indicate Water Bearing Zones			Telephone No.: 803-413-4936 Fax No.:
3	1		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			, and the second
A STATE OF THE PARTY OF THE PAR			
			02/21/2010
			Signed: Date: 03/24/2019
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	_	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot	ary 🗆	Driven	S S S
☐ Cable tool ☐ Other			



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: DHEC Permit # UMW-27419
Name: DHEC			DILE I CHIII # OWW-27419
(last)	(fire	st)	8. USE:
Address: 2600 Bull Street			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	9201-0000	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ANAMEST ROOM OF STANA			Test Well Monitor Well Replacement
Telephone: Work: (803) 898-3432			9. WELL DEPTH (completed) Date Started: 03-7-2019
	DUNTY: Rich	land	16
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: ② Inch Height: Above/Below
Street Address: 4335 Broad Riv	er Road		Diam.: Z Incn Height: Above/Below Type: ☑ PVC ☐ Galvanized Surface ft.
City: Columbia, SC	Zip: 29018-	9330	☐ Steel ☐ Other Weight — lb./ft.
Latitude: N 34.0655341 Longitude	: W 81 1175	1622	in. to ft. depth Drive Shoe?
•	02.12.70		in. to6 ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
Monitor Well-16A	MW-	16A	Type: PVC Diam.: 2 Inch Slot/Gauge: .010 Length: 10.0 ft
4. ABANDONMENT: Yes	No		Set Between: 16 ft. and 6 ft. NOTE: MULTIPLE SCREENS
Give Details Below			ft. andft. USE SECOND SHEET
Grouted Depth: from f			Sieve Analysis ☐ Yes (please enclose) ☐ No
	*Thickness		12. STATIC WATER LEVEL 11.64 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
Y 4 TNI		5 ft.	NA ft. after hrs. Pumping G.P.M.
Lt TN mxln sandy-cly	0 ft.	3 II.	Pumping Test: ☐ Yes (please enclose) ☐ No
Lt Brn fxln cly-snd	5 ft.	10 ft.	Yield:
Et Din Ixiii oiy sha	J 11.		14. WATER QUALITY
TN Lt Brn fxln cly-snd	10 ft.	16 ft.	Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
		-	Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ✓ Yes □ No
			Installed from 16.0 ft. to 5.0 ft. Effective size No. 2 Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No ☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other
			Depth: From <u>5.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 200 ft. NE direction
			Type Petroleum
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: NA Not installed
			Mfr. Name: Model No.:
75 (11.005.00 0.00 0.00 0.00 0.00 0.00 0.00 			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal
			19. WELL DRILLER: Terry L. Teate CERT. NO.: 1242 Address: (Print) Level: A B C D (circle one)
		Vestallise into vest	P.O. Box 2237 Irmo, SC 29063
			PREDITIVE SERVE
*Indicate Water Bearing Zones			Telephone No.: 803-413-4950 Fax No.:
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:		-	my direction and this report is true to the best of my knowledge and belief.
1			
			02/24/2010
			Signed:
& TVDE: D Mad Determined			
6. TYPE:	1000	Bored Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	,		
	gm.100/		

June 12, 2019





ENVIRO-TEST SERVICES

Ms. Carolyn Moores, Hydrogeologist Corrective Action Section UST Program Bureau of Land and Waste management O HETING

RE: May 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco Permit # 11946; CA # 59552 4335 Broad River Rd Columbia, SC Richland County

Dear Ms. Moores,

Enviro-Test Services is continuing the removal of Free Product and petroleum contaminated water at the Play Pals Day Care.

A total of (7) Free Product Vacuum Recovery Events were performed through out the month of May. They began on May 7th and then on May 14th, May 17th, May 22nd, May 24, May 28th, and May 31st, 2019. The last week in April and the first 2 weeks of May there was no rain until May the 12th. This was the driest period so far. The water table dropped 2 to 3 ft in the recovery trench pits. Recovery Trench A continued to maintain 0.5 to 1.0 tenths of free product where as Trench B pit dropped down to an average of 0.03 tenths of product. Trench E almost dried up for the first time with very little product on the bottom. Trench D and the storm drain were dry on May 24th.

** It should be noted that this site is greatly effected by the amount of rain the BP gas station receives both from run off and increased ground water hydraulic pressure due to the BP gas station being 20 ft. higher than the Day Care.

These Events produced 7,328 gallons of contaminated petroleum water and 7 gallons of free product. See Disposal Manifest Attachment A:

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care. There was also maintenance of the open pits and barrier nets for safety protection.

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. The other Absorbent Booms are located in the ditch at the rear of the Day Care which leads to the storm drain that has one in it and there is another one in the ditch by the apartments. See Site Map: Figure 1

Enviro-Test will continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed.

Thank You, for Recognizing our commitment to continue working on this site.

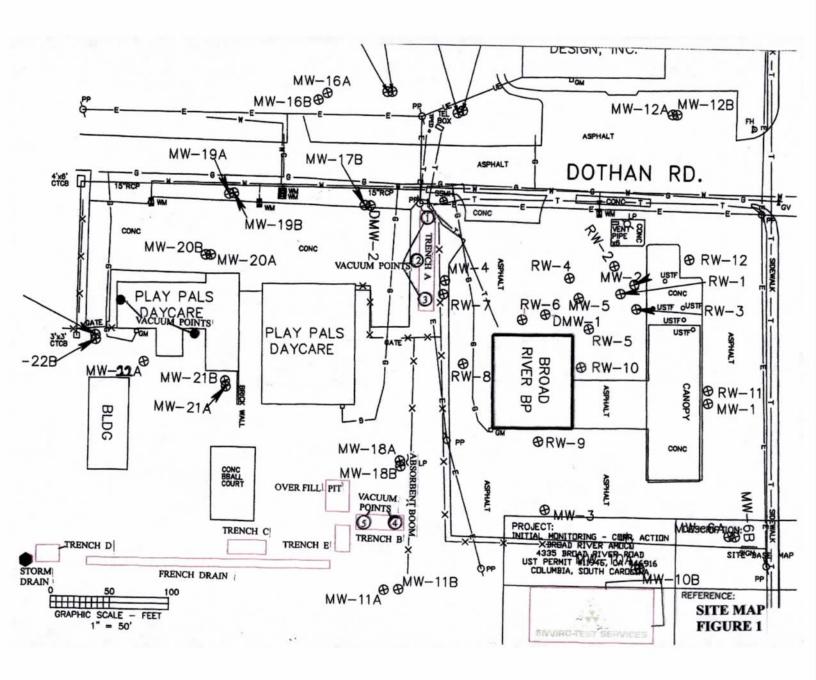
Terry L. Teate Project Manager

Enviro-Test Services Inc.

Tung L. Teate

DISPOSAL MANIFEST ATTACHMENT A

SITE MAP FIGURE 1



SHULTZ TANK 275 Gallon STICK MEASURMENT Conversion from Inches to Gallons

TANK No.	DATE	DHEC Permi	t No
Inches = Gallons	Inches = Gallons	Inches = Gallons	Inches = Gallons
0.00 = 0.00	10.00 = 70.50	20.00 = 141.00	30.00 = 211.50
.25 = 1.76	10.25 = 72.26	20.25 = 142.76	30.25 = 213.26
.50 = 3.52	10.50 = 74.02	20.50 = 144.52	30.50 = 215.02
.75 = 5.43	10.75 = 75.78	20.75 = 146.28	30.75 = 216.78
1.00 = 7.05	11.00 = 77.55	21.00 = 148.05	31.00 = 218.55
1.25 = 8.81	11.25 = 79.31	21.25 = 149.81	31.25 = 220.31
1.50 = 10.57	11.50 = 81.07	21.50 = 151.57	31.50 = 222.07
1.75 = 12.33	11.75 = 82.83	21.75 = 153.33	31.75 = 223.83
2.00 = 14.10	12.00 = 84.60	22.00 = 155.10	32.00 = 225.60
2.25 = 15.86	12.25 = 86.36	22.25 = 156.86	32.25 = 227.36
2.50 = 17.62	12.50 = 88.12	22.50 = 158.62	32.50 = 229.12
2.75 = 19.38	12.75 = 89.88	22.75 = 160.38	32.75 = 230.88
3.00 = 21.09	13.00 = 91.67	23.00 = 162.15	33.00 = 232.65
3.25 = 22.91	13.25 = 93.41	23.25 = 163.91	33.25 = 234.41
3.50 = 24.67	13.50 = 95.17	23.50 = 165.67	33.50 = 236.17
3.75 = 26.43	13.75 = 96.93	23.75 = 167.43	33.75 = 237.93
4.00 = 28.20	14.00 = 98.70	24.00 = 169.20	34.00 = 239.70
4.25 = 29.96	14.25 = 100.46	24.25 = 170.96	34.25 = 241.46
4.50 = 31.72	14.50 = 102.22	24.50 = 172.72	34.50 = 243.22
4.75 = 33.48	14.75 = 103.98	24.75 = 174.48	34.75 = 244.98
5.00 = 35.25	15.00 = 105.75	25.00 = 176.25	35.00 = 246.75
5.25 = 37.01	15.25 = 107.51	25.25 = 178.01	35.25 = 248.51
5.50 = 38.77	15.50 = 109.27	25.50 = 179.77	35.50 = 250.27
5.75 = 40.53	15.75 = 111.03	25.75 = 181.53	35.75 = 252.03
6.00 = 42.30	16.00 = 112.80	26.00 = 183.30	36.00 = 253.80
6.25 = 44.06	16.25 = 114.56	26.25 = 185.06	36.25 = 255.56
6.50 = 45.82	16.50 = 116.32	26.50 = 186.82	36.50 = 257.32
6.75 = 47.58	16.75 = 118.08	26.75 = 188.58	36.75 = 259.08
7.00 = 49.35	17.00 = 119.85	27.00 = 190.35	37.00 = 260.85
7.25 = 51.11	17.25 = 121.61	27.25 = 192.11	37.25 = 262.61
7.50 = 52.87	17.50 = 123.37	27.50 = 193.87	37.50 = 264.37
7.75 = 54.63	17.75 = 125.13	27.75 = 195.63	37.75 = 266.13
8.00 = 56.40	18.00 = 126.90	28.00 = 197.40	38.00 = 267.90
8.25 = 58.16	18.25 = 128.66	28.25 = 199.16	38.25 = 269.66
8.50 = 59.95	18.50 = 130.42	28.50 = 200.92	38.50 = 271.45
8.75 = 61.68	18.75 = 132.18	28.75 = 202.68	38.75 = 273.18
9.00 = 63.45	19.00 = 133.95	29.00 = 204.45	39.00 = 275.00
9.25 = 65.21	19.25 = 135.71	29.25 = 206.21	Printe Bit Suite 12 Min (中央の下が下が
9.50 = 68.87	19.50 = 137.40	29.50 = 207.97	Amount Measured
9.75 = 69.73	19.75 = 139.23	29.75 = 209.73	201

NON-HAZARDOUS WASTE

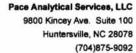
NON-HAZARDOUS WASTE MANIFEST

Pleas	se print or type (Form designed for use on elite (12 pitch) typewriter)					
	NON-HAZARDOUS WASTE MANIFEST 1. Generator's US EPA ID No.	1.	Manifest Document No	3388	2. Page 1	
	3. Generator's Name and Mailing Address Broad River BP / Fred Cut 4335 Broad River Ro 4 Generator's Prope (cchir	11 12	2-414.Q	18	
	4335 Broad River Kd					
	4. Generator's Pnone () 5. Transporter 1 Company Name 6. US EPA ID Number		A. State Trans	sorter's ID		-
	ARM EQU. SUKS		B. Transporter	1 Phone		
	7. Transporter 2 Company Name 8. US EPA ID Number		C. State Trans	porter's ID		
			D. Transporter			
	9. Designated Facility Name and Site Address 10. US EPA ID Number		E. State Facili	ty's ID		
	Hydrofime Env. Sucs.		F. Facility's Ph	none		
	Calling to Supplied					
	11. WASTE DESCRIPTION	12. Co No.	ntainers Type	13. Total Quantity	14. Unit Wt./V	
	a.	140.	1950	Quantity	*****	ioi.
	NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL					
GEZER	NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	T	409	36	L
A	c.					Keenind
R	d.	+		VVVX		_
	G. Additonal Descriptions for Materials Listed Above		H. Handling C	odes for Wastes Listed A	bove	(*)
	5 gallons-fuel					
	•			2,002,2000		
	15. Special Handling Instructions and Additional Information					
	ARM ENVIRONMENTAL SERVICES, INC P.O. BOX 50285 COLUMBIA, SC 29250					
	16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately describe in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste in proper condition.	d and are in regulations.	all respects			
	2 1 River	7		Г	Date	
	Bringed Type Walte A LO BIGGO Signature O O O	حسدة			HATCHEN TO THE PARTY OF THE PAR	Year
	Billy Kitterger Agent for BP Fred . Bully P	all of	noxu	-	2 198	η_{c}
R	17. Transporter 1 Acknowledgement of Receipt of Materials Printer/Typed Name 1		<u> </u>		Date Month Day	Vacr
AZWPORT-HR		Om	U.	,	528	Year
	18. Transporte 2 Acknowledgement of Receipt of Materials	7			Date	
Ë	Printed/Typed Name Signature	•		,	Month Day	Year
П	19. Discrepancy Indication Space					
F						
C	20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in	item 19.			- 255	
Ļ	act, acting String of Operator, Sectionation of todays of the master materials correct by the manual except as intention				Date	
Ť	Printed/Typed Name Fuy Bouksight Signature Signature Signature	Boo	dent	M	Month Day	Year
F-1	4 © 2002 LABEL LASTER (800) 621-5808 www.labelmaster.com PRINTED ON RECYCLED P USING SOYBEAN INK	APER	TILO WITH		Re	ev. 3/95

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pltch) typewriter	1			K	
NON-HAZARDOUS 1. Generator's UNIVERSE MANIFEST			Manifest Document No.	2387	. Page 1 of
3. Generator's Name and Mailing Address Broad R	wer BP Fred Cuch	no,		4.2-18	
4. Generator's Prione ()	sia, S.C				
5. Transporter 1 Company Name	 US EPA ID Number 		A. State Trans		
ARM Env. Sucs			B. Transporter	1 Phone	
7. Transporter 2 Company Name	8. US EPA ID Number	,	C. State Trans		
			D. Transporter		
Hydro-time Equ. SVCS.	10. US EPA ID Number		E. State Fecilit		
Columbia, 5.C	1		F. Facility's Ph	2758/177/	
11. WASTE DESCRIPTION		12. Cor No.	Type	13. Total Quantity	14. Unit Wt./Vol.
NON-HAZARDOUS PETROLEUM (CONTAMINATED SOIL				
NON-HAZARDOUS PETROLEUM (CONTAMINATED WATER	1	П	3235	لما
R c.					
R d.					
G. Additional Descriptions for Materials Listed Above			H. Handling C	odes for Wastes Listed Above	•
2 galle	ons-fuel				
15. Special Hending Instructions and Additional Information ARM ENVIRONMENTAL SERVICES, P.O. BOX 50285 COLUMBIA, SC 29250	INC.				
16. GENERATOR'S CERTIFICATION: I hereby certify that the content in proper condition for transport. The materials described on this m	s of this shipment are fully and accurately described a milest are not subject to lederal hazardous waste re-	and are in a	al respects		
	Aver BP	5			Date
Billy Rithenger Haent for Fr	Bly Ri	bing		Month 5	1819
B. My P. Herger	Boo Atter	س		Month .5	i Šij
18. Transporter & Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	٥			Dete
Ř .				Month	Day Year
19. Discrepancy Indication Space C 20. Facility Owner or Operator; Cartification of receipt of the waste mil					
	steriels covered by this mailest, except as noted in its	om 19.			
T Prinad/Agod Name Boukaight	Street	. A	O.A.	Month 5	Day Year
, , , , , , , , , , , , , , , , , , , ,		-	_	The same of the sa	

NON-HAZARDOUS WASTE





June 17, 2019

Robert Dunn SCHDEC 2600 Bull St Columbia, SC 29201

RE: Project: BROAD RIVER 11946/59780

Pace Project No.: 92432318

Dear Robert Dunn:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

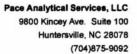
Sincerely,

angela M. Baioni

Angela Baioni angela.baioni@pacelabs.com (704)875-9092 Project Manager

Enclosures







CERTIFICATIONS

Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS



SAMPLE SUMMARY

Project:

BROAD RIVER 11946/59780

Pace Project No.: 92432318

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92432318001	SS-1	Solid	06/06/19 08:25	06/07/19 18:35
92432318002	SS-2	Solid	06/06/19 08:35	06/07/19 18:35
92432318003	SS-3	Solid	06/06/19 08:45	06/07/19 18:35
92432318004	SS-4	Solid	06/06/19 14:09	06/07/19 18:35
92432318005	SS-5	Solid	06/06/19 14:20	06/07/19 18:35
92432318006	SS-6	Solid	06/06/19 14:30	06/07/19 18:35
92432318007	DUP	Solid	06/06/19 14:35	06/07/19 18:35
92432318008	TRIP BLANK	Water	06/06/19 00:00	06/07/19 18:35

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92432318001	SS-1	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318002	SS-2	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318003	SS-3	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	. 1	PASI-C
92432318004	SS-4	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318005	SS-5	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318006	SS-6	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318007	DUP	EPA 8260B	SAS	20	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432318008	TRIP BLANK	EPA 8260B	DLK	20	PASI-C



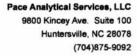
SUMMARY OF DETECTION

Project:

BROAD RIVER 11946/59780

Pace Project No.: 92432318

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2432318001	SS-1					
ASTM D2974-87	Percent Moisture	8.0	%	0.10	06/10/19 13:32	
2432318002	SS-2					
EPA 8260B	Ethylbenzene	40.8J	ug/kg	107	06/12/19 14:09	
PA 8260B	Naphthalene	36.5J	ug/kg	107	06/12/19 14:09	
EPA 8260B	m&p-Xylene	109J	ug/kg	215	06/12/19 14:09	
ASTM D2974-87	Percent Moisture	15.6	%	0.10	06/10/19 13:32	
2432318003	SS-3					
ASTM D2974-87	Percent Moisture	16.2	%	0.10	06/10/19 13:32	
2432318004	SS-4					
ASTM D2974-87	Percent Moisture	8.4	%	0.10	06/10/19 13:32	
2432318005	SS-5					
ASTM D2974-87	Percent Moisture	14.5	%	0.10	06/11/19 13:37	
2432318006	SS-6					
ASTM D2974-87	Percent Moisture	12.4	%	0.10	06/11/19 13:37	
2432318007	DUP					
EPA 8260B	Naphthalene	37.7J	ug/kg	115	06/14/19 18:45	
ASTM D2974-87	Percent Moisture	11.6	%	0.10	06/11/19 13:37	





PROJECT NARRATIVE

Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

Method: EPA 8260B
Description: 8260 MSV
Client: SCDHEC
Date: June 17, 2019

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 480927

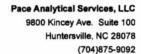
A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92431902024

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

- · MS (Lab ID: 2601907)
 - Toluene
 - m&p-Xylene
- · MSD (Lab ID: 2601908)
 - m&p-Xylene
 - o-Xylene

Additional Comments:

REPORT OF LABORATORY ANALYSIS





PROJECT NARRATIVE

Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

Method: EPA 8260B

Description: 8260/5035A SC Volatile Org

Client:

SCDHEC

Date:

June 17, 2019

General Information:

7 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 480639

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92432318001

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

- · MS (Lab ID: 2600150)
 - Ethanol
- MSD (Lab ID: 2600151)
 - Ethanol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS



Project:

BROAD RIVER 11946/59780

Pace Project No.:

Date: 06/17/2019 04:21 PM

92432318

Lab ID: 92432318001

Collected: 06/06/19 08:25

Received: 06/07/19 18:35 Matrix: Solid

Sample: SS-1 Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

20000000			Report	MDI	-	D		CACNE	0
Parameters	Results	Units	Limit	MDL .	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A SC Volatile Org	Analytical	Method: EPA 8	260B Prepa	aration Met	hod: E	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	2240	470	25	06/12/19 11:05	06/12/19 13:45	75-85-4	
tert-Amylmethyl ether	ND	ug/kg	224	24.6	25	06/12/19 11:05	06/12/19 13:45	994-05-8	
Benzene	ND	ug/kg	112	35.8	25	06/12/19 11:05	06/12/19 13:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	2240	627	25	06/12/19 11:05	06/12/19 13:45	624-95-3	
tert-Butyl Alcohol	ND	ug/kg	2240	425	25	06/12/19 11:05	06/12/19 13:45	75-65-0	
tert-Butyl Formate	ND	ug/kg	1120	31.3	25	06/12/19 11:05	06/12/19 13:45	762-75-4	
1,2-Dichloroethane	ND	ug/kg	112	49.2	25	06/12/19 11:05	06/12/19 13:45	107-06-2	
Diisopropyl ether	ND	ug/kg	112	38.1	25	06/12/19 11:05	06/12/19 13:45	108-20-3	
Ethanol	ND	ug/kg	4480	1390	25	06/12/19 11:05	06/12/19 13:45	64-17-5	M1
Ethylbenzene	ND	ug/kg	112	40.3	25	06/12/19 11:05	06/12/19 13:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	224	31.3	25	06/12/19 11:05	06/12/19 13:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	112	33.6	25	06/12/19 11:05	06/12/19 13:45	1634-04-4	
Naphthalene	ND	ug/kg	112	26.9	25	06/12/19 11:05	06/12/19 13:45	91-20-3	
Toluene	ND	ug/kg	112	40.3	25	06/12/19 11:05	06/12/19 13:45	108-88-3	
Xylene (Total)	ND	ug/kg	224	80.6	25	06/12/19 11:05	06/12/19 13:45	1330-20-7	
m&p-Xylene	ND	ug/kg	224	80.6	25	06/12/19 11:05	06/12/19 13:45	179601-23-1	
o-Xylene	ND	ug/kg	112	42.5	25	06/12/19 11:05	06/12/19 13:45	95-47-6	
Surrogates		57.45							
Toluene-d8 (S)	103	%	70-130		25	06/12/19 11:05	06/12/19 13:45	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		25	06/12/19 11:05	06/12/19 13:45	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		25	06/12/19 11:05	06/12/19 13:45	17060-07-0	
Percent Moisture	Analytical	Method: ASTM	D2974-87						
Percent Moisture	8.0	%	0.10	0.10	1		06/10/19 13:32		



Project:

BROAD RIVER 11946/59780

Pace Project No.:

Date: 06/17/2019 04:21 PM

92432318

Sample: SS-2 Lab ID: 92432318002 Collected: 06/06/19 08:35 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
3260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prepa	aration Met	hod: E	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	2150	451	25	06/12/19 11:05	06/12/19 14:09	75-85-4	
tert-Amylmethyl ether	ND	ug/kg	215	23.6	25	06/12/19 11:05	06/12/19 14:09	994-05-8	
Benzene	ND	ug/kg	107	34.4	25	06/12/19 11:05	06/12/19 14:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	2150	601	25	06/12/19 11:05	06/12/19 14:09	624-95-3	
tert-Butyl Alcohol	ND	ug/kg	2150	408	25	06/12/19 11:05	06/12/19 14:09	75-65-0	
tert-Butyl Formate	ND	ug/kg	1070	30.1	25	06/12/19 11:05	06/12/19 14:09	762-75-4	
1,2-Dichloroethane	ND	ug/kg	107	47.2	25	06/12/19 11:05	06/12/19 14:09	107-06-2	
Diisopropyl ether	ND	ug/kg	107	36.5	25	06/12/19 11:05	06/12/19 14:09	108-20-3	
Ethanol	ND	ug/kg	4290	1330	25	06/12/19 11:05	06/12/19 14:09	64-17-5	
Ethylbenzene	40.8J	ug/kg	107	38.6	25	06/12/19 11:05	06/12/19 14:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	215	30.1	25	06/12/19 11:05	06/12/19 14:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	107	32.2	25	06/12/19 11:05	06/12/19 14:09	1634-04-4	
Naphthalene	36.5J	ug/kg	107	25.8	25	06/12/19 11:05	06/12/19 14:09	91-20-3	
Toluene	ND	ug/kg	107	38.6	25	06/12/19 11:05	06/12/19 14:09	108-88-3	
Xylene (Total)	ND	ug/kg	215	77.3	25	06/12/19 11:05	06/12/19 14:09	1330-20-7	
m&p-Xylene	109J	ug/kg	215	77.3	25	06/12/19 11:05	06/12/19 14:09	179601-23-1	
o-Xylene	ND	ug/kg	107	40.8	25	06/12/19 11:05	06/12/19 14:09	95-47-6	
Surrogates		2.12							
Toluene-d8 (S)	110	%	70-130		25	06/12/19 11:05	06/12/19 14:09	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		25	06/12/19 11:05	06/12/19 14:09	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		25	06/12/19 11:05	06/12/19 14:09	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	15.6	%	0.10	0.10	1		06/10/19 13:32		



Project:

BROAD RIVER 11946/59780

Pace Project No.:

Sample: SS-3

92432318

Lab ID: 92432318003 Collected: 06/06/19 08:45 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
1 didilictors					5700	000	0.00 10		
8260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prepa	aration Met	hod: El	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	2690	566	25	06/12/19 11:05	06/12/19 14:33	241517 (100 to 100 to 1	
tert-Amylmethyl ether	ND	ug/kg	269	29.6	25	06/12/19 11:05	06/12/19 14:33	994-05-8	
Benzene	ND	ug/kg	135	43.1	25	06/12/19 11:05	06/12/19 14:33		
3,3-Dimethyl-1-Butanol	ND	ug/kg	2690	754	25	06/12/19 11:05	06/12/19 14:33		
tert-Butyl Alcohol	ND	ug/kg	2690	512	25	06/12/19 11:05	06/12/19 14:33		
tert-Butyl Formate	ND	ug/kg	1350	37.7	25	06/12/19 11:05	06/12/19 14:33	762-75-4	
1,2-Dichloroethane	ND	ug/kg	135	59.3	25	06/12/19 11:05	06/12/19 14:33	107-06-2	
Diisopropyl ether	ND	ug/kg	135	45.8	25	06/12/19 11:05	06/12/19 14:33	108-20-3	
Ethanol	ND	ug/kg	5390	1670	25	06/12/19 11:05	06/12/19 14:33	64-17-5	
Ethylbenzene	ND	ug/kg	135	48.5	25	06/12/19 11:05	06/12/19 14:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	269	37.7	25	06/12/19 11:05	06/12/19 14:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	135	40.4	25	06/12/19 11:05	06/12/19 14:33	1634-04-4	
Naphthalene	ND	ug/kg	135	32.3	25	06/12/19 11:05	06/12/19 14:33	91-20-3	
Toluene	ND	ug/kg	135	48.5	25	06/12/19 11:05	06/12/19 14:33	108-88-3	
Xylene (Total)	ND	ug/kg	269	97.0	25	06/12/19 11:05	06/12/19 14:33	1330-20-7	
m&p-Xylene	ND	ug/kg	269	97.0	25	06/12/19 11:05	06/12/19 14:33	179601-23-1	
o-Xylene	ND	ug/kg	135	51.2	25	06/12/19 11:05	06/12/19 14:33	95-47-6	
Surrogates									
Toluene-d8 (S)	99	%	70-130		25	06/12/19 11:05	06/12/19 14:33		
4-Bromofluorobenzene (S)	97	%	70-130		25	06/12/19 11:05	06/12/19 14:33		
1,2-Dichloroethane-d4 (S)	90	%	70-130		25	06/12/19 11:05	06/12/19 14:33	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	16.2	%	0.10	0.10	1		06/10/19 13:32		



Project:

BROAD RIVER 11946/59780

Pace Project No.: Sample: SS-4

Date: 06/17/2019 04:21 PM

92432318

Lab ID: 92432318004 Collected: 06/06/19 14:09 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

	Report								
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
3260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prepa	aration Met	hod: E	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	2850	599	25	06/12/19 11:05	06/14/19 17:56	75-85-4	
tert-Amylmethyl ether	ND	ug/kg	285	31.4	25	06/12/19 11:05	06/14/19 17:56	994-05-8	
Benzene	ND	ug/kg	143	45.7	25	06/12/19 11:05	06/14/19 17:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	2850	799	25	06/12/19 11:05	06/14/19 17:56	624-95-3	
tert-Butyl Alcohol	ND	ug/kg	2850	542	25	06/12/19 11:05	06/14/19 17:56	75-65-0	
tert-Butyl Formate	ND	ug/kg	1430	40.0	25	06/12/19 11:05	06/14/19 17:56	762-75-4	
1,2-Dichloroethane	ND	ug/kg	143	62.8	25	06/12/19 11:05	06/14/19 17:56	107-06-2	
Diisopropyl ether	ND	ug/kg	143	48.5	25	06/12/19 11:05	06/14/19 17:56	108-20-3	
Ethanol	ND	ug/kg	5710	1770	25	06/12/19 11:05	06/14/19 17:56	64-17-5	
Ethylbenzene	ND	ug/kg	143	51.4	25	06/12/19 11:05	06/14/19 17:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	285	40.0	25	06/12/19 11:05	06/14/19 17:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	143	42.8	25	06/12/19 11:05	06/14/19 17:56	1634-04-4	
Naphthalene	ND	ug/kg	143	34.2	25	06/12/19 11:05	06/14/19 17:56	91-20-3	
Toluene	ND	ug/kg	143	51.4	25	06/12/19 11:05	06/14/19 17:56	108-88-3	
Xylene (Total)	ND	ug/kg	285	103	25	06/12/19 11:05	06/14/19 17:56	1330-20-7	
m&p-Xylene	ND	ug/kg	285	103	25	06/12/19 11:05	06/14/19 17:56	179601-23-1	
o-Xylene	ND	ug/kg	143	54.2	25	06/12/19 11:05	06/14/19 17:56	95-47-6	
Surrogates									
Toluene-d8 (S)	104	%	70-130		25	06/12/19 11:05	06/14/19 17:56	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		25	06/12/19 11:05	06/14/19 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		25	06/12/19 11:05	06/14/19 17:56	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87			***********			
Percent Moisture	8.4	%	0.10	0.10	1		06/10/19 13:32		



Project:

Sample: SS-5

BROAD RIVER 11946/59780

Pace Project No.:

Date: 06/17/2019 04:21 PM

92432318

Lab ID: 92432318005 Collected: 06/06/19 14:20 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Nesults reported on a lary weig			Report	iotaro, san					
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
8260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prepa	aration Met	hod: E	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	1900	400	25	06/12/19 11:05	06/14/19 18:21	75-85-4	
tert-Amylmethyl ether	ND	ug/kg	190	20.9	25	06/12/19 11:05	06/14/19 18:21	994-05-8	
Benzene	ND	ug/kg	95.2	30.5	25	06/12/19 11:05	06/14/19 18:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	1900	533	25	06/12/19 11:05	06/14/19 18:21	624-95-3	
tert-Butyl Alcohol	ND	ug/kg	1900	362	25	06/12/19 11:05	06/14/19 18:21	75-65-0	
tert-Butyl Formate	ND	ug/kg	952	26.6	25	06/12/19 11:05	06/14/19 18:21	762-75-4	
1,2-Dichloroethane	ND	ug/kg	95.2	41.9	25	06/12/19 11:05	06/14/19 18:21	107-06-2	
Diisopropyl ether	ND	ug/kg	95.2	32.4	25	06/12/19 11:05	06/14/19 18:21	108-20-3	
Ethanol	ND	ug/kg	3810	1180	25	06/12/19 11:05	06/14/19 18:21	64-17-5	
Ethylbenzene	ND	ug/kg	95.2	34.3	25	06/12/19 11:05	06/14/19 18:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	190	26.6	25	06/12/19 11:05	06/14/19 18:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	95.2	28.6	25	06/12/19 11:05	06/14/19 18:21	1634-04-4	
Naphthalene	ND	ug/kg	95.2	22.8	25	06/12/19 11:05	06/14/19 18:21	91-20-3	
Toluene	ND	ug/kg	95.2	34.3	25	06/12/19 11:05	06/14/19 18:21	108-88-3	
Xylene (Total)	ND	ug/kg	190	68.5	25	06/12/19 11:05	06/14/19 18:21	1330-20-7	
m&p-Xylene	ND	ug/kg	190	68.5	25	06/12/19 11:05	06/14/19 18:21	179601-23-1	
o-Xylene	ND	ug/kg	95.2	36.2	25	06/12/19 11:05	06/14/19 18:21	95-47-6	
Surrogates		-357.42.75							
Toluene-d8 (S)	110	%	70-130		25	06/12/19 11:05	06/14/19 18:21	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		25	06/12/19 11:05	06/14/19 18:21	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		25	06/12/19 11:05	06/14/19 18:21	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	14.5	%	0.10	0.10	1		06/11/19 13:37		



Project:

BROAD RIVER 11946/59780

Pace Project No.: Sample: SS-6

Date: 06/17/2019 04:21 PM

92432318

Lab ID: 92432318006

Collected: 06/06/19 14:30 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Taramotoro		OTALO				- Trepared	- Analyzed		Quai
8260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prep	aration Met	hod: E	PA 5035A			
tert-Amyl Alcohol	ND	ug/kg	2520	529	25	06/12/19 11:05	06/12/19 15:46	75-85-4	
tert-Amylmethyl ether	ND	ug/kg	252	27.7	25	06/12/19 11:05	06/12/19 15:46	994-05-8	
Benzene	ND	ug/kg	126	40.3	25	06/12/19 11:05	06/12/19 15:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	2520	706	25	06/12/19 11:05	06/12/19 15:46	624-95-3	
ert-Butyl Alcohol	ND	ug/kg	2520	479	25	06/12/19 11:05	06/12/19 15:46	75-65-0	
ert-Butyl Formate	ND	ug/kg	1260	35.3	25	06/12/19 11:05	06/12/19 15:46	762-75-4	
1,2-Dichloroethane	ND	ug/kg	126	55.5	25	06/12/19 11:05	06/12/19 15:46	107-06-2	
Diisopropyl ether	ND	ug/kg	126	42.9	25	06/12/19 11:05	06/12/19 15:46	108-20-3	
Ethanol	ND	ug/kg	5040	1560	25	06/12/19 11:05	06/12/19 15:46	64-17-5	
Ethylbenzene	ND	ug/kg	126	45.4	25	06/12/19 11:05	06/12/19 15:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	252	35.3	25	06/12/19 11:05	06/12/19 15:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	126	37.8	25	06/12/19 11:05	06/12/19 15:46	1634-04-4	
Naphthalene	ND	ug/kg	126	30.3	25	06/12/19 11:05	06/12/19 15:46	91-20-3	
Toluene	ND	ug/kg	126	45.4	25	06/12/19 11:05	06/12/19 15:46	108-88-3	
(ylene (Total)	ND	ug/kg	252	90.8	25	06/12/19 11:05	06/12/19 15:46	1330-20-7	
n&p-Xylene	ND	ug/kg	252	90.8	25	06/12/19 11:05	06/12/19 15:46	179601-23-1	
-Xylene	ND	ug/kg	126	47.9	25	06/12/19 11:05	06/12/19 15:46	95-47-6	
Surrogates									
oluene-d8 (S)	80	%	70-130		25	06/12/19 11:05	06/12/19 15:46	2037-26-5	
-Bromofluorobenzene (S)	99	%	70-130		25	06/12/19 11:05	06/12/19 15:46	460-00-4	
,2-Dichloroethane-d4 (S)	92	%	70-130		25	06/12/19 11:05	06/12/19 15:46	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	12.4	%	0.10	0.10	1		06/11/19 13:37		



Project:

BROAD RIVER 11946/59780

Pace Project No.: 92432318

Date: 06/17/2019 04:21 PM

Sample: DUP Lab ID: 92432318007 Collected: 06/06/19 14:35 Received: 06/07/19 18:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
8260/5035A SC Volatile Org	Analytical	Method: EP	A 8260B Prep	aration Met	hod: E	PA 5035A			
ert-Amyl Alcohol	ND	ug/kg	2300	483	25	06/12/19 11:05	06/14/19 18:45	75-85-4	
ert-Amylmethyl ether	ND	ug/kg	230	25.3	25	06/12/19 11:05	06/14/19 18:45	994-05-8	
Benzene	ND	ug/kg	115	36.8	25	06/12/19 11:05	06/14/19 18:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/kg	2300	645	25	06/12/19 11:05	06/14/19 18:45	624-95-3	
ert-Butyl Alcohol	ND	ug/kg	2300	437	25	06/12/19 11:05	06/14/19 18:45	75-65-0	
ert-Butyl Formate	ND	ug/kg	1150	32.2	25	06/12/19 11:05	06/14/19 18:45	762-75-4	
1,2-Dichloroethane	ND	ug/kg	115	50.6	25	06/12/19 11:05	06/14/19 18:45	107-06-2	
Diisopropyl ether	ND	ug/kg	115	39.1	25	06/12/19 11:05	06/14/19 18:45	108-20-3	
Ethanol	ND	ug/kg	4600	1430	25	06/12/19 11:05	06/14/19 18:45	64-17-5	
Ethylbenzene	ND	ug/kg	115	41.4	25	06/12/19 11:05	06/14/19 18:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/kg	230	32.2	25	06/12/19 11:05	06/14/19 18:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/kg	115	34.5	25	06/12/19 11:05	06/14/19 18:45	1634-04-4	
Naphthalene	37.7J	ug/kg	115	27.6	25	06/12/19 11:05	06/14/19 18:45	91-20-3	
Toluene	ND	ug/kg	115	41.4	25	06/12/19 11:05	06/14/19 18:45	108-88-3	
Xylene (Total)	ND	ug/kg	230	82.9	25	06/12/19 11:05	06/14/19 18:45	1330-20-7	
m&p-Xylene	ND	ug/kg	230	82.9	25	06/12/19 11:05	06/14/19 18:45	179601-23-1	
o-Xylene	ND	ug/kg	115	43.7	25	06/12/19 11:05	06/14/19 18:45	95-47-6	
Surrogates		0000000							
Toluene-d8 (S)	106	%	70-130		25	06/12/19 11:05	06/14/19 18:45	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		25	06/12/19 11:05	06/14/19 18:45	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		25	06/12/19 11:05	06/14/19 18:45	17060-07-0	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	11.6	%	0.10	0.10	1		06/11/19 13:37		



Project:

BROAD RIVER 11946/59780

Pace Project No.: 92432318

Date: 06/17/2019 04:21 PM

Sample: TRIP BLANK	Lab ID:	92432318008	Collected:	06/06/19	00:00	Received: 06	8/07/19 18:35 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260B						
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/13/19 17:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/13/19 17:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/13/19 17:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/13/19 17:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/13/19 17:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/13/19 17:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/13/19 17:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/13/19 17:33	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/13/19 17:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/13/19 17:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/13/19 17:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/13/19 17:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/13/19 17:33	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/13/19 17:33	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/13/19 17:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	4.1	1		06/13/19 17:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	2.0	1		06/13/19 17:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/13/19 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		06/13/19 17:33	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		06/13/19 17:33	2037-26-5	



Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

QC Batch:

480927

Analysis Method:

EPA 8260B

QC Batch Method:

EPA 8260B

Analysis Description:

8260 MSV SC

Associated Lab Samples: 92432318008

METHOD BLANK: 2601383

Associated Lab Samples: 92432318008

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers	
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/13/19 16:22		
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/13/19 16:22		
Benzene	ug/L	ND	5.0	1.7	06/13/19 16:22		
Diisopropyl ether	ug/L	ND	5.0	3.5	06/13/19 16:22		
Ethanol	ug/L	ND	200	144	06/13/19 16:22		
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/13/19 16:22		
Ethylbenzene	ug/L	ND	5.0	1.8	06/13/19 16:22		
m&p-Xylene	ug/L	ND	10.0	4.1	06/13/19 16:22		
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/13/19 16:22		
Naphthalene	ug/L	ND	5.0	2.1	06/13/19 16:22		
o-Xylene	ug/L	ND	5.0	2.0	06/13/19 16:22		
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/13/19 16:22		
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/13/19 16:22		
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/13/19 16:22		
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/13/19 16:22		
Toluene	ug/L	ND	5.0	2.0	06/13/19 16:22		
Xylene (Total)	ug/L	ND	5.0	5.0	06/13/19 16:22		
1,2-Dichloroethane-d4 (S)	%	104	70-130		06/13/19 16:22		
4-Bromofluorobenzene (S)	%	106	70-130		06/13/19 16:22		
Toluene-d8 (S)	%	104	70-130		06/13/19 16:22		

LABORATORY CONTROL SAMPLE:	2601384	0.1		100	% Rec		
Decemeter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec	Qualifiers	
Parameter	Ulits		result	70 1100		Quamero	- 15 K
1,2-Dichloroethane	ug/L	50	50.3	101	70-130		
3,3-Dimethyl-1-Butanol	ug/L	1000	1250	125	70-130		
Benzene	ug/L	50	50.8	102	70-130		
Diisopropyl ether	ug/L	50	49.6	99	70-130		
Ethanol	ug/L	2000	1970	98	70-130		
Ethyl-tert-butyl ether	ug/L	100	90.8	91	70-130		
Ethylbenzene	ug/L	50	52.8	106	70-130		
m&p-Xylene	ug/L	100	114	114	70-130		
Methyl-tert-butyl ether	ug/L	50	48.9	98	70-130		
Naphthalene	ug/L	50	46.8	94	70-130		
o-Xylene	ug/L	50	58.2	116	70-130		
tert-Amyl Alcohol	ug/L	1000	1030	103	70-130		
tert-Amylmethyl ether	ug/L	100	107	107	70-130		
tert-Butyl Alcohol	ug/L	500	484	97	70-130		
tert-Butyl Formate	ug/L	400	411	103	70-130		
Toluene	ug/L	50	47.4	95	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

LABORATORY CONTROL SAME	PLE: 2601384					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	173	115	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			110	70-130	
Toluene-d8 (S)	%			91	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 2601	907		2601908							
			MS	MSD								
		92431902024	Spike	Spike	MS	MSD	MS	MSD	% Rec	201326	Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
1,2-Dichloroethane	ug/L	ND	1000	1000	998	973	100	97	70-130	3	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	20000	20000	21600	21100	108	105	70-130	2	30	
Benzene	ug/L	857	1000	1000	1970	1810	111	95	70-130	8	30	
Diisopropyl ether	ug/L	ND	1000	1000	1070	988	107	99	70-130	8	30	
Ethanol	ug/L	ND	40000	40000	40900	37800	102	94	70-130	8	30	
Ethyl-tert-butyl ether	ug/L	ND	2000	2000	1920	1770	96	89	70-130	8	30	
Ethylbenzene	ug/L	2970	1000	1000	3890	3780	92	81	70-130	3	30	
m&p-Xylene	ug/L	11600	2000	2000	12900	12700	63	56	70-130	1	30	M1
Methyl-tert-butyl ether	ug/L	ND	1000	1000	1050	1000	105	100	70-130	5	30	
Naphthalene	ug/L	602	1000	1000	1650	1680	105	108	70-130	2	30	
o-Xylene	ug/L	5170	1000	1000	5940	5740	77	57	70-130	3	30	M1
tert-Amyl Alcohol	ug/L	ND	20000	20000	21700	20400	109	102	70-130	6	30	
tert-Amylmethyl ether	ug/L	ND	2000	2000	2170	2090	108	105	70-130	4	30	
tert-Butyl Alcohol	ug/L	ND	10000	10000	9910	9510	99	95	70-130	4	30	
tert-Butyl Formate	ug/L	. ND	8000	8000	8080	7680	101	96	70-130	5	30	
Toluene	ug/L	7420	1000	1000	8820	8330	140	91	70-130	6	30	M1
Xylene (Total)	ug/L	16800	3000	3000	18800	18500	67	57	70-130	2	30	MS
1,2-Dichloroethane-d4 (S)	%						100	93	70-130			
4-Bromofluorobenzene (S)	%						103	95	70-130			
Toluene-d8 (S)	%						104	100	70-130			



Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

QC Batch:

480639

Analysis Method:

EPA 8260B

QC Batch Method:

EPA 5035A

Analysis Description:

8260 MSV 5035A Volatile Organics

Associated Lab Samples: 92432318001, 92432318002, 92432318003, 92432318004, 92432318005, 92432318006, 92432318007

METHOD BLANK: 2600148

Matrix: Solid

Date: 06/17/2019 04:21 PM

Associated Lab Samples: 92432318001, 92432318002, 92432318003, 92432318004, 92432318005, 92432318006, 92432318007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/kg	ND	5.0	2.2	06/12/19 10:52	2 8
3,3-Dimethyl-1-Butanol	ug/kg	ND	100	28.0	06/12/19 10:52	
Benzene	ug/kg	ND	5.0	1.6	06/12/19 10:52	
Diisopropyl ether	ug/kg	ND	5.0	1.7	06/12/19 10:52	
Ethanol	ug/kg	ND	200	62.0	06/12/19 10:52	
Ethyl-tert-butyl ether	ug/kg	ND	10.0	1.4	06/12/19 10:52	
Ethylbenzene	ug/kg	ND	5.0	1.8	06/12/19 10:52	
n&p-Xylene	ug/kg	ND	10.0	3.6	06/12/19 10:52	
Methyl-tert-butyl ether	ug/kg	ND	5.0	1.5	06/12/19 10:52	
Naphthalene	ug/kg	ND	5.0	1.2	06/12/19 10:52	
-Xylene	ug/kg	ND	5.0	1.9	06/12/19 10:52	
ert-Amyl Alcohol	ug/kg	ND	100	21.0	06/12/19 10:52	
ert-Amylmethyl ether	ug/kg	ND	10.0	1.1	06/12/19 10:52	
ert-Butyl Alcohol	ug/kg	ND	100	19.0	06/12/19 10:52	
ert-Butyl Formate	ug/kg	ND	50.0	1.4	06/12/19 10:52	
Toluene	ug/kg	ND	5.0	1.8	06/12/19 10:52	
(ylene (Total)	ug/kg	ND	10.0	3.6	06/12/19 10:52	
,2-Dichloroethane-d4 (S)	%	80	70-130		06/12/19 10:52	
I-Bromofluorobenzene (S)	%	99	70-130		06/12/19 10:52	
Toluene-d8 (S)	%	108	70-130		06/12/19 10:52	

LABORATORY CONTROL SAMPLE:	2600149					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/kg	50	47.8	96	70-130	
3,3-Dimethyl-1-Butanol	ug/kg	1000	1100	110	70-130	
Benzene	ug/kg	50	52.8	106	70-130	
Diisopropyl ether	ug/kg	50	43.4	87	70-130	
Ethanol	ug/kg	2000	1750	88	70-130	
Ethyl-tert-butyl ether	ug/kg	100	88.0	88	70-130	
Ethylbenzene	ug/kg	50	50.7	101	70-130	
m&p-Xylene	ug/kg	100	102	102	70-130	
Methyl-tert-butyl ether	ug/kg	50	50.7	101	70-130	
Naphthalene	ug/kg	50	48.7	97	70-130	
o-Xylene	ug/kg	50	51.2	102	70-130	
tert-Amyl Alcohol	ug/kg	1000	1090	109	70-130	
tert-Amylmethyl ether	ug/kg	100	112	112	70-130	
tert-Butyl Alcohol	ug/kg	500	469	94	70-130	
tert-Butyl Formate	ug/kg	400	411	103	70-130	
Toluene	ug/kg	50	49.8	100	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

BROAD RIVER 11946/59780

Pace Project No.:

Date: 06/17/2019 04:21 PM

92432318

LABORATORY CONTROL SAMPLE:	2600149	6					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Xylene (Total)	ug/kg	150	154	102	70-130		
1,2-Dichloroethane-d4 (S)	%			91	70-130		
4-Bromofluorobenzene (S)	%			98	70-130		
Toluene-d8 (S)	%			95	70-130		

MATRIX SPIKE & MATRIX SI	PIKE DUPLI	CATE: 2600	150		2600151							
		92432318001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
1,2-Dichloroethane	ug/kg	ND	448	448	488	410	109	92	70-130	17	30	
3,3-Dimethyl-1-Butanol	ug/kg	ND	8960	8960	10000	7650	112	85	70-130	27	30	
Benzene	ug/kg	ND	448	448	515	433	115	97	70-130	17	30	
Diisopropyl ether	ug/kg	ND	448	448	511	417	114	93	70-130	20	30	
Ethanol	ug/kg	ND	17900	17900	4510	5260	25	29	70-130	15	30	M1
Ethyl-tert-butyl ether	ug/kg	ND	896	896	897	718	100	80		22		
Ethylbenzene	ug/kg	ND	448	448	510	447	114	100	70-130	13	30	
m&p-Xylene	ug/kg	ND	896	896	1030	872	115	97	70-130	16	30	
Methyl-tert-butyl ether	ug/kg	ND	448	448	482	402	108	90	70-130	18	30	
Naphthalene	ug/kg	ND	448	448	535	454	119	101	70-130	16	30	
o-Xylene	ug/kg	ND	448	448	519	436	116	97	70-130	17	30	
tert-Amyl Alcohol	ug/kg	ND	8960	8960	7850	6970	88	78	70-130	12	30	
tert-Amylmethyl ether	ug/kg	ND	896	896	1010	794	112	89	70-130	24	30	
tert-Butyl Alcohol	ug/kg	ND	4480	4480	4110	3690	92	82	70-130	11	30	
tert-Butyl Formate	ug/kg	ND :	3580	3580	3820	3000	107	84	70-130	24	. 30	
Toluene	ug/kg	ND	448	448	505	435	113	97	70-130	15	30	
Xylene (Total)	ug/kg	ND	1350	1350	1540	1310	115	97	70-130	17	30	
1,2-Dichloroethane-d4 (S)	%						102	97	70-130			
4-Bromofluorobenzene (S)	%						102	101	70-130			
Toluene-d8 (S)	%						100	102	70-130			





Project:

BROAD RIVER 11946/59780

Pace Project No .:

92432318

QC Batch:

480139

Analysis Method:

ASTM D2974-87

QC Batch Method:

Percent Moisture

Percent Moisture

ASTM D2974-87

Analysis Description:

2.6

Dry Weight/Percent Moisture

10

Associated Lab Samples:

92432318001, 92432318002, 92432318003, 92432318004

SAMPLE DUPLICATE: 2597998

92432240001 Result

Dup

Max

Parameter

Parameter

Units

%

Units

%

Result

RPD

2.8

RPD

25

25

Qualifiers

SAMPLE DUPLICATE: 2597999

92432324002

Dup Result

RPD

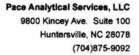
Max RPD

Date: 06/17/2019 04:21 PM

Result

35.0

Qualifiers





Project:

QC Batch:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

480378

Analysis Method:

ASTM D2974-87

QC Batch Method:

ASTM D2974-87

Analysis Description:

Dry Weight/Percent Moisture

Associated Lab Samples: 92432318005, 92432318006, 92432318007

SAMPLE DUPLICATE: 2599124

Parameter

92432238001

Dup Result

Max RPD

Percent Moisture

Percent Moisture

Units %

Units

%

Result 97.0

97.0

0

Qualifiers

25

25

Date: 06/17/2019 04:21 PM

92432501006

Dup Result

RPD

RPD

Max RPD

Qualifiers

SAMPLE DUPLICATE: 2599125

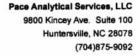
Parameter

Result

25.2

28.2

11





QUALIFIERS

Project:

BROAD RIVER 11946/59780

Pace Project No.:

92432318

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-C

Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

Date: 06/17/2019 04:21 PM

M1

Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the

MS Analyte recovery calculated result.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BROAD RIVER 11946/59780

Pace Project No.: 92432318

Date: 06/17/2019 04:21 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92432318008	TRIP BLANK	EPA 8260B	480927	- Acceptant	1000
92432318001	SS-1	EPA 5035A	480639	EPA 8260B	480662
92432318002	SS-2	EPA 5035A	480639	EPA 8260B	480662
92432318003	SS-3	EPA 5035A	480639	EPA 8260B	480662
92432318004	SS-4	EPA 5035A	480639	EPA 8260B	480662
92432318005	SS-5	EPA 5035A	480639	EPA 8260B	480662
92432318006	SS-6	EPA 5035A	480639	EPA 8260B	480662
92432318007	DUP	EPA 5035A	480639	EPA 8260B	480662
92432318001	SS-1	ASTM D2974-87	480139		
92432318002	SS-2	ASTM D2974-87	480139		
92432318003	SS-3	ASTM D2974-87	480139		
92432318004	SS-4	ASTM D2974-87	480139		
92432318005	SS-5	ASTM D2974-87	480378		
92432318006	SS-6	ASTM D2974-87	480378		
92432318007	DUP	ASTM D2974-87	480378		

WO#:92432318

Pace Analytical	CHAIN-OF-CUSTODY Analytical Request Documen Chain-of-Cus ody is a LEGAL DOCUMENT - Complete all relevent fields Billing information:				nt			LAB US	E ON	2432		IIMI			or	Page 24 of 24				
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Report To:	,	1	Email To	dunni	acd	MC.S	C-00	V	** P/	reserva	ative Types:	(1) nitric	acid, (2)	sulfurio	acid, (3)	ydrochlo	ric acid, (4)	sodium hydroxide, (5) zinc acetate,
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Instructions for completing Chain of Custody (COC)

- 1. Complete all client information at the top left of the sheet: Company name, address, phone/fax, contact (the person to contact if there are questions, and who will receive the final report), e-mail address (if available), PO#, Project Name and/or Project Number as you would like it to appear on the report.
- 2. Billing Information: name and address of the person who is receiving the invoice
- 3. Site Collection Information: A separate COC must be filled out for each day of sample collection.

 Record the 2 letter postal code for the US state where samples were collected as well as the county/city and time zone.
- 4. Regulatory Agency: List the program that is guiding the work to ensure proper regulations are followed in the customer remarks section.
- 5. Quote #: should be completed if a quote was provided by Pace Analytical.
- 6. Mark if the sample was filtered in the in the field by marking Y or N in the "Field Filtered" box.
- 7. The sampler should print and sign their name in the spaces provided.
- 8. Complete a sample description in the CUSTOMER SAMPLE ID section as you would like it to appear on the laboratory report. Include: sample matrix, sample type (G (grab) or C (composite)). When collecting a composite, the start time and end time should be documented in the respective boxes. Also record the sample temp at collection (if required by state), the total number of containers, and preservative used.
- Requested Analysis: List required analysis and methods on the lines provided and place a check mark
 in the column for the samples requiring the analysis. Additional comments should be referenced in the
 Customer Remarks section or included in attachments for extended lists of parameters.
- 10. Relinquishing custody of the samples: sign relinquished by, date and time, and include you affiliation.

*Important Note:

Standard Turnaround Time is 2 Weeks/10 business days. Results will be delivered by end of business on the date due unless other arrangements have been made with your project manager.

Special Project Requirements such as Low Level Detection or level of QC reported must be included on the chain of custody in the Customer Remarks box.

If you have additional questions about how to complete the Chain of Custody (COC) please contact a Pace Project Manager



JUN 0 6 2019

ANGELA BAIONI PACE ANALYTICAL SERVICES 9800 KINCEY AVE STE 100 **HUNTERSVILLE NC 28078**

Re: Laboratory Analyses Approval

(Analytical) Bid #IFB-5400012961-04/06/17-EMW; PO #4600704184

Dear Ms. Baioni:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number listed below. Please reference the CA number and Purchase Order number on the appropriate invoice submitted for payment against the facility.

UST #	FACILITY NAME	CA#	# of SOIL Samples (Include Duplicate)	# of SW FB & TB	# of WSW Samples (Include Duplicate)	# of WSW FB & TB	Vials/ Cooler to be provided by Lab	RUSH (24hr Notice Required)
11946	Broad River Amoco	59780	7	4	0	0	N	N
1318 400 404 404 405		m areasure avec	BTEX+Nap	(4) 8260B				
120000			170	(3) 8011				

If you have any questions or need further assistance, please contact Robert A. Dunn by phone (803) 898-0671 or email dunnra@dhec.sc.gov.

Sincerely,

Carolyn Moores, Hydrogeologist

Corrective Action& Quality Assurance Section

Golf Mores

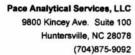
UST Management Division

Bureau of Land & Waste Management

Enc: Approved Cost Agreement

Robert A. Dunn, UST Management Division, Corrective Action & Field Support Section

Technical File





June 19, 2019

JUN 2 1 2019

Robert Dunn SCHDEC 2600 Bull St Columbia, SC 29201



RE: Project: Broad River Amoco 11946/59780

Pace Project No.: 92432866

Dear Robert Dunn:

Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

angela M. Baioni

Angela Baioni angela.baioni@pacelabs.com (704)875-9092 Project Manager

Enclosures







CERTIFICATIONS

Project:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221



SAMPLE SUMMARY

Project:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92432866001	11946 SW-1	Water	06/11/19 12:30	06/12/19 10:51
92432866002	DUP-1	Water	06/11/19 12:35	06/12/19 10:51
92432866003	FB	Water	06/11/19 12:40	06/12/19 10:51
92432866004	Trip Blank	Water	06/11/19 00:00	06/12/19 10:51



SAMPLE ANALYTE COUNT

Project:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

				Analytes	
Lab ID	Sample ID	Method	Analysts	Reported	Laboratory
92432866001	11946 SW-1	EPA 8260B	CL	62	PASI-C
92432866002	DUP-1	EPA 8260B	CL	62	PASI-C
92432866003	FB	EPA 8260B	CL	70	PASI-C
92432866004	Trip Blank	EPA 8260B	CL	70	PASI-C



SUMMARY OF DETECTION

Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2432866001	11946 SW-1					
EPA 8260B	Acetone	14.8J	ug/L	25.0	06/19/19 03:13	L1
EPA 8260B	Benzene	7.0	ug/L	1.0	06/19/19 03:13	
EPA 8260B	Ethylbenzene	0.62J	ug/L	1.0	06/19/19 03:13	
EPA 8260B	Toluene	19.9	ug/L	1.0	06/19/19 03:13	
EPA 8260B	Xylene (Total)	23.5	ug/L	1.0	06/19/19 03:13	
EPA 8260B	m&p-Xylene	12.7	ug/L	2.0	06/19/19 03:13	
EPA 8260B	o-Xylene	10.7	ug/L	1.0	06/19/19 03:13	
2432866002	DUP-1					
EPA 8260B	Acetone	15.6J	ug/L	25.0	06/19/19 03:31	L1
EPA 8260B	Benzene	6.7	ug/L	1.0	06/19/19 03:31	
EPA 8260B	Ethylbenzene	0.55J	ug/L	1.0	06/19/19 03:31	
EPA 8260B	Methyl-tert-butyl ether	0.47J	ug/L	1.0	06/19/19 03:31	
EPA 8260B	Toluene	19.2	ug/L	1.0	06/19/19 03:31	
EPA 8260B	Xylene (Total)	22.3	ug/L	1.0	06/19/19 03:31	
EPA 8260B	m&p-Xylene	11.9	ug/L	2.0	06/19/19 03:31	
EPA 8260B	o-Xylene	10.4	ug/L	1.0	06/19/19 03:31	
2432866003	FB					
EPA 8260B	Acetone	13.8J	ug/L	25.0	06/17/19 02:58	
2432866004	Trip Blank					
EPA 8260B	Acetone	23.8J	ug/L	25.0	06/17/19 03:16	





PROJECT NARRATIVE

Project:

Broad River Amoco 11946/59780

Pace Project No .:

92432866

Method: EPA 8260B

Description: 8260 MSV Low Level SC

Client:

SCDHEC

Date:

June 19, 2019

General Information:

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 481925

- L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
 - · LCS (Lab ID: 2606164)
 - Acetone

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 481925

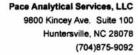
A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92432866002

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
 - · MS (Lab ID: 2606166)
 - Bromomethane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:





PROJECT NARRATIVE

Project:

Broad River Amoco 11946/59780

Pace Project No .:

92432866

Method: EPA 8260B Description: 8260 MSV Client: SCDHEC

Date:

June 19, 2019

General Information:

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (Including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 481423

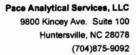
A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92432863002

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

- · MS (Lab ID: 2604344)
 - · 2-Butanone (MEK)
 - Acetone
 - Dichlorodifluoromethane
 - · tert-Butyl Alcohol
- · MSD (Lab ID: 2604345)
 - 1,2,4-Trimethylbenzene
 - 1,3,5-Trimethylbenzene
 - · 2-Butanone (MEK)
 - Acetone
 - Dichlorodifluoromethane
 - Naphthalene
 - tert-Butyl Alcohol

REPORT OF LABORATORY ANALYSIS

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





PROJECT NARRATIVE

Project:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

Method: **EPA 8260B** Description: 8260 MSV Client:

SCDHEC

Date:

June 19, 2019

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

Sample: 11946 SW-1	Lab ID:	92432866001	Collected	1: 06/11/19	12:30	Received: 06	6/12/19 10:51 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
			25170398					07.10.110.	
8260 MSV Low Level SC	Analytical	Method: EPA 8	260B						
Acetone	14.8J	ug/L	25.0	6.2	1		06/19/19 03:13	67-64-1	L1
Benzene	7.0	ug/L	1.0	0.15	1		06/19/19 03:13	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:13	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.34	1		06/19/19 03:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.26	1		06/19/19 03:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.62	1		06/19/19 03:13	75-25-2	
Bromomethane	ND	ug/L	2.0	0.62	1		06/19/19 03:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	3.3	1		06/19/19 03:13	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.22	1		06/19/19 03:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		06/19/19 03:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.49	1		06/19/19 03:13	75-00-3	
Chloroform	ND	ug/L	5.0	2.3	1		06/19/19 03:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.39	1		06/19/19 03:13	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.20	1		06/19/19 03:13	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.20	1		06/19/19 03:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.26	1		06/19/19 03:13		
Dibromochloromethane	ND	ug/L	1.0	0.41	1		06/19/19 03:13	124-48-1	
Dibromomethane	ND	ug/L	1.0	0.46	1		06/19/19 03:13		
1,2-Dichlorobenzene	ND	ug/L	1.0	0.29	1		06/19/19 03:13		
1,3-Dichlorobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:13		
1,4-Dichlorobenzene	ND	ug/L	1.0	0.26	1		06/19/19 03:13		
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		06/19/19 03:13		
1,1-Dichloroethane	ND	ug/L	1.0	0.27	1		06/19/19 03:13		
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		06/19/19 03:13		
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		06/19/19 03:13		
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.29	1		06/19/19 03:13		
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.25	1		06/19/19 03:13		
1,2-Dichloropropane	ND	ug/L	1.0	0.19	1		06/19/19 03:13		
1,3-Dichloropropane	ND	ug/L	1.0	0.16	1		06/19/19 03:13		
2,2-Dichloropropane	ND	ug/L	1.0	0.27	1		06/19/19 03:13		
1,1-Dichloropropene	ND	ug/L	1.0	0.21	i		06/19/19 03:13		
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		06/19/19 03:13		
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.31	1		06/19/19 03:13		
Diisopropyl ether	ND	ug/L	1.0	0.22	1		06/19/19 03:13		
Ethylbenzene	0.62J	ug/L	1.0	0.26	i		06/19/19 03:13		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.44	1		06/19/19 03:13		
2-Hexanone	ND	ug/L	5.0	0.57	1		06/19/19 03:13		
p-Isopropyltoluene	ND	ug/L	1.0	0.21	1		06/19/19 03:13		
Methylene Chloride	ND	ug/L	5.0	3.7	1		06/19/19 03:13		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	4.5	1		06/19/19 03:13		
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		06/19/19 03:13		
Naphthalene	ND	ug/L	1.0	0.35	i		06/19/19 03:13		
Styrene	ND	ug/L	1.0	0.33	1		06/19/19 03:13		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.27	1		06/19/19 03:13		
1,1,2,2-Tetrachloroethane	ND	ug/L ug/L	1.0	0.34	1		06/19/19 03:13		
Tetrachloroethene									
reu aci noroetriene	ND	ug/L	1.0	0.16	1		06/19/19 03:13	127-18-4	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Sample: 11946 SW-1	Lab ID:	92432866001	Collected:	06/11/19	12:30	Received: 06	3/12/19 10:51 Ma	ıtrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical	Method: EPA 8	3260B						
Toluene	19.9	ug/L	1.0	0.24	1		06/19/19 03:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.34	1		06/19/19 03:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.18	1		06/19/19 03:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		06/19/19 03:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.22	1		06/19/19 03:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.31	1		06/19/19 03:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.35	1		06/19/19 03:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1.4	1		06/19/19 03:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.24	1		06/19/19 03:13	75-01-4	
Xylene (Total)	23.5	ug/L	1.0	0.63	1		06/19/19 03:13	1330-20-7	
m&p-Xylene	12.7	ug/L	2.0	0.41	1		06/19/19 03:13	179601-23-1	
o-Xylene	10.7	ug/L	1.0	0.22	1		06/19/19 03:13	95-47-6	
Surrogates		-3-							
4-Bromofluorobenzene (S)	100	%	70-130		1		06/19/19 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		06/19/19 03:13	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		06/19/19 03:13	2037-26-5	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

Sample: DUP-1	Lab ID:	92432866002	Collected	d: 06/11/19	12:35	Received: 06	3/12/19 10:51 N	latrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytica	Method: EPA 8	260B						
Acetone	15.6J	ug/L	25.0	6.2	1		06/19/19 03:31	67-64-1	L1
Benzene	6.7	ug/L	1.0	0.15	1		06/19/19 03:31	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:31	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.34	1		06/19/19 03:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.26	1		06/19/19 03:31	75-27-4	
Bromoform	ND	ug/L	1.0	0.62	1		06/19/19 03:31	75-25-2	
Bromomethane	ND	ug/L	2.0	0.62	1		06/19/19 03:31	74-83-9	M1
2-Butanone (MEK)	ND	ug/L	5.0	3.3	1		06/19/19 03:31	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.22	1		06/19/19 03:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		06/19/19 03:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.49	1		06/19/19 03:31	75-00-3	
Chloroform	ND	ug/L	5.0	2.3	1		06/19/19 03:31	67-66-3	
Chloromethane	ND	ug/L	1.0	0.39	1		06/19/19 03:31	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.20	1		06/19/19 03:31	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.20	1		06/19/19 03:31		
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.26	1		06/19/19 03:31		
Dibromochloromethane	ND	ug/L	1.0	0.41	1		06/19/19 03:31		
Dibromomethane	ND	ug/L	1.0	0.46	1		06/19/19 03:31		
1,2-Dichlorobenzene	ND	ug/L	1.0	0.29	1		06/19/19 03:31		
1,3-Dichlorobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:31		
1.4-Dichlorobenzene	ND	ug/L	1.0	0.26	1		06/19/19 03:31		
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		06/19/19 03:31		
1.1-Dichloroethane	ND	ug/L	1.0	0.27	1		06/19/19 03:31		
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		06/19/19 03:31	-	¥1000 00
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		06/19/19 03:31		
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.29	1		06/19/19 03:31		
rans-1,2-Dichloroethene	ND	ug/L	1.0	0.25	1		06/19/19 03:31		
1,2-Dichloropropane	ND	ug/L	1.0	0.19	1		06/19/19 03:31		
1,3-Dichloropropane	ND	ug/L	1.0	0.16	i		06/19/19 03:31		
2,2-Dichloropropane	ND	ug/L	1.0	0.10	1		06/19/19 03:31		
1,1-Dichloropropene	ND	ug/L	1.0	0.21	1		06/19/19 03:31] - 시개인 (20시) (기계(20시	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		06/19/19 03:31		
rans-1,3-Dichloropropene	ND	ug/L	1.0	0.31	1		06/19/19 03:31		
Diisopropyl ether	ND	ug/L	1.0	0.22	1		06/19/19 03:31		
Ethylbenzene	0.55J	ug/L	1.0	0.26	1		06/19/19 03:31		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.44	1		06/19/19 03:31		
2-Hexanone	ND	ug/L	5.0	0.57	1				
	ND	_		0.37	1		06/19/19 03:31		
o-Isopropyltoluene Methylene Chloride	ND	ug/L	1.0		62		06/19/19 03:31		
I-Methyl-2-pentanone (MIBK)	ND	ug/L ug/L	5.0 5.0	3.7 4.5	1		06/19/19 03:31 06/19/19 03:31		
그리아 마음이 그렇게 하는 그렇게 되었다. 그 그리아 그리아 그리아 그리아 그리아 그리아 그리아 그리아 그리아 그		_							
Methyl-tert-butyl ether Naphthalene	0.47J	ug/L	1.0	0.28	1		06/19/19 03:31		
	ND	ug/L	1.0	0.35	1		06/19/19 03:31	3 35 650 TARRES	
Styrene	ND	ug/L	1.0	0.27	1		06/19/19 03:31		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.34	1		06/19/19 03:31		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		06/19/19 03:31		
Tetrachloroethene	ND	ug/L	1.0	0.16	1		06/19/19 03:31	127-18-4	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Sample: DUP-1	Lab ID:	92432866002	Collected:	06/11/19	12:35	Received: 06	3/12/19 10:51 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical	Method: EPA 8	260B						
Toluene	19.2	ug/L	1.0	0.24	1		06/19/19 03:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.34	1		06/19/19 03:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.22	1		06/19/19 03:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.18	1		06/19/19 03:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		06/19/19 03:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.22	1		06/19/19 03:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.31	1		06/19/19 03:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.35	1		06/19/19 03:31	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1.4	1		06/19/19 03:31	108-05-4	
Vinyl chloride	ND -	ug/L	1.0	0.24	1		06/19/19 03:31	75-01-4	
Xylene (Total)	22.3	ug/L	1.0	0.63	1		06/19/19 03:31	1330-20-7	
m&p-Xylene	11.9	ug/L	2.0	0.41	1		06/19/19 03:31	179601-23-1	
o-Xylene	10.4	ug/L	1.0	0.22	1		06/19/19 03:31	95-47-6	
Surrogates	10.17	ug , _	(151510)						
4-Bromofluorobenzene (S)	99	%	70-130		1		06/19/19 03:31	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/19/19 03:31	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/19/19 03:31	2037-26-5	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

Sample: FB	Lab ID.	92432866003	Collected	d: 06/11/19	12:40	Received: 0	6/12/19 10:51 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytica	Method: EPA 8	260B						
Acetone	13.8J	ug/L	25.0	7.7	1		06/17/19 02:58	67-64-1	
Benzene	ND	ug/L	5.0	1.7	1		06/17/19 02:58	71-43-2	
Bromobenzene	ND	ug/L	5.0	1.9	1		06/17/19 02:58	108-86-1	
Bromochloromethane	ND	ug/L	5.0	2.1	1		06/17/19 02:58	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	2.4	1		06/17/19 02:58	75-27-4	
Bromoform	ND	ug/L	5.0	3.7	1		06/17/19 02:58	75-25-2	
Bromomethane	ND	ug/L	10.0	6.0	1		06/17/19 02:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	7.9	1		06/17/19 02:58	78-93-3	
ert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/19 02:58	75-65-0	
n-Butylbenzene	ND	ug/L	5.0	2.3	1		06/17/19 02:58	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
ert-Butylbenzene	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
Carbon tetrachloride	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
Chlorobenzene	ND	ug/L	5.0	1.8	1		06/17/19 02:58		
Chloroethane	ND	ug/L	10.0	4.1	1		06/17/19 02:58		
Chloroform	ND	ug/L	5.0	2.8	1		06/17/19 02:58		
Chloromethane	ND	ug/L	5.0	2.8	1		06/17/19 02:58		
2-Chlorotoluene	ND	ug/L	5.0	1.8	1		06/17/19 02:58		
4-Chlorotoluene	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	3.2	1		06/17/19 02:58		
Dibromochloromethane	ND	ug/L	5.0	2.3	1		06/17/19 02:58		
Dibromomethane	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
1,2-Dichlorobenzene	ND	ug/L	5.0	1.9	1		06/17/19 02:58		
1,3-Dichlorobenzene	ND	ug/L	5.0	1.7	1		06/17/19 02:58		
1.4-Dichlorobenzene	ND	ug/L	5.0	1.9	1		06/17/19 02:58		
Dichlorodifluoromethane	ND	ug/L	5.0	1.8	i		06/17/19 02:58		
1,1-Dichloroethane	ND	ug/L	5.0	2.3	1		06/17/19 02:58		
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
1,2-Dichloroethene (Total)	ND	ug/L	5.0	5.0	i		06/17/19 02:58		
1,1-Dichloroethene	ND	ug/L	5.0	2.2	i		06/17/19 02:58		
cis-1,2-Dichloroethene	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
rans-1,2-Dichloroethene	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
1,2-Dichloropropane	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
1,3-Dichloropropane	ND	ug/L	5.0	1.9	1				
2,2-Dichloropropane	ND	ug/L	5.0	2.4	1		06/17/19 02:58		
1,1-Dichloropropene	ND	ug/L	5.0	2.8	1		06/17/19 02:58		
cis-1,3-Dichloropropene	ND	ug/L	5.0	2.0	i		06/17/19 02:58		
rans-1,3-Dichloropropene	ND			2.0	1		06/17/19 02:58		
Diisopropyl ether	ND	ug/L ug/L	5.0 5.0		•		06/17/19 02:58		
Ethylbenzene	ND	ug/L ug/L	5.0 5.0	3.5 1.8	1		06/17/19 02:58		
Hexachloro-1,3-butadiene	ND	•			1		06/17/19 02:58		
2-Hexanone		ug/L	5.0	2.9	1		06/17/19 02:58		
sopropylbenzene (Cumene)	ND ND	ug/L	10.0	4.2	1		06/17/19 02:58		
o-Isopropyltoluene	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
Methylene Chloride	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
acaivielle Gillolide	ND	ug/L	5.0	3.3	1		06/17/19 02:58	/5-09-2	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Sample: FB	Lab 1D:	92432866003	Collected:	06/11/19	12:40	Received: 06	3/12/19 10:51 Ma	itrix: Water	
			Report			_		CAS No.	Qua
Parameters	Results	Units -	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical	Method: EPA 8	260B						
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/19 02:58		
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
n-Propylbenzene	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
Styrene	ND	ug/L	5.0	1.9	1		06/17/19 02:58		
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	2.8	1		06/17/19 02:58		
1.1.2.2-Tetrachloroethane	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
Tetrachloroethene	ND	ug/L	5.0	1.8	1		06/17/19 02:58		
Toluene	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
1,2,3-Trichlorobenzene	ND	ug/L	5.0	2.2	1		06/17/19 02:58		
1.2.4-Trichlorobenzene	ND	ug/L	5.0	2.3	1		06/17/19 02:58		
1.1.1-Trichloroethane	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
1.1.2-Trichloroethane	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
Trichloroethene	ND	ug/L	5.0	1.8	1		06/17/19 02:58		
Trichlorofluoromethane	ND	ug/L	10.0	3.4	1		06/17/19 02:58		
1,2,3-Trichloropropane	ND	ug/L	5.0	2.5	1		06/17/19 02:58	96-18-4	
1.2.4-Trimethylbenzene	ND	ug/L	5.0	2.0	1		06/17/19 02:58		
1,3,5-Trimethylbenzene	ND	ug/L	5.0	2.1	1		06/17/19 02:58		
Vinyl acetate	ND	ug/L	10.0	5.6	1		06/17/19 02:58		
Vinyl chloride	ND	ug/L	5.0	1.8	1		06/17/19 02:58		
m&p-Xylene	ND	ug/L	10.0	4.1	1		06/17/19 02:58	179601-23-1	
o-Xylene	ND	ug/L	5.0	2.0	1		06/17/19 02:58	95-47-6	
Surrogates	2 2 2							1	
4-Bromofluorobenzene (S)	96	%	70-130		1		06/17/19 02:58		
1.2-Dichloroethane-d4 (S)	103	%	70-130		1		06/17/19 02:58		
Toluene-d8 (S)	100	%	70-130		1		06/17/19 02:58	2037-26-5	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

Sample: Trip Blank	Lab ID:	92432866004	Collecte	d: 06/11/19	00:00	Received: 06	6/12/19 10:51 M	atrix: Water	
B 3			Report				¥ 5 5		<u>a</u> 0
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260B						
Acetone	23.8J	ug/L	25.0	7.7	1		06/17/19 03:16	67-64-1	
Benzene	ND	ug/L	5.0	1.7	1		06/17/19 03:16	71-43-2	
Bromobenzene	ND	ug/L	5.0	1.9	1		06/17/19 03:16	108-86-1	
Bromochloromethane	ND	ug/L	5.0	2.1	1		06/17/19 03:16	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	2.4	1		06/17/19 03:16	75-27-4	
Bromoform	ND	ug/L	5.0	3.7	1		06/17/19 03:16	75-25-2	
Bromomethane	ND	ug/L	10.0	6.0	1		06/17/19 03:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	7.9	1		06/17/19 03:16	78-93-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/19 03:16	75-65-0	
n-Butylbenzene	ND	ug/L	5.0	2.3	1		06/17/19 03:16	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
ert-Butylbenzene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
Carbon tetrachloride	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
Chlorobenzene	ND	ug/L	5.0	1.8	1		06/17/19 03:16	108-90-7	
Chloroethane	ND	ug/L	10.0	4.1	1		06/17/19 03:16	75-00-3	
Chloroform	ND	ug/L	5.0	2.8	1		06/17/19 03:16		
Chloromethane	ND	ug/L	5.0	2.8	1		06/17/19 03:16		
2-Chlorotoluene	ND	ug/L	5.0	1.8	1		06/17/19 03:16		
4-Chlorotoluene	ND	ug/L	5.0	2.0	1		06/17/19 03:16		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	3.2	1		06/17/19 03:16	트로 1 프리크 : 네 보지를 하고	
Dibromochloromethane	ND	ug/L	5.0	2.3	1		06/17/19 03:16		
Dibromomethane	ND	ug/L	5.0	2.0	1		06/17/19 03:16		
1,2-Dichlorobenzene	ND	ug/L	5.0	1.9	1		06/17/19 03:16		
1,3-Dichlorobenzene	ND	ug/L	5.0	1.7	1		06/17/19 03:16		
1,4-Dichlorobenzene	ND	ug/L	5.0	1.9	1		06/17/19 03:16		
Dichlorodifluoromethane	ND	ug/L	5.0	1.8	1		06/17/19 03:16		
1,1-Dichloroethane	ND	ug/L	5.0	2.3	1		06/17/19 03:16		
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/19 03:16		
1,2-Dichloroethene (Total)	ND	ug/L	5.0	5.0	1		06/17/19 03:16		
1,1-Dichloroethene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
cis-1,2-Dichloroethene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
trans-1,2-Dichloroethene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
1,2-Dichloropropane	ND	ug/L	5.0	2.1	1		06/17/19 03:16		
1,3-Dichloropropane	ND	ug/L	5.0	1.9	1		06/17/19 03:16		
2,2-Dichloropropane	ND	ug/L ug/L	5.0	2.4	1				
1,1-Dichloropropene	ND		5.0	2.4	1		06/17/19 03:16		
cis-1,3-Dichloropropene	ND	ug/L	5.0	2.0	1		06/17/19 03:16 06/17/19 03:16		
10 At 15		ug/L	2105						
rans-1,3-Dichloropropene Diisopropyl ether	ND ND	ug/L	5.0 5.0	2.2 3.5	1		06/17/19 03:16		
Ethylbenzene		ug/L			1		06/17/19 03:16		
etnylbenzene Hexachloro-1,3-butadiene	ND ND	ug/L	5.0	1.8	1		06/17/19 03:16		
nexachioro-1,3-butadiene 2-Hexanone	ND	ug/L	5.0	2.9	1		06/17/19 03:16		
	ND	ug/L	10.0	4.2	1		06/17/19 03:16		
sopropylbenzene (Cumene)	ND	ug/L	5.0	2.1	1		06/17/19 03:16		
o-Isopropyltoluene	ND	ug/L	5.0	2.2	1		06/17/19 03:16		
Methylene Chloride	ND	ug/L	5.0	3.3	1		06/17/19 03:16		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	4.7	1		06/17/19 03:16	108-10-1	



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Sample: Trip Blank	Lab ID:	92432866004	Collected:	06/11/19	00:00	Received: 06	3/12/19 10:51 Ma	trix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Parameters	- Kesuits								
8260 MSV	Analytical	Method: EPA 8	260B						
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/19 03:16		
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/19 03:16		
n-Propylbenzene	ND	ug/L	5.0	2.0	1		06/17/19 03:16		
Styrene	ND	ug/L	5.0	1.9	1		06/17/19 03:16		
1.1.1.2-Tetrachloroethane	ND	ug/L	5.0	2.8	1		06/17/19 03:16		
1.1.2.2-Tetrachloroethane	ND	ug/L	5.0	2.0	1		06/17/19 03:16		
Tetrachloroethene	ND	ug/L	5.0	1.8	1		06/17/19 03:16		
Toluene	ND	ug/L	5.0	2.0	1		06/17/19 03:16	108-88-3	
1.2.3-Trichlorobenzene	ND	ug/L	5.0	2.2	1		06/17/19 03:16	87-61-6	
1.2.4-Trichlorobenzene	ND	ug/L	5.0	2.3	1		06/17/19 03:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	2.1	1		06/17/19 03:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	2.0	1		06/17/19 03:16	79-00-5	
Trichloroethene	ND	ug/L	5.0	1.8	1		06/17/19 03:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	3.4	1		06/17/19 03:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	2.5	1		06/17/19 03:16	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	2.0	1		06/17/19 03:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	2.1	1		06/17/19 03:16	108-67-8	
Vinyl acetate	ND	ug/L	10.0	5.6	1		06/17/19 03:16	108-05-4	
	ND	ug/L	5.0	1.8	1		06/17/19 03:16	75-01-4	
Vinyl chloride	ND	ug/L	10.0	4.1	1		06/17/19 03:16	179601-23-1	
m&p-Xylene	ND	ug/L	5.0	2.0	1		06/17/19 03:16	95-47-6	
o-Xylene	ND	ugre	5.5		10 ¹⁰ 10 ¹				
Surrogates 4-Bromofluorobenzene (S)	97	%	70-130		1		06/17/19 03:16	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		06/17/19 03:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		06/17/19 03:16	2037-26-5	



Project:

QC Batch:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

481925

Analysis Method:

EPA 8260B

QC Batch Method:

EPA 8260B

Analysis Description:

8260 MSV Low Level SC

Associated Lab Samples:

92432866001, 92432866002

METHOD BLANK: 2606163

Matrix: Water

Associated Lab Samples: 92432866001, 92432866002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
,1,1,2-Tetrachloroethane	ug/L	ND	1.0	0.34	06/19/19 02:56	- 6
,1,1-Trichloroethane	ug/L	ND	1.0	0.18	06/19/19 02:56	
,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.22	06/19/19 02:56	
,1,2-Trichloroethane	ug/L	ND	1.0	0.24	06/19/19 02:56	
,1-Dichloroethane	ug/L	ND	1.0	0.27	06/19/19 02:56	
,1-Dichloroethene	ug/L	ND	1.0	0.24	06/19/19 02:56	
,1-Dichloropropene	ug/L	ND	1.0	0.21	06/19/19 02:56	
,2,3-Trichlorobenzene	ug/L	ND	1.0	0.34	06/19/19 02:56	
,2,3-Trichloropropane	ug/L	ND	1.0	0.35	06/19/19 02:56	
,2,4-Trichlorobenzene	ug/L	ND	1.0	0.22	06/19/19 02:56	
,2-Dibromo-3-chloropropane	ug/L	ND	2.0	0.26	06/19/19 02:56	
,2-Dichlorobenzene	ug/L	ND	1.0	0.29	06/19/19 02:56	
,2-Dichloroethane	ug/L	ND	1.0	0.34	06/19/19 02:56	
,2-Dichloropropane	ug/L	ND	1.0	0.19	06/19/19 02:56	
,3-Dichlorobenzene	ug/L	ND	1.0	0.22	06/19/19 02:56	
,3-Dichloropropane	ug/L	ND	1.0	0.16	06/19/19 02:56	
4-Dichlorobenzene	ug/L	ND	1.0	0.26	06/19/19 02:56	
2-Dichloropropane	ug/L	ND	1.0	0.27	06/19/19 02:56	
Butanone (MEK)	ug/L	ND	5.0	3.3	06/19/19 02:56	
-Chlorotoluene	ug/L	ND	1.0	0.20	06/19/19 02:56	_
Hexanone	ug/L	ND	5.0	0.57	06/19/19 02:56	
Chlorotoluene	ug/L	ND	1.0	0.20	06/19/19 02:56	
Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	4.5	06/19/19 02:56	
cetone	ug/L	ND	25.0	6.2	06/19/19 02:56	
enzene	ug/L	ND	1.0	0.15	06/19/19 02:56	
romobenzene	ug/L	ND	1.0	0.22	06/19/19 02:56	
romochloromethane	ug/L	ND	1.0	0.34	06/19/19 02:56	
romodichloromethane	ug/L	ND	1.0	0.26	06/19/19 02:56	
romoform	ug/L	ND	1.0	0.62	06/19/19 02:56	
romomethane	ug/L	ND	2.0	0.62	06/19/19 02:56	
arbon tetrachloride	ug/L	ND	1.0	0.22	06/19/19 02:56	
hlorobenzene	ug/L	ND	1.0	0.23	06/19/19 02:56	
hloroethane	ug/L	ND	1.0	0.49	06/19/19 02:56	
hloroform	ug/L	ND	5.0	2.3	06/19/19 02:56	
hloromethane	ug/L	ND	1.0	0.39	06/19/19 02:56	
s-1,2-Dichloroethene	ug/L	ND	1.0	0.29	06/19/19 02:56	
is-1,3-Dichloropropene	ug/L	ND	1.0	0.30	06/19/19 02:56	
Dibromochloromethane	ug/L	ND	1.0	0.41	06/19/19 02:56	
Dibromomethane	ug/L	ND	1.0	0.46	06/19/19 02:56	
Pichlorodifluoromethane	ug/L	ND	1.0	0.23	06/19/19 02:56	
Diisopropyl ether	ug/L	ND	1.0	0.22	06/19/19 02:56	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

METHOD BLANK: 2606163

Matrix: Water

Associated Lab Samples:	92432866001, 92432866002	Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Ethylbenzene	ug/L	ND	1.0	0.26	06/19/19 02:56	7
Hexachloro-1,3-butadiene	ug/L	ND	1.0	0.44	06/19/19 02:56	
m&p-Xylene	ug/L	ND	2.0	0.41	06/19/19 02:56	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.28	06/19/19 02:56	
Methylene Chloride	ug/L	ND	5.0	3.7	06/19/19 02:56	
Naphthalene	ug/L	ND	1.0	0.35	06/19/19 02:56	
o-Xylene	ug/L	ND	1.0	0.22	06/19/19 02:56	
p-Isopropyltoluene	ug/L	ND	1.0	0.21	06/19/19 02:56	
Styrene	ug/L	ND	1.0	0.27	06/19/19 02:56	
Tetrachloroethene	ug/L	ND	1.0	0.16	06/19/19 02:56	
Toluene	ug/L	ND	1.0	0.24	06/19/19 02:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.25	06/19/19 02:56	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.31	06/19/19 02:56	
Trichloroethene	ug/L	ND	1.0	0.22	06/19/19 02:56	
Trichlorofluoromethane	ug/L	ND	1.0	0.31	06/19/19 02:56	
Vinyl acetate	ug/L	ND	2.0	1.4	06/19/19 02:56	
Vinyl chloride	ug/L	ND	1.0	0.24	06/19/19 02:56	
Xylene (Total)	ug/L	ND	1.0	0.63	06/19/19 02:56	
1,2-Dichloroethane-d4 (S)	%	101	70-130		06/19/19 02:56	
4-Bromofluorobenzene (S)	%	99	70-130		06/19/19 02:56	
Toluene-d8 (S)	%	102	70-130		06/19/19 02:56	

LABORATORY CONTROL SAMPLE:	2606164				OFFICE AND A	
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.4	105	70-130	·
1,1,1-Trichloroethane	ug/L	50	51.2	102	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.2	98	70-130	
1,1,2-Trichloroethane	ug/L	50	54.5	109	70-130	
1,1-Dichloroethane	ug/L	50	51.8	104	70-130	
1,1-Dichloroethene	ug/L	50	52.8	106	70-130	
1,1-Dichloropropene	ug/L	50	48.2	96	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.7	109	70-130	
1,2,3-Trichloropropane	ug/L	50	49.6	99	70-130	
1,2,4-Trichlorobenzene	ug/L	50	49.6	99	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	52.8	106	70-130	
1,2-Dichlorobenzene	ug/L	50	48.6	97	70-130	
1,2-Dichloroethane	ug/L	50	49.4	99	70-130	
1,2-Dichloropropane	ug/L	50	51.3	103	70-130	
1,3-Dichlorobenzene	ug/L	50	47.8	96	70-130	
1,3-Dichloropropane	ug/L	50	48.4	97	70-130	
1,4-Dichlorobenzene	ug/L	50	48.1	96	70-130	
2,2-Dichloropropane	ug/L	50	49.9	100	70-130	
2-Butanone (MEK)	ug/L	100	118	118	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

LABORATORY CONTROL SAMPLE:	2606164	0-0-0					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
			A SECURITION OF THE PARTY OF TH			Qualifiers	
2-Chlorotoluene	ug/L	50	47.7	95	70-130		
2-Hexanone	ug/L	100	104	104	70-130		
4-Chlorotoluene	ug/L	50	47.1	94	70-130		
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	70-130		
Acetone	ug/L	100	137	137	70-130	L1	
Benzene	ug/L	50	51.1	102	70-130		
Bromobenzene	ug/L	50	49.9	100	70-130		
Bromochloromethane	ug/L	50	53.0	106	70-130		
Bromodichloromethane	ug/L	50	53.1	106	70-130		
Bromoform	ug/L	50	51.7	103	70-130		
Bromomethane	ug/L	50	53.6	107	70-130		
Carbon tetrachloride	ug/L	50	50.3	101	70-130		
Chlorobenzene	ug/L	50	47.4	95	70-130		
Chloroethane	ug/L	50	55.5	111	70-130		
Chloroform	ug/L	50	51.7	103	70-130		
Chloromethane	ug/L	50	51.8	104	70-130		
cis-1,2-Dichloroethene	ug/L	50	52.8	106	70-130		
is-1,3-Dichloropropene	ug/L	50	52.2	104	70-130		
Dibromochloromethane	ug/L	50	50.7	101	70-130		
Dibromomethane	ug/L	50	53.7	107	70-130		
Dichlorodifluoromethane	ug/L	50	42.0	84	70-130		
Diisopropyl ether	ug/L	50	53.2	106	70-130		
Ethylbenzene	ug/L	50	48.8	98	70-130		
Hexachloro-1,3-butadiene	ug/L	50	49.9	100	70-130		
사회의 경기 위한 경기 교통을 하면 되면 되어 이 것입니다. (2017년 1일)	A TABLETON OF				10.769097636		
m&p-Xylene	ug/L	100	96.9	97	70-130		
Methyl-tert-butyl ether	ug/L	50	52.5	105	70-130		
Methylene Chloride	ug/L	50	53.5	107	70-130		
Naphthalene	ug/L	50	53.7	107	70-130		
o-Xylene	ug/L	50	49.4	99	70-130		
o-Isopropyltoluene	ug/L	50	47.8	96	70-130		
Styrene	ug/L	50	49.2	98	70-130		
Tetrachloroethene	ug/L	50	48.3	97	70-130		
Toluene	ug/L	50	49.7	99	70-130		
rans-1,2-Dichloroethene	ug/L	50	52.4	105	70-130		
rans-1,3-Dichloropropene	ug/L	50	51.7	103	70-130		
Trichloroethene	ug/L	50	51.1	102	70-130		
richlorofluoromethane	ug/L	50	50.5	101	70-130		
/inyl acetate	ug/L	100	108	108	70-130		
/inyl chloride	ug/L	50	51.7	103	70-130		
(Yene (Total)	ug/L	150	146	98	70-130		
1,2-Dichloroethane-d4 (S)	%			99	70-130		
4-Bromofluorobenzene (S)	%			100	70-130		
Toluene-d8 (S)	%			101	70-130		

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

MATRIX SPIKE SAMPLE:	2606166	92432866002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifier
,1,1,2-Tetrachloroethane	ug/L	ND	20	19.6	98	70-130	
,1,1-Trichloroethane	ug/L	ND	20	19.6	98	70-130	
.1,2,2-Tetrachloroethane	ug/L	ND	20	19.2	96	70-130	
.1,2-Trichloroethane	ug/L	ND	20	19.9	99	70-130	
.1-Dichloroethane	ug/L	ND	20	19.6	98	70-130	
.1-Dichloroethene	ug/L	ND	20	20.5	103	70-130	
.1-Dichloropropene	ug/L	ND	20	19.1	96	70-130	
,2,3-Trichlorobenzene	ug/L	ND	20	20.3	101	70-130	
,2,3-Trichloropropane	ug/L	ND	20	19.9	99	70-130	
.2.4-Trichlorobenzene	ug/L	ND	20	18.8	94	70-130	
,2-Dibromo-3-chloropropane	ug/L	ND	20	19.4	97	70-130	
.2-Dichlorobenzene	ug/L	ND	20	18.9	94	70-130	
.2-Dichloroethane	ug/L	ND	20	18.2	91	70-130	
1.2-Dichloropropane	ug/L	ND	20	20.9	105	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	19.3	97	70-130	
1,3-Dichloropropane	ug/L	ND	20	20.0	100	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	19.1	95	70-130	
2,2-Dichloropropane	ug/L	ND	20	21.0	105	70-130	
2-Butanone (MEK)	ug/L	ND	40	34.0	85	70-130	
2-Chlorotoluene	ug/L	ND	20	19.6	98	70-130	
2-Hexanone	ug/L	ND	40	34.5	86	70-130	
4-Chlorotoluene	ug/L	ND	20	19.5	98	70-130	
	ug/L	ND	40	35.8	89	70-130	
1-Methyl-2-pentanone (MIBK) Acetone	ug/L	15.6J	40	47.2	79	70-130	
	ug/L	6.7	20	27.7	105	70-130	
Benzene		ND	20	20.1	100	70-130	
Bromobenzene	ug/L ug/L	ND.	20	20.8	104	70-130	
Bromochloromethane	•	ND	20	20.4	102	70-130	
Bromodichloromethane	ug/L	ND	20	19.1	95	70-130	
Bromoform	ug/L	ND	20	32.3	161	70-130	M1
Bromomethane	ug/L	ND	20	19.8	99	70-130	
Carbon tetrachloride	ug/L	ND	20	19.1	95	70-130	
Chlorobenzene	ug/L	ND	20	24.8	124	70-130	
Chloroethane	ug/L	ND.	20	19.5	98	70-130	
Chloroform	ug/L	ND	20	21.3	106	70-130	
Chloromethane	ug/L	ND	20	20.3	101	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	21.3	106	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	18.9	95	70-130	
Dibromochloromethane	ug/L	ND ND	20	19.6	98	70-130	
Dibromomethane	ug/L	ND ND	20	20.6	103	70-130	
Dichlorodifluoromethane	ug/L	ND	20	19.2	96	70-130	
Diisopropyl ether	ug/L	0.55J	20	19.8	96	70-130	
Ethylbenzene	ug/L	0.555 ND	20	18.5	93	70-130	
Hexachloro-1,3-butadiene	ug/L	11.9	40	52.8	102	70-130	
m&p-Xylene	ug/L	0.47J		20.8	102	70-130	
Methyl-tert-butyl ether	ug/L	0.473 ND			97	70-130	
Methylene Chloride Naphthalene	ug/L ug/L	ND ND	20 20	19.4 19.7	98	70-130	

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

MATRIX SPIKE SAMPLE:	2606166						
		92432866002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
o-Xylene	ug/L	10.4	20	30.4	100	70-130	
p-Isopropyltoluene	ug/L	ND	20	20.6	103	70-130	
Styrene	ug/L	ND	20	20.0	100	70-130	
Tetrachloroethene	ug/L	ND	20	19.3	97	70-130	
Toluene	ug/L	19.2	20	37.6	92	70-130	
trans-1,2-Dichloroethene	ug/L	ND	20	20.6	103	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	20.0	100	70-130	
Trichloroethene	ug/L	ND	20	20.0	100	70-130	
Trichlorofluoromethane	ug/L	ND	20	20.6	103	70-130	
Vinyl acetate	ug/L	ND	40	37.5	94	70-130	
Vinyl chloride	ug/L	ND	20	22.0	110	70-130	
Xylene (Total)	ug/L	22.3	60	83.1	101	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 2606165			327			
	0.0104010	92432866001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND	7/10/7/	30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	0.69J		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	14.8J	ND		30	
Benzene	ug/L	7.0	7.0	1	30	
Bromobenzene	ug/L	ND	ND		30	

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

SAMPLE DUPLICATE: 2606165		92432866001	Dup		Max		
Parameter	Units	Result	Result	RPD	RPD	Qualifiers	
Bromochloromethane	ug/L	ND	ND		30	E S	
Bromodichloromethane	ug/L	ND	ND		30		
Bromoform	ug/L	ND	ND		30		
Bromomethane	ug/L	ND	ND		30		
Carbon tetrachloride	ug/L	ND	ND		30		
Chlorobenzene	ug/L	ND	ND		30		
Chloroethane	ug/L	ND	ND		30		
Chloroform	ug/L	ND	ND		30		
Chloromethane	ug/L	ND	ND		30		
cis-1,2-Dichloroethene	ug/L	ND	ND		30		
cis-1,3-Dichloropropene	ug/L	ND	ND		30		
Dibromochloromethane	ug/L	ND	ND		30		
Dibromomethane	ug/L	ND	ND		30		
Dichlorodifluoromethane	ug/L	ND	ND		30		
Diisopropyl ether	ug/L	ND	ND		30		
Ethylbenzene	ug/L	0.62J	0.70J		30		
Hexachloro-1,3-butadiene	ug/L	ND	ND		30		
m&p-Xylene	ug/L	12.7	13.3	4	30		
Methyl-tert-butyl ether	ug/L	ND	0.39J		30		
Methylene Chloride	ug/L	ND	ND		30		
Naphthalene	ug/L	ND	0.89J		30		
o-Xylene	ug/L	10.7	11.3	5	30		
p-Isopropyltoluene	ug/L	ND	ND		30		
Styrene	ug/L	ND	ND		30		
Tetrachloroethene	ug/L	ND	ND		30		
Toluene	ug/L	19.9	20.4	3	30		
trans-1,2-Dichloroethene	ug/L	ND	ND		30		
trans-1,3-Dichloropropene	ug/L	ND	ND		30		
Trichloroethene	ug/L	ND	ND		30		
Trichlorofluoromethane	ug/L	ND	ND		30		
Vinyl acetate	ug/L	ND	ND		30		
Vinyl chloride	ug/L	ND	ND		30		
Xylene (Total)	ug/L	23.5	24.5	5	30		
1,2-Dichloroethane-d4 (S)	%	100	91				
4-Bromofluorobenzene (S)	%	100	98				
Toluene-d8 (S)	%	101	103				

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Project:

Broad River Amoco 11946/59780

Pace Project No.:

92432866

QC Batch:

481423

Analysis Method:

EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description:

8260 MSV SC

Associated Lab Samples: 92432866003, 92432866004

METHOD BLANK: 2603917

Associated Lab Samples: 92432866003, 92432866004

Mat			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND .	5.0	2.8	06/16/19 23:30	
1,1,1-Trichloroethane	ug/L	ND	5.0	2.1	06/16/19 23:30	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	2.0	06/16/19 23:30	
1,1,2-Trichloroethane	ug/L	ND	5.0	2.0	06/16/19 23:30	
1,1-Dichloroethane	ug/L	ND	5.0	2.3	06/16/19 23:30	
1,1-Dichloroethene	ug/L	ND	5.0	2.2	06/16/19 23:30	
1,1-Dichloropropene	ug/L	ND	5.0	2.8	06/16/19 23:30	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	2.2	06/16/19 23:30	
1,2,3-Trichloropropane	ug/L	ND	5.0	2.5	06/16/19 23:30	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	2.3	06/16/19 23:30	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	2.0	06/16/19 23:30	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	3.2	06/16/19 23:30	
1,2-Dichlorobenzene	ug/L	ND	5.0	1.9	06/16/19 23:30	
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/16/19 23:30	
1,2-Dichloroethene (Total)	ug/L	ND	5.0	5.0	06/16/19 23:30	
1,2-Dichloropropane	ug/L	ND	5.0	2.1	06/16/19 23:30	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	2.1	06/16/19 23:30	
1,3-Dichlorobenzene	ug/L	ND	5.0	1.7	06/16/19 23:30	
1,3-Dichloropropane	ug/L	ND	5.0	1.9	06/16/19 23:30	
1,4-Dichlorobenzene	ug/L	ND	75.0	1.9	06/16/19 23:30	
2,2-Dichloropropane	ug/L	ND	5.0	2.4	06/16/19 23:30	
2-Butanone (MEK)	ug/L	ND	10.0	7.9	06/16/19 23:30	
2-Chlorotoluene	ug/L	ND	5.0	1.8	06/16/19 23:30	
2-Hexanone	ug/L	ND	10.0	4.2	06/16/19 23:30	
4-Chlorotoluene	ug/L	ND	5.0	2.0	06/16/19 23:30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	4.7	06/16/19 23:30	
Acetone	ug/L	ND	25.0	7.7	06/16/19 23:30	
Benzene	ug/L	ND	5.0	1.7	06/16/19 23:30	
Bromobenzene	ug/L	ND	5.0	1.9	06/16/19 23:30	
Bromochloromethane	ug/L	ND	5.0	2.1	06/16/19 23:30	
Bromodichloromethane	ug/L	ND	5.0	2.4	06/16/19 23:30	
Bromoform	ug/L	ND	5.0	3.7	06/16/19 23:30	
Bromomethane	ug/L	ND	10.0	6.0	06/16/19 23:30	
Carbon tetrachloride	ug/L	ND	5.0	2.2	06/16/19 23:30	
Chlorobenzene	ug/L	ND	5.0	1.8	06/16/19 23:30	
Chloroethane	ug/L	ND	10.0	4.1	06/16/19 23:30	
Chloroform	ug/L	ND	5.0	2.8	06/16/19 23:30	
Chloromethane	ug/L	ND	5.0	2.8	06/16/19 23:30	
cis-1,2-Dichloroethene	ug/L	ND	5.0	2.2	06/16/19 23:30	
cis-1,3-Dichloropropene	ug/L	ND	5.0	2.0	06/16/19 23:30	
Dibromochloromethane	ug/L	ND	5.0	2.3	06/16/19 23:30	

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

METHOD BLANK: 2603917

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromomethane	ug/L	ND .	5.0	2.0	06/16/19 23:30	
Dichlorodifluoromethane	ug/L	ND	5.0	1.8	06/16/19 23:30	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/16/19 23:30	
Ethylbenzene	ug/L	ND	5.0	1.8	06/16/19 23:30	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	2.9	06/16/19 23:30	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	2.1	06/16/19 23:30	
m&p-Xylene	ug/L	ND	10.0	4.1	06/16/19 23:30	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/16/19 23:30	
Methylene Chloride	ug/L	ND	5.0	3.3	06/16/19 23:30	
n-Butylbenzene	ug/L	ND	5.0	2.3	06/16/19 23:30	
n-Propylbenzene	ug/L	ND	5.0	2.0	06/16/19 23:30	
Naphthalene	ug/L	ND	5.0	2.1	06/16/19 23:30	
o-Xylene	ug/L	ND	5.0	2.0	06/16/19 23:30	
p-Isopropyltoluene	ug/L	ND	5.0	2.2	06/16/19 23:30	
sec-Butylbenzene	ug/L	ND	5.0	2.2	06/16/19 23:30	
Styrene	ug/L	ND	5.0	1.9	06/16/19 23:30	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/16/19 23:30	
tert-Butylbenzene	ug/L	ND	5.0	2.2	06/16/19 23:30	
Tetrachloroethene	ug/L	ND	5.0	1.8	06/16/19 23:30	
Toluene	ug/L	ND	5.0	2.0	06/16/19 23:30	
trans-1,2-Dichloroethene	ug/L	ND	5.0	2.2	06/16/19 23:30	
trans-1,3-Dichloropropene	ug/L	ND	5.0	2.2	06/16/19 23:30	
Trichloroethene	ug/L	ND	5.0	1.8	06/16/19 23:30	
Trichlorofluoromethane	ug/L	ND	10.0	3.4	06/16/19 23:30	10 mm
Vinyl acetate	ug/L	ND	10.0	5.6	06/16/19 23:30	
Vinyl chloride	ug/L	ND	5.0	1.8	06/16/19 23:30	
1,2-Dichloroethane-d4 (S)	%	101	70-130		06/16/19 23:30	
4-Bromofluorobenzene (S)	%	98	70-130		06/16/19 23:30	
Toluene-d8 (S)	%	100	70-130		06/16/19 23:30	

LABORATORY CONTROL SAMPLE:	2603918				20022	
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.0	106	70-130	8
1,1,1-Trichloroethane	ug/L	50	50.2	100	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	50.1	100	70-130	
1,1,2-Trichloroethane	ug/L	50	52.0	104	70-130	
1,1-Dichloroethane	ug/L	50	51.3	103	70-130	
1,1-Dichloroethene	ug/L	50	52.5	105	70-130	
1,1-Dichloropropene	ug/L	50	46.9	94	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.5	109	70-130	
1,2,3-Trichloropropane	ug/L	50	48.9	98	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.7	95	70-130	
1,2,4-Trimethylbenzene	ug/L	50	47.5	95	70-130	

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REPORT OF LABORATORY ANALYSIS



Project: Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

LABORATORY CONTROL SAMPLE:	2603918	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	50	52.2	104	70-130	
1,2-Dichlorobenzene	ug/L	50	47.6	95	70-130	
1,2-Dichloroethane	ug/L	50	49.1	98	70-130	
1,2-Dichloroethene (Total)	ug/L		103			
1,2-Dichloropropane	ug/L	50	50.9	102	70-130	
1,3,5-Trimethylbenzene	ug/L	50	47.8	96	70-130	
1,3-Dichlorobenzene	ug/L	50	47.5	95	70-130	
1,3-Dichloropropane	ug/L	50	49.4	99	70-130	
1,4-Dichlorobenzene	ug/L	50	47.5	95	70-130	
2,2-Dichloropropane	ug/L	50	47.6	95	70-130	
2-Butanone (MEK)	ug/L	100	120	120	70-130	
2-Chlorotoluene	ug/L	50	46.9	94	70-130	
2-Hexanone	ug/L	100	110	110	70-130	
4-Chlorotoluene	ug/L	50	46.9	94	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	70-130	
Acetone	ug/L	100	129	129	70-130	
Benzene	ug/L	50	50.1	100	70-130	
Bromobenzene	ug/L	50	48.9	98	70-130	
Bromochloromethane	ug/L	50	51.1	102	70-130	
Bromodichloromethane	ug/L	50	52.4	105	70-130	
Bromoform	ug/L	50	52.8	106	70-130	
Bromomethane	ug/L	50	59.7	119	70-130	
Carbon tetrachloride	ug/L	50	49.3	99	70-130	
Chlorobenzene	ug/L	50	47.6	95	70-130	
Chloroethane	ug/L	50	58.8	118.	70-130	c :• ::
Chloroform	ug/L	50	51.1	102	70-130	
Chloromethane	ug/L	50	53.3	107	70-130	
cis-1,2-Dichloroethene	ug/L	50	51.6	103	70-130	
cis-1,3-Dichloropropene	ug/L	50	51.3	103	70-130	
Dibromochloromethane	ug/L	50	52.2	104	70-130	
Dibromomethane	ug/L	50	50.5	101	70-130	
Dichlorodifluoromethane	ug/L	50	41.7	83	70-130	
Diisopropyl ether	ug/L	50	55.8	112	70-130	
Ethylbenzene	ug/L	50	49.2	98	70-130	
Hexachloro-1,3-butadiene	ug/L	50	49.4	99	70-130	
Isopropylbenzene (Cumene)	ug/L	50	48.3	97	70-130	
m&p-Xylene	ug/L	100	97.7	98	70-130	
Methyl-tert-butyl ether	ug/L	50	55.1	110	70-130	
Methylene Chloride	ug/L	50	53.0	106	70-130	
n-Butylbenzene	ug/L	50	46.1	92	70-130	
n-Propylbenzene	ug/L	50	47.3	95	70-130	
Naphthalene	ug/L	50	54.2	108	70-130	
o-Xylene	ug/L	50	49.2	98	70-130	
p-Isopropyltoluene	ug/L	50	47.5	95	70-130	
sec-Butylbenzene	ug/L	50	47.7	95	70-130	
Styrene	ug/L	50	49.1	98	70-130	
tert-Butyl Alcohol	ug/L	500	621	124	70-130	

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Project: Broad River Amoco 11946/59780

Pace Project No.: 92432866

LABORATORY CONTROL SAMPLE:	2603918						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
tert-Butylbenzene	ug/L	50	41.0	82	70-130		
Tetrachloroethene	ug/L	50	47.9	96	70-130		
Toluene	ug/L	50	50.2	100	70-130		
trans-1,2-Dichloroethene	ug/L	50	51.5	103	70-130		
trans-1,3-Dichloropropene	ug/L	50	50.1	100	70-130		
Trichloroethene	ug/L	50	51.2	102	70-130		
Trichlorofluoromethane	ug/L	50	50.2	100	70-130		
Vinyl acetate	ug/L	100	106	106	70-130		
Vinyl chloride	ug/L	50	51.2	102	70-130		
1,2-Dichloroethane-d4 (S)	%			101	70-130		
4-Bromofluorobenzene (S)	%			98	70-130		
Toluene-d8 (S)	%			99	70-130		

MATRIX SPIKE & MATRIX SP	PIKE DUPLI	CATE: 2604	344		2604345							
Parameter	Units	92432863002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qua
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20.4	20.0	102	100	70-130	2	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.3	20.3	106	102	70-130	5	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.4	19.6	97	98	70-130	1	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.7	20.8	104	104	70-130	0	30	
,1-Dichloroethane	ug/L	ND	20	20	21.3	20.6	106	103	70-130	3	30	
1,1-Dichloroethene	ug/L	ND	20	20	21.7	21.1	109	105	70-130	3	30	
,1-Dichloropropene	ug/L.	. ND	20	20	20.3	19.4	101	97	70-130	5	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	22.8	22.1	114	110	70-130	3	30	
,2,3-Trichloropropane	ug/L	ND	20	20	20.5	20.7	96	97	70-130	1	30	
,2,4-Trichlorobenzene	ug/L	ND	20	20	20.3	19.5	101	97	70-130	4	30	
,2,4-Trimethylbenzene	ug/L	29.6	20	20	50.7	55.9	106	131	70-130	10	30	M1
,2-Dibromo-3- chloropropane	ug/L	ND	20	20	20.5	19.2	102	96	70-130	6	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	19.5	18.8	97	94	70-130	3	30	
,2-Dichloroethane	ug/L	ND	20	20	19.8	19.7	99	99	70-130	0	30	
,2-Dichloroethene (Total)	ug/L	ND			42.0	40.9				2	30	
,2-Dichloropropane	ug/L	ND	20	20	20.6	19.8	103	99	70-130	4	30	
,3,5-Trimethylbenzene	ug/L	31.3	20	20	52.5	57.9	106	133	70-130	10	30	M1
,3-Dichlorobenzene	ug/L	ND	20	20	19.3	18.7	97	94	70-130	3	30	
,3-Dichloropropane	ug/L	ND	20	20	19.5	19.2	97	96	70-130	1	30	
,4-Dichlorobenzene	ug/L	ND	20	20	19.3	18.8	97	94	70-130	3	30	
2,2-Dichloropropane	ug/L	ND	20	20	19.9	19.4	100	97	70-130	3	30	
2-Butanone (MEK)	ug/L	ND	40	40	65.0	67.9	163	170	70-130	4	30	M1
2-Chlorotoluene	ug/L	ND	20	20	19.6	19.1	98	96	70-130	2	30	
2-Hexanone	ug/L	ND	40	40	42.6	42.2	106	105	70-130	1	30	
4-Chlorotoluene	ug/L	ND	20	20	19.4	18.6	97	93	70-130	5	30	
4-Methyl-2-pentanone MIBK)	ug/L	ND	40	40	43.3	42.8	108	107	70-130	1	30	
Acetone	ug/L	ND	40	40	52.8	55.1	132	138	70-130	4	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

MATRIX SPIKE & MATRIX SP	IKE DUP	LICATE: 2604			2604345							
Parameter	Units	92432863002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qu
												_
Benzene	ug/L	8.6	20 20	20 20	29.4	30.5	104	110	70-130	4		
Bromobenzene	ug/L	ND	277556	20	19.9	19.5	99	98	70-130	0		
Bromochloromethane	ug/L	ND	20 20	20	20.8 20.3	20.7	104 102	104	70-130	5		
Bromodichloromethane Bromoform	ug/L	ND ND	20	20	18.2	19.3 18.2	91	97 91	70-130 70-130	0		
Bromomethane	ug/L	ND	20	20	18.2	19.7	90	99	70-130	9		
Carbon tetrachloride	ug/L	ND	20	20	19.5	19.7	98	96	70-130	1		
Chlorobenzene	ug/L	ND	20	20	18.8	18.6	94	93	70-130	1		
Chloroethane	ug/L	ND	20	20	22.3	23.1	111	115	70-130	4	16.7.17	
Chloroform	ug/L	ND	20	20	21.0	20.2		101	70-130	4		
	ug/L		20	20	2000000		105 92			4	0.75	
Chloromethane cis-1,2-Dichloroethene	ug/L	ND ND	20	20	18.5 21.1	17.8 20.3	105	89 101	70-130 70-130	4	7 2770	
cis-1,2-Dichloroethene	ug/L	ND ND	20	20	19.7	18.6	99	93	70-130	6		
	ug/L	ND ND	20	20	18.6	1000000	93	95		2	9 (20)	
Dibromochloromethane Dibromomethane	ug/L	ND ND	20	20	20.9	19.0 20.4		102	70-130 70-130	2		
	ug/L		20	20	12.7		104			1		
Dichlorodifluoromethane	ug/L	ND	100		3000000	12.5	63	63	70-130			М1
Diisopropyl ether	ug/L	ND	20	20	22.5	21.9	112	109	70-130	3		
Ethylbenzene	ug/L	ND	20	20	20.1	20.0	100	100	70-130	0		
Hexachloro-1,3-butadiene	ug/L	ND	20	20	19.8	19.6	99	98	70-130	1		
sopropylbenzene Cumene)	ug/L	ND	20	20	24.2	25.5	100	107	70-130	5	30	
n&p-Xylene	ug/L	ND	40	40	39.9	39.2	97	96	70-130	2	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	21.6	21.6	108	108	70-130	0		
Methylene Chloride	ug/L	ND	20	20	20.1	19.6	101	98	70-130	3		
n-Butylbenzene	ug/L	ND	20	20	21.5	21.4	107	107	70-130	0		
n-Propylbenzene	ug/L	ND	20	20	20.4	19.6	102	98	70-130	4	9 4935	
Naphthalene	ug/L	47.2	20	20	71.6	82.4	122	176	70-130	14	551235	M1
-Xylene	ug/L	ND	20	20	24.5	24.3	103	102	70-130	1		
p-Isopropyltoluene	ug/L	ND	20	20	21.6	21.0	108	105	70-130	3	10000	
sec-Butylbenzene	ug/L	ND	20	20	21.0	20.8	105	104	70-130	1		
Styrene	ug/L	ND	20	20	19.6	19.2	98	96	70-130	2		
ert-Butyl Alcohol	ug/L	ND	200	200	314	308	157	154	70-130	2		M1
ert-Butylbenzene	ug/L	ND	20	20	17.3	16.4	86	82	70-130	5		
Tetrachloroethene	ug/L	ND	20	20	19.7	19.0	99	95	70-130	4		
Toluene	ug/L	ND	20	20	21.0	20.8	98	97	70-130	1		
rans-1,2-Dichloroethene	ug/L	ND	20	20	20.9	20.7	105	103	70-130	1		
rans-1,3-Dichloropropene	ug/L	ND	20	20	19.4	18.4	97	92	70-130	6		
richloroethene	ug/L	ND	20	20	20.2	19.4	101	97	70-130	4		
richlorofluoromethane	ug/L	ND	20	20	20.3	19.7	102	98	70-130	3		
/inyl acetate	ug/L	ND	40	40	39.6	39.4	99	98	70-130	1		
/inyl chloride	ug/L	ND	20	20	19.9	19.7	99	99	70-130	1		
I,2-Dichloroethane-d4 (S)	%	110	20	20	, 0.0		103	100	70-130		-	
4-Bromofluorobenzene (S)	%						100	100	70-130			
Foluene-d8 (S)	%						101	100	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

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

TNI - The NELAC Institute.

LABORATORIES

M1

PASI-C Pace An

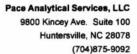
Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

Date: 06/19/2019 05:09 PM

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Broad River Amoco 11946/59780

Pace Project No.: 92432866

Date: 06/19/2019 05:09 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92432866001	11946 SW-1	EPA 8260B	481925	J. C.	100
92432866002	DUP-1	EPA 8260B	481925		
92432866003	FB	EPA 8260B	481423		
92432866004	Trip Blank	EPA 8260B	481423		

Pace Analytical*

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-CAR-CS-033-Rev.06 Document Revised: February 7, 2018 Page 1 of 2

Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples: Asheville Eden	Greenwoo	od 🗌	н	unte	rsville Raleigh Mechanicsville
Sample Condition Upon Receipt Client Name:	COHEC			Proj	WO# : 92432866
Courier: ☐ Fed Ex ☐ ☐ Commercial ☐ Pace	UPS USP	7		lient	92432866
Custody Seal Present? Yes No	Seals Intact?	□Yes	□N	0	Date/Initials Person Examining Contents: 15-6-13
Packing Material: Bubble Wrap Thermometer: 92T048	Bubble Bags	□Nor		Other	Biological Tissue Frozen? ☐Yes ☐No ☐N/A ☐None
	Factor: Add/Subtr	act (°C)	0.0	_	Temp should be above freezing to 6°C Samples out of temp criteria. Samples on ice, cooling proceedings begun
Did samples originate in a quarantine zone within th	e United States: CA	NY, or S	C (check m	aps)?	Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No
		1/17-2		I	Comments/Discrepancy:
Chain of Custody Present?	₽Yes	□No	□N/A	1.	
Samples Arrived within Hold Time?	TYes	□No	□N/A	2.	
Short Hold Time Analysis (<72 hr.)?	□Yes	₽No	□N/A	3.	
Rush Turn Around Time Requested?	□Yes	DNo	□N/A	4.	
Sufficient Volume?	Æ Yes	□No	□N/A	S.	
Correct Containers Used? -Pace Containers Used?		□No	□N/A □N/A	6.	
Containers Intact?	Yes	□No	□N/A	7.	
Dissolved analysis: Samples Field Filtered?	□Yes	□No	EN/A	8.	
Sample Labels Match COC?	ØYes	□No	□N/A	9.	
-Includes Date/Time/ID/Analysis Matrix:	0 - 7			+	77. +2
Headspace in VOA Vials (>5-6mm)?	Ves	□N ₀	□N/A	10.	
Trip Blank Present?	ØYes	□No	□n/a	11.	
Trip Blank Custody Seals Present? COMMENTS/SAMPLE DISCREPANCY	ØÝes	□No	□N/A		Field Data Required? Yes No
CLIENT NOTIFICATION/RESOLUTION				Lo	ot ID of split containers:
Person contacted:			Date/Ti	ime:	
					Land I and
Project Manager SCURF Review:	A	no			Date: 0-14-19
Project Manager SRF Review:		V	mB		Date: (1-1-1-9



Document Name: Sample Condition Upon Receipt(SCUR) Document No.:

Document No.: F-CAR-CS-033-Rev.06 Document Revised: February 7, 2018 Page 1 of 2

Issuing Authority: Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg.

**Bottom half of box is to list number of bottle

Project # WO#: 92432866

PM: AMB

Due Date: 06/19/19

CLIENT: 92-SCDHEC

temat	8P4U-125 mL Plastic Unpreserved (N/A) (CI-)	8P3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	8P1U-1 liter Plastic Unpreserved (N/A)	8P45-125 mL Plastic H2SO4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	8P4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCI (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG15-1 liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4CI (N/A)(CI-)	DG9H-40 mL VOA HC! (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mt VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		8P3A-250 mL Plastic (NH2)25O4 (9.3-9.7)	AGOU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation viais (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1					7											6												
2														/		6									V			
3																5												
4														/		21	B								V			
5																									V			
6									-				1		1									7	V			
7						1		J			7		J	J	7									J	J	\exists	\exists	\neg
8								V			J		J	V	J			\Box	T		T			J	J	\exists	7	\neg
9					J		J	J			7		7	7	7			\neg			7			7	1		\dashv	
10					J	J	7	J			7	\exists	7	7	7			1	\forall	\neg	7	\exists		7	7		\dashv	
11			1		7	7	J	J			7	7	7	7	7	\exists	\exists	7		\forall	\top	1	\neg	7	7	\neg	\dashv	\dashv
12	V				J	J	J	J			V		J	J	J			7						7	7		\forall	

tive pH upon receipt	Date preservation adjusted	71		
		Time preservation adjusted	Amount of Preservative added	Lot #

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

	Pace Analytical							CHA The Cha	IN-OF in-of-Custo	-Cl	JST a LEG	OD AL DO	Y/	An ENT.	aly All re	tic	al I	Re	qu nust t	est [se comp	Doc	um	ent tely.		1					Page 32 of 32
	tion A wired Client Information:		Section	n B		ormation:					Sec	tion C													Pa	ge:		of		Sag
_	pany: SC DHEC		Report			est I	2,00				Atter	ce Info	rmatio	n:	_	_	_	_	_		_				\vdash		100	9889	2	
Add	2600 Bull Sh	reet	Copy 1	o:	roc	CITL	ZIII			_	Com	pany N	lame:	_	_	_	_		_	_	-	ECIII	ATO		L		153	1003	_	_
		9201									Addr	ess:	_		_	_	_		_		- R	_	DES		_	_	ATER	200000	NG WATE	_
	To dunna dhec	SC. GOV	Purcha	se Orde	er No.:						Page	Quote			_		_		_	_	۲,	us			RCRA		MIER I	OTHER	SW	K
Req	3 898-06H Fax:		Project	Name: Numbe	Be	oad 1	River	Amo \$ 59	200		Mana	Projecti ger: Profile I	A	nge	la	3	ai	or	į,		1		cation	Г	50	_	T	OTTEN		
			- 0	S \$	• 11	476	CHA	- 59.	100	_	_	100	_	-	_	_	_	_	Re	questo	1 A	_	TATE:			_	_			
	Section D Required Client Information	Matrix	Codes	1	6					T	Т	Т	1211		110		†	-	Т	1		T T	1	1	1	Н				
П		Drinking Wa Water		des to	C=CONP)		COLL	ECTED		18	ı	Н	Pre	servi	ative:	s 	+	+	۲	+	+	Н	+	Н	+	Н	_			
П		Waste Wate Product Soil/Solid	r WW	(see valid codes to laft)	(G=GRAB C	STA		COMPC	DENTE MAB	COLLECTION		П				П	1	1				П		П		1 1	Ē.			
ITEM #	SAMPLE ID (A-Z, 0-97) Sample IDs MUST BE UNIQUE	Oil Wipe Air Tissue Other	SE OE WP AR TS	MATRIX CODE (se	15					SAMPLE TEMP AT CO	# OF CONTAINERS	Unpreserved	NO ₃	HCI	Na ₂ S ₂ O ₃	Methanol	Other	- 1	8760 B							Davide in Chlorine	ēl	4328 Project N	66	
1	11946 SW-1			wī	+	DATE	TIME	DATE	1230	us.	1	2 3	I	1	Z	Σ	9	4	-	₩	+	Н	+	Н	+	l	Pac	e Project N	lo / Lab	I.D.
2	Dup-1			Wi				101119	1235	+	6	H	+	1	+	Н	Η	1	1	+	+	H	+	Н	+	Н	+	00		
3	FB.			WT	10				1240		5	П		1		П	1	3	X	Ħ	+	Ħ	+	1	+	+	-	00	3	_
4 5	Trip Blan	K	_	WT	G					\perp	2	Ц	П	1		П]		<		\perp		I			П		00		
6			-	+	+			-	_	\vdash		Н	+	+		Н	4	ŀ	+	$^{++}$	+	Н	\perp	щ	\perp	Ц			1	
7		-		+	+		-	-		+	\vdash	Н	+	+	1	Н	-	ŀ	+	₩	+	Н	+	+	+	Н	-			
8				$^{+}$						+		H	H	+	+	Н	+	H	+	+	+	Н	+	+	+	H	-			_
9	1.6			I									Н	†	T	H	1	t	†	††	+	H	+	+	+	+	_			_
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12		_	1	+	Н	_	_			\vdash		4	Н	+	\perp	Н	4	L	1	\perp	1	Ц				П				
	ADDITIONAL COMMEN	TS		REI	LINGU	SHED BY	AFFILIATI	ON	DATE	_	-	ME	₩	_		Щ		1	_	ATION	\perp	Н	\perp		Ц	ш				
	Report J Value		1/1	1	7	m			6/12/	_	-	50	+	2/	1	J		_	_	AC			ATE .	TIE		_	SAM	PLE CONDITI	ONS	_
	11100		1	11/2	,	5	9		6/12		160		7	-	1	1-		0	-	77	-	61	Erc.	164	1	6.9	i	1,	V	,
									41-0		70		1	4	~		_	\sim		8		_		.07		201	1	10	7	
		OB	GINA	1			SAMPLE	R NAME A	ND SIGNA	TURE			L	_		_		_	_						-	0	8.0	3	5	
		~~	100			İ		PRINT Nam	e of SAMP	LER:	Co	rol	10	nec	re	5							_		\neg	Temp in 'C	Received of Ice (Y/N)	Custody saled Cool (Y/N)	ples Intact	
								SIGNATUR	E of SAMP	LER:			7					T	DATE	Signed	ΛL	1.	19		\neg	E	Rece Ge	Sales	ample	40

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



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A	Section		at hef							tion C											Pe	ge:		of	
Required Client Information: Company: SC DHEC	Required Report To	distribution.	-	est t	unn				_	ce Infor	mation:					76		7					199	8892	2
Address: 2600 Bull Street	Copy To:	-	-00	11 0			- 17		Com	pany N	ame:					103		REC	SULATO	ORY	AGENO	Y	1000		12 10
Calmbra S1 79701	1								Addr	ess:								Г	NPDES	зГ	GRO	UND W	ATER [G WATER
Flore: 898-0671 Fax:	Purchase	Order	No.:						Page Refer	Quote				H				-	UST	Г	RCR	A	IV.	OTHER -	SW
Phone: 898-0671 Fax:	Project Na	ame:	Ba	ad I	2 iver	Amoc	0			Project	An	ige	la	Bo	iic	ni		Site	Locati	on	-			30.77	
Requested Due Date/TAT:	Project No	umber	110	246	CAS	\$ 597	180		Pace	Profile #		1			110				STAT	E:	50	_	500		
		-													L	Re	queste	d Anal	ysis Fil	Itere	d (Y/N)				Red St.
Section D Matrix Required Client Information MATRIX	Codes / CODE	1	MP)		COLL	ECTED					Pres	erva	atives		Y/N	Y						П			
Drinking Wi Water Waste Wate Product Soil/Soild SAMPLE ID Oil	wT ww	(see valid codes to	(G=GRAB C=COMP)	COMP		COMPO		AT COLLECTION	IRS						st t							OCAN.	(VIII)		
(A-Z, 0-9 f,-) Wipe Air Sample IDs MUST BE UNIQUE Tissue Other	SL OL WP AR TS OT	MATRIX CODE	SAMPLE TYPE	DATE	TIME	DATE	TIME	SAMPLE TEMP A	# OF CONTAINERS	Unpreserved	HNO	HCI	Na ₂ S ₂ O ₃	Methanol	Analysis Test							MAN colored between	Pac	ce Project N	o./ Lab I.D.
1 11946 SW-1		υT	6	-	-	bhila	_		Ь			1			f	X	\Box	\top	\top			+		,	
2 DUP-1	,	WT	6			6/11/19			6	П		1			1	X					100			4.1	
3 FB		WT	6			WINA	1240		5		1	1			1	X									
1 Trip Blank	3. 9	WT	6	7		-	100		2			1				X					100				
5					9 3					\Box	\perp				1	ш						\perp	100		
6								-		\sqcup	\perp	4			1	\vdash	+	\perp	\perp	-		\perp			
7		-						-		H	+	+		-	1	Н	+	++	+	-	++	+			
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						11000000	RE of SAMP		60	rol	27		200				E Signe /DD/YY)		11/1	9					San
*Important Note: By signing this form you are acce	pting Pace's N	VET 30	day pa	yment terms	and agreeing	to late charge	os of 1.5% per	r mont	th for an	ny invoic	es not pe	aid wi	thin 30	days.								F-AL	L-Q-020re	v.07, 15-May-	2007

Instructions for completing Chain of Custody (COC)

- Section A and B: Complete all Client information at top of sheet: company name, address, phone, fax, contact (the person to contact if there are
 questions, and who will receive the final report.), e-mail address (if available), PO#, Project Name and/or Project Number as you would like to see it
 appear on the report.
- Section C: Invoice Information: Billing information is included in this section. This information should include the name and address of the person receiving the invoice.
- Quote Reference should be completed if a quotation was provided by Pace Analytical. The Project Manager, and Profile No. will be completed by Pace Analytical Services.
- Site Location: A separate COC must be filled out for each day of sample collection. Record the two letter postal code for the US state in which the samples were collected.
- 5. Regulatory Agency: List the program that is guiding the work to ensure proper regulations are followed.
- 6. Section D: Complete a Sample Description in the "SAMPLE ID' section as you would like it to appear on the laboratory report. The following information should also be included: the sample matrix, sample type (G (grab) or C (composite). When collecting a composite, the start time and end time should be documented in the respective boxes. The collection time for a grab (G) sample should be entered in the boxes marked 'Composite End/Grab'), Sample temp at collection (if required by state), the total number of containers, and preservative used.
- 7. Mark if the sample was filtered in the field by marking Y or N in 'Filtered' row by the Analysis requested.
- Requested Analysis: List the required analysis and methods on the lines provided and place a check in the column for the samples requiring the
 analysis. Additional comments should be referenced in the bottom left hand corner or include attachments for extended lists of parameters.
- The sampler should print their name in the space provided and sign their name followed by the date of the sampling event at the bottom of the COC in the spaces designated for 'SAMPLER NAME AND SIGNATURE'.
- 10. When relinquishing custody of the samples to a representative of the laboratory or other organization, indicate the Item Numbers of those samples being transferred; sign relinquished by, date and time, and include your affiliation.

*Important Note:

Standard Turnaround Time is 2 Weeks/10 business days. Results will be delivered by end of business on the date due unless other arrangements have been made with your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be included on the chain of custody in the Additional Comments section.



Carolina Technical Services, Inc.

GEOTECHNICAL · ENVIRONMENTAL · MATERIALS

July 12, 2019

Mr. Ed Mendenhall
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
UST Management Division
2600 Bull Street
Columbia, SC 29201

Project:Broad River Amoco UST Permit #11946, CA # 59685 CTSI Project No. 18-6580

Location:

4335 Broad River Rd. Columbia. SC 29210

Dear Mr. Mendenhall:

Your letter dated May 31, 2019 approved the submitted Site-Specific Work Plan (SSWP) and directed the gauging and manual recovery of free phase petroleum product from selected wells at the referenced site. Additionally, one 8-hour aggressive fluid vapor recovery (AFVR) event was to be performed. Carolina Technical Services, Inc (CTSI) has performed the requested work. Figure 1 is a topographic map showing the site location. Figure 2 is a site plan.

Field Activities

CTSI personnel mobilized to the site to gauge wells and/or recover free product on thirteen days beginning on June 3, 2019 and concluding on July 5, 2019. The AFVR event took place on June 18th.

Free product gauging was performed using an ORS® electronic oil-water interface probe. Free product recovery was conducted using a peristaltic pump and polyethylene tubing, as well as a top-filling stainless steel bailer. Manually recovered free product was containerized in steel drums for subsequent disposal.

An initial gauging event for shallow onsite wells took place on June 3rd. Onsite wells were also gauged before and after the June 18th AFVR event, with wells in the vicinity of the tank pit where the AFVR was conducted gauged during the AFVR. A final gauging event took place on July 5th and included onsite wells, as well as select offsite wells near the property boundaries. A total of 312 individual well gaugings were performed with free product recovery occurring in 49 instances. The gauging data are summarized in Table 1. Field data sheets are included in the Appendix.



The AFVR event was performed by A&D Environmental, Lexington, SC using a truckmounted vacuum pump and tank. Offgas was treated using a carbon filter.

Results

Approximately 64 gallons of free product were manually recovered from monitoring and recovery wells during June, 2019. Most of the free product recovery was from recovery well RW-C where 46.25 gallons of free product were recovered. RW-10 (6), RW-D (3.7), and MW-3 (3.2) accounted for 12.9 gallons, while an additional 5 wells accounted for the remainder of the manually recovered free product. Table 2 provides a summary of the free product recovery data for individual wells.

The AFVR report data show that over 135 vapor-equivalent gallons of free product were recovered during the June 18 AFVR while only generating 125 gallons of wastewater. Throughout the 8-hour AFVR, the concentration of VOC vapors measured in the influent gas stream exceeded the maximum concentration (15,000 ppm) that A&D's organic vapor analyzer was able to record. As such, the 135 gallons of recovered free product is considered a minimum and a greater volume of free product was likely recovered during the AFVR. A&D AFVR reports are included in the Appendix.

CTSI personnel will dispose of the manually recovered free product at TK Tank Services in Sumter, SC. The disposal manifest will be submitted under separate cover.

Observations and Recommendations

The majority of the manually recovered free product was produced from recovery well RW-C. MWR2-8, located about 6 feet from RW-C, only produced about 0.5 gallons of free product during June; whereas during free product recovery efforts performed during the course of the Tier II assessment, this well generally produced free product whenever free product was recovered from RW-C. Both of these wells are located within a disturbed/fill area of the site and both wells encountered refusal at a depth of about 13.5 feet. The current lack of free product in MWR2-8 suggests a subsurface feature may be present between RW-C and MWR2-8. Details of this feature can't be determined with the current data but this feature could conceivably be something like a buried wall or a septic tank. Regardless, based upon the continued recovery of free product in this area, it seems apparent that some sort of preferential pathway is present between the UST pit area and the RW-C location. Additional preferential pathways are also suggested between the UST pit and RW-10 and also MW-3.

We noted that water level elevations at well MWR2-1, located at the intersection of Broad River Road and Dothan Road are consistently higher than nearby wells. Due to this

wells proximity to water mains along broad River and Dothan Roads, a water line leak may be present in this area. We recommend that the Department contact the water provider to determine whether a leak is present as this may affect ground elevations and gradients I the vicinity of the UST pit.

It appears that our efforts to recover free product have been very effective in reducing the source volume and minimizing the potential for significant offsite migration of free product. During June alone about 199 gallons of free product have been removed from the subsurface. Approximately 400 gallons of free product were recovered during the course of the Tier II Assessment.

Based upon these results we strongly recommend continuation of both manual and AFVR free product removal activities until a permanent remedial alternative is in place. It makes good sense to recover as much product now from areas where it has been identified rather than to allow migration in the complex subsurface of the site. An additional longer term AFVR (48-96 hour) event should be scheduled as soon as is possible so as to remove as much mass of free product from the UST pit area as is practical before it migrates to other areas of the site and closer to downgradient property boundaries. AFVR activities in other areas of the site are not recommended at this time due to unknowns regarding preference pathways for free product migration.

If you have any questions concerning this report please contact us at 803-407-3336 or 843-610-1953.

Sincerely,

CAROLINA TECHNICAL SERVICES, INC. UST Certification No. UCC-0263

William D. Work !

William D. Wood, P.G.

SC Registration No. 2116

Table 1 Well Gauging and Product Recovery Data Summary June 2019 Broad River Amoco, UST Site ID 11946

Date	Total Wells Gauged	Total Wells with FP Recovery
6/3/2019	36	1
6/6/2019	13	10
6/8/2019	13	3
6/10/2019	13	3
6/13/2019	13	3
6/15/2019	13	4
6/17/2019	39	3
6/18/2019	20	1
6/19/2019	48	4
6/21/2019	19	6
6/24/2019	13	3
6/26/2019	13	3
6/28/2019	13	5
7/5/2019	46	0
Totals	312	49

Table 2
Manual Free Product Recovery Data Summary
June 2019
Broad River Amoco, UST Site ID 11946

Date	RW-A	RW-B	RW-C	RW-D	RW-10	MWR2-6	MWR2-7	MWR2-8	MW-3	Totals
6/3/2019			8							8
6/6/2019	0.25	0.25	3.5	0.5	2.25	0.5	1.5	0.5	1.5	10.75
6/8/2019			2.5		1				0.25	3.75
6/10/2019			3.25		1.25				0.25	4.75
6/13/2019			4	0.75	0.5					5.25
6/15/2019			3.5	1	<0.25				< 0.25	4.5
6/17/2019			4.5	<0.25					1	5.5
6/18/2019					AFVR					0
6/19/2019			3.5	0.25			77 . 192	tr	tr	3.75
6/21/2019		0.5	4	0.25	1			tr	0.1	5.85
6/24/2019	25.5 - 5-333	2000	3	0.2	The second second	tr				3.2
6/26/2019			4	0.5					tr	4.5
6/28/2019		0.1	2.5	0.25		0.1			0.1	3.05
7/5/2019					Gauging Only			7/23		
Totals	0.25	0.85	46.25	3.7	6	0.6	1.5	0.5	3.2	62.85

Notes: All values in gallons; tr-trace less than 0.1 gallon

Broad River Amoco CTSI Proj. No 18-6580 1 of 1 7/12/2019 **BROAD RIVER AMOCO**

Date: 6/3/19 Well Gauging
Technician: C. Alexander

		' /		
Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MW-1		12.83		
MW-2		11.40		Sheen
MW-3	12.04	13.04		FP Clew
MW-4	10.07	9 79		PT SIEN
MW-5		13.04 9.79 9.67		Sheen
MW-6A	10100	12.90		Sheen MANGE OTW 13.01
MW-7A		15		11.00 VI- 13.01
MW-8A				
MW-8B				
MW-9A				
MW-9B	7-191			
MW-10A				
MW-10B				
MW-11A				
MW-11B				
MW-12A	777002-5			
MW-12B				
MW-13A				
MW-13B				420 M - 20 M - 10 M - 1
MW-14A				7975
MW-14B				
MW-15A	33010			MARKE
MW-15B				100 30000
MW-16A	W M24620			PEC STANDARD STANDARDS STA
MW-16B				
MW-17B				
MW-18A	-20		10.72	
MW-18B				
MW-19A	s—uvas			And the Andrews St. Websell
WM-19B				
WM-20A				2000
MW-20B			1770	WW 1992 A YOUNG
MW-21A				
MW-21B			243/103	
MW-22A				
MW-22B				

Broad River Amoco Pg 1 of 2

BROAD RIVER AMOCO

	1/	./0	Well Gauging	111	/
Date:_	6/3	1/19	Technician:	C. Alexa	des

		11	г т	
Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1		x.93		
MWR2-2		10.78		***************************************
MWR2-3		12.42		
MWR2-4	- W	10.01		
MWR2-5		10.01	 	
MWR2-6	140	7.47		
MWR2-7	1.40	6.55		
MWR2-8	11.26	11.50		
MWR2-9	1	12.57		
MWR2-10		12.57		
MWR2-11		12.64		5.
MWR2-12		9.13		
MWR2-13	- T	7.7.2		
MWR2-14		8.84		
MWR2-15		11.63		
MWR2-16		12.82		
DMW-1	e.	12.00		3753 YA
DMW-2				
DMW-3	1000000 20000			
RW-1		9.82		
RW-2		11.75		Control of the contro
RW-3		11.75		
RW-4	= 10.5 (c/3.0 d) (c/ 2)	11.3/		
RW-5	₩ £92	11.00		sheen
RW-6		11.10		
RW-7	A Propagantial Fr	9.70		
RW-8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9.33		
RW-9		12.48		
RW-10	9.90	11.00		
RW-11		12.91		
RW-12	12.03	12.24		Maria
RW-A	/2.03 6.75	6.80		
RW-B	7.89	8.07		V 444
RW-C	7.89	12.20		WKS 1872
RW-D	7.66	7.68		

Broad River Amoco Pg 2 of 2

BROAD RIVER AMOCO

Date: 4/3/19 Well Gauging

Technician: C. Mexanler

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1420	9.96	12.20	1515			6	FP Amber Colored
1525			1600	12.10	12.12	2	Fl Amber Colored Total & galleng
Vell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
	-70						
Vell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
	-			-			
				-			
		200				2000	CONTRACTOR PROBLEM

Date: UNE 6 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
15,56	12,33	12.53	1609	DA	12.55	0.25	GOLDEN BROWN STRONG ODER
							STRONG ODER
				-			
			<u> </u>	-			
7.1				-			
				-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
				1			777 - 777
				1			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
- 77				-			
					AU-TIP LA PETRO		

Date: UNE 6 Technician: Well Gauging Technician:

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1457	7.45	7.50	1509	1	764		
MD.				DVD	7.71	0.5	DARK
				1			
		-		-			
					12.200	and the second second	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Broduct	Ending Depth to Water	Gallons Recovered	Observations
517	6.45	660	1531	ND	6,52	1,5	MOSTLY WATER
				+			t
				+ -			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1535	7.79	7.83	15 50	ND	8.02	0.5	LOT OF WHER
3 C- 12		100 mm 100 mm 100 mm					
			1 E. W. + 1.7 + 1.4				
	102010000000000000000000000000000000000						

Date: LUNE 6 BROAD RIVER AMOCO Well Gauging Technician: WELL W.

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1404	6.78	692	14 15	6,95	696	0,25	DARKBROWN IN COLOR
DECEMBER OF STREET	Depth to Free			Ending Depth to	Ending Death to	Gallons	
Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
THE RESERVE OF THE PARTY OF THE	Depth to Free	Depth to Water	Time Stop		A CONTRACTOR OF THE PROPERTY O		Observations DARK IN COLOR
Time Start	Depth to Free Product) 1100 mm market	Free Product	Water	Recovered	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
4:42	NO	8.74	14 45				
				-			

Date: UNE Well Gauging Technician: WUIN W.

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12 48	40	11.56	12.50				
V 1917 2 1							

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1251	9.82	11.51	1333	11.00	11.02	2,25	DARK IN COROL
							DARKIN COROL WITH SOME WATER
		-					
						-	
			1505500				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1335	ND	1071	1345				
	<u> </u>			-			
			NTEV .				
				-			
	-			 			

Date: LVNE 6 Well Gauging KEVIN W

Color

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
11 18	10.25	10.58	135	10.69	1072	0,5	Black IN Color
						<u> </u>	
				-			
600000							

w in Glor

Date: JUNE O Technician:

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons	
10:45		7,57	10:46	Free Product	Water	Recovered	Observations
	142	100	10,40				
		-					
	-	-					
				 			
Vell Name:	Depth to Free						
Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
				 			
ell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
		1200 to 200 to 2					
					- The transfer of the second o		

Date: JUNE 8 Well Gauging KEVIN W

Well Name: _KW-C

		•					
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons Recovered	Observations
8:24	1601	11.78	8:54	11881	1125		VERY DARK
				-			
Vell Name: W	WRZ-	8					
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
8:59	N/D	8.10	9:01				STRONG ODER
		A STATE OF THE STA					
ell Name: _M	W-3						
Time Start	Froudet	Depth to Water	Time Stop	Ending Depth to Free Pyoduct	Ending Depth to Water	Gallons Recovered	Observations
9:05	12.45	12.63	9:18	ND	12/06		GODEN BROWN
					100		

Date: UNE 8 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:24	12.25	1227	9:26				
N. Le June							

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:29	N/D	6.45	9:31				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9831	5.86	5.87	9:33				
							16.
				Learning II			2011 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -
						-	

Date: JUNE 8 Well Gauging Technician: KEVII W

Well Name: KW-10

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth t		Gallons Recovered	Observations
9:36	10.08	10.66	10:02		10,72	1	
2000				T 7 -			
	-						
	-						
				-	-		
		``					
Vell Name: _k	W-5						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
10:07	9.75	9.76	10:08			neovered	
					-		
				1			
-uni Al	11.0						
/ell Name:							
Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:13	ND	9.75	10:20				STRONG ODER
					-		

Date: JONE 8 Well Gauging KEVIN W

Well Name: N						V	
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:22	ND	11.31	10:24				
		-					
2		<u> </u>					
				 			
				†			
Vell Name: M	NR7-6						
Time Start	Depth to Free			Ending Depth to	Ending Depth to	Gallons	
	Product	Depth to Water	Time Stop	Free Product	Water	Recovered	Observations
10.30	7.42	7.45	10.32				
\neg							
ell Name: //\	1107-7						
	Depth to Free	T		Ending Depth to	Fadina Barata a		
Time Start	Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:41	N/D	631	10:43				
					-		

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
2:20	11.74	11.95	2:30	11.90	11.91	25	
			Paul - sou i				
foll Name: C	M-C						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
2:36	10 68	11.62	3:32	1.86	11.80	3.75	
				l			
	Depth to Free			5-45-4	- " - "		
Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
2:35	NVP	8.70	7.36				67.20NG 1111.
1-3-21-7							
							A. C.

BROAD RIVER AMOCO
Well Gauging
Date: VINE (O Technician: KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water		Observations	
3:46	11.90	11.90	11.91	3:47		ster	Recovered	
			7.1	1	-		STRONG ODER	
					 			
				+				
					-			
-								
il Name: K	N-13							
Time Start	rioduct	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons	Observations	
1110	1			, , louder	Water	Recovered	Observations	

Time Start	Depth to Free Product	Depth to Water	Time Stop		Ending Depth to Water	0 /-19/00/00/00/00/00/00/00/00/00/00/00/00/00	Observations
3:47	6:33	6:35	3:49	1	- Water	Recovered	
			0				
					-		

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Galions Recovered	Observations
3:50	ND	6:25	3:51			Necovered	

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN

Time Start	Depth to Free Product	Depth to Water	7 Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
3:55	ND						
		-					
	lane.						
				-	+		

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water		Observations
4:00	9,71	9.72	4:01	1	Water	Recovered	OBJET VACIONS
			W. C.				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons	Observations
4.63	10.16	10.17	4.04			Recovered	- 3041 144013
						-	
			513				

Date: JUNE 10 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	0	bservations
4:05	9 93	1093	4,29	ND	10.91	1,25	Some 1	WATER
				-				
						-		

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
133	7.38	7.47	4:34			netovered	
					-		
				1			
					1		

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
-135	ND	5.92	4:36				
	, ·						
100 KG - 100							
				-			
					-11 100 100 100 100 100		

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN N

Time Start	Depth to Free				т —		
	Product	Depth to Wate		Free Product	to Ending Depth to Water	Gallons Recovered	Observations
4:38	11/0	7:40	4:39			- Actores	
			-	+			
					1		
ell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
II Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations

Date-UNE 3 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
11:45	6.50	7.15	12:14		7.21	0.75	
				1100	1001	0,13	
		-					
Vell Name:							
Time Start	Depth to Free	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons	
	Product		Time Stop	Free Product	Water	Recovered	Observations
ell Name:							
ell Name:	Denth to Free			1			
ell Name:	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
1		Depth to Water	Time Stop	Ending Depth to Free Product		Gallons Recovered	Observations
1		Depth to Water	Time Stop	Ending Depth to Free Product			Observations
1		Depth to Water	Time Stop	Ending Depth to Free Product			Observations
1		Depth to Water	Time Stop	Ending Depth to Free Product			Observations
1		Depth to Water	Time Stop	Ending Depth to Free Product			Observations

BROAD RIVER AMOCO

Date: UNE 15 Well Gauging KEVIN W.

Well Name: MW-Z

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth Free Product	to Ending Depth to Water		Observations
10:55	ND	10.63	10:57		Water	Recovered	Observations
			10 21	_		 	
				+	1		
					1		
					1		
	The state of						
ell Name: YV	NW-5						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons	Observations
10:58	NVD	9.05	10:59		water	Recovered	Observations
-			-1.40			A service of the serv	
Name: K	W-5		-11-11-19-19-19-19-19-19-19-19-19-19-19-				
	Denth to Erea						
Time Start	Prodyct	Pepth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons	Observed
100	NO	9.95	11:02	rice Product	water	Recovered	Observations
			4				200000000000000000000000000000000000000
						70.00	
				-			

Date: WHE IS Well Gauging Technician: KEVIN W

me Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth t	Ending Depth to		01
11:09	9.80	10,25	11:34			Recovered	Observations
	1	10,00	11.04	ND	10,72	0.5	
					CO. L. C.		
				1			
				 			
				 			
Name: M	WRZ-6						
Manne. 41						1 100 0 0	
ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to	Gallons	
1:39	7.24	7.26	11:41	rree Product	Water	Recovered	Observations
		1 . 20	11 ///				

e: MWK2-7	Down to S		 	+	-	
ie: MWKZ-7	Post to San			-	-	
Ime: MW RZ-7	David to Co.					
Name: MWKZ-7	Danit to Co.					
Name: MWK2-7	Danit to Co.					

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
:42	12/0	5.60	11:44				

Date: JUNE 13 Well Gauging KEVIJ L

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth Free Product	to Ending Depth to		Observations	
9:28	10.24	11.54	10:21	NO	11.8/	Recovered	VERY DARK	
				7			VOY DALK	
				+	+			
100	WRZ-8							
ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons		
0:22	N/D	8,21	DAMESTO MARIED	Free Product	Water	Recovered	Observations	
1166	1470	0,21	10:23	+			VERY DARK ON-	MAPE
27 (1 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2								
Name: M	N-3							
me Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations	
):35	ND	11.02	10:37				STRONG OD	ER
	1				1			

Date: UNE 3 Well Gauging KEVIN W

Time Start	Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered		Observations
10,40	N/D	11.19	10:45				10	ODER
				-			~0	- Det
				-				
				-				
				-				
ell Name: K	M-R						Mark Front	
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to	Gallons		Obranation

Time Start	Frounct	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:46	6.59	6.61	10:48			necovered	
719							
				-			

Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered		Observations
0.41	NA	6,18	10:51				SOME	OTIER

Dates Well Gauging KEVINW

Dates WELL

Technician: KEVINW

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
8:24	10.57	11.60	9:25	11.90	11,91	3.5	REDDUCT NOT AS DARE
							AS ONCE WAS
						-3	

Time Start	Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:27	N/D	8.52	9:28				

ime Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water,	Gallons Recovered	Observations
9:35	10,81	11.31	9:53	N/D	11.41	< 0,25	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth			Observations
10:00	9.77	9,97	10:11	N/D	9,96	Recovered	Observations
-200			-	/			
/ell Name: _/V	W-5						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
10:12	9820	9.21	10:13		Water	Recovered	
ell Name: _M							
Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:14	ND	0.49	10,15				
				CANADA REPORT OF			

Date: JWE15 Well Gauging KEVIN

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
10:16	N/D	[1.6]	10:17	-	Water	Recovered	
						1000	
ell Name:	W-B						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:18	6.86	6.90	10:20			Hatoveres	
ell Name:							
Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:21	626	6.28	10.73				
				.*.			

BROAD RIVER AMOCO

Well Gauging

Technician: KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:28	7.40	7.45	10:30			incovered	
	-						
		-					

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:31	20	5.08	10:32			necovered	
Strike and day							

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
0:33	6.77	7.15	11:00	7.24	7.31		
		-					
				-			
2							

Date: JUNE 15 Well Gauging LEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
11:02	10,52	10.55	11:03				
ell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gailons Recovered	Observations
			A				
/ell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations

BROAD RIVER AMOCO

Date: __VNE 17 Well Gauging Technician: KEVIN W

Well Name					10
MWR2-2 N/D 9,97 MWR2-3 N/D 1,02 MWR2-4 N/D 9,30 MWR2-5 N/D 8,56 MWR2-6 7.28 7,30 Not Enough to Purp MWR2-7 N/D 5,74 MWR2-8 N/D 8,64 MWR2-9 N/D 11,11 MWR2-10 N/D 9,05 MWR2-11 N/D 11,74 MWR2-12 N/D 9,07 MWR2-13 N/D 10,75 MWR2-14 N/D 9,06 MWR2-15 N/D 10,75 MWR2-16 N/D 11,46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 9,37 RW-2 N/D 10,70 RW-3 N/D (0,37 RW-4 N/D (0,38 RW-4 N/D (0,38 RW-5 10,13 10,14	Well Name				
MWR2-2 N/D 9,97 MWR2-3 N/D 1,02 MWR2-4 N/D 9,30 MWR2-5 N/D 8,56 MWR2-6 7.28 7,30 Not Enough to Purp MWR2-7 N/D 5,74 MWR2-8 N/D 8,64 MWR2-9 N/D 11,11 MWR2-10 N/D 9,05 MWR2-11 N/D 11,74 MWR2-12 N/D 9,07 MWR2-13 N/D 10,75 MWR2-14 N/D 9,06 MWR2-15 N/D 10,75 MWR2-16 N/D 11,46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 9,37 RW-2 N/D 10,70 RW-3 N/D (0,37 RW-4 N/D (0,38 RW-4 N/D (0,38 RW-5 10,13 10,14	MWR2-1	NID	7.13		
MWR2-3	MWR2-2			_	
MWR2-4 MWR2-5 MVD B, 56 MWR2-6 7, 28 7, 30 MWR2-7 MWR2-7 MWR2-8 MD MWR2-8 MD MWR2-9 MWR2-10 MWR2-10 MWR2-11 MWR2-12 MWR2-12 MWR2-13 MWR2-14 MWR2-15 MWR2-16 DMW-1 DMW-2 DMW-3 RW-1 RW-2 RW-2 RW-3 RW-4 RW-5 IO 13 MOT ENOUGH TO FUMP RW-4 RW-4 N/D (0.33 RW-4 RW-5 IO 13 IO 14 NOT ENOUGH TO FUMP RW-4 RW-5 IO 13 IO 14 NOT ENOUGH TO FUMP RW-1 RW-2 RW-4 RW-5 IO 13 IO 14 IN 10 IO 15 IO 16 IO 17 > MWR2-3	N/D	11.02			
MWR2-5 N/D 8.56 MWR2-6 7.28 7.30 MWR2-7 N/D 5.76 MWR2-8 ND 8.64 MWR2-9 N/D 11.11 MWR2-10 N/D 9.05 MWR2-11 N/D 11.76 MWR2-12 N/D 9.06 MWR2-13 MWR2-14 N/D 9.06 MWR2-15 N/D 10.95 MWR2-16 N/D 11.46 DMW-1 N/D 11.55 DMW-2 DMW-3 RW-1 N/D 9.37 RW-2 N/D 10.70 RW-3 N/D 10.38 RW-4 N/D 10.38 RW-5 10.13 10.14 Not (Not the Tolking Hollow)	MWR2-4		9.30		
MWR2-6 MWR2-7 MWR2-8 MWR2-8 MWR2-9 MWR2-10 MWR2-11 MWR2-12 MWR2-12 MWR2-13 MWR2-14 MWR2-15 MWR2-16 DMW-1 DMW-2 DMW-2 DMW-2 DMW-3 RW-1 RW-2 RW-4 RW-5 IO 13 IO 14 RW-1 RW-1 RW-4 RW-5 IO 13 IO 14 IO 170 RW-1 RW-1 RW-1 RW-1 RW-4 RW-5 IO 13 IO 14 IO 15 IO 16 IO 170 RW-1 RW-	MWR2-5				
MWR2-7 N/O 5.74 MWR2-8 ND 8.64 MWR2-9 ND 11.11 MWR2-10 N/D 9.05 MWR2-11 N/D 11.24 MWR2-12 N/D 9.02 MWR2-13 MWR2-14 N/D 9.06 MWR2-15 N/D 10.95 MWR2-16 N/D 11.46 DMW-1 N/D 11.55 DMW-2 DMW-3 RW-1 N/D 9.37 RW-2 N/D 10.70 RW-3 N/D 10.39 RW-4 N/D 10.39 RW-4 N/D 10.39 RW-5 10.13 0.14 N/D 10.39	MWR2-6				NOT FALOUGH T D. 11
MWR2-8 MWR2-9 MWR2-10 MWR2-10 MWR2-11 MWR2-11 MWR2-12 MWR2-12 MWR2-13 MWR2-14 MWR2-15 MWR2-16 DMW-1 DMW-2 DMW-1 DMW-2 DMW-3 RW-1 RW-2 N/D (0.37) RW-4 N/D (0.38) RW-4 N/D (0.38) RW-5 I J J J J J J J J J J J J J J J J J J	MWR2-7	N/O			100 CHOUGH 10 FOFF
MWR2-9 N/D 1 1 1 1 1 1 1 1 1	MWR2-8	NO.	8.64		
MWR2-12 N/D 9,02 MWR2-13 MWR2-14 N/D 9,06 MWR2-15 N/D 10,95 MWR2-16 N/D 11,46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 9,37 RW-2 N/D 10,70 RW-3 N/D 10,70 RW-4 N/D (0,38) RW-5 10,13 0,14 Nat (Ab) KH To RIM D	MWR2-9	NA	11.17		
MWR2-12 N/D 9,02 MWR2-13 MWR2-14 N/D 9,06 MWR2-15 N/D 10,95 MWR2-16 N/D 11,46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 9,37 RW-2 N/D 10,70 RW-3 N/D 10,38 RW-4 N/D 10,38 RW-5 10,13 0,14 Not (Ab) KH To RIM D		N/D	9,05		
MWR2-13 MWR2-14 MWR2-15 MWR2-16 MWR2-16 DMW-1 DMW-2 DMW-3 RW-1 RW-2 N/D RW-3 RW-4 N/D RW-4 N/D RW-5 IO 13 IO 38 RW-1 N/D IO 38 RW-1 R	MWR2-11	NZO	11.26		
MWR2-14 N/D 9.06 MWR2-15 N/D 10.95 MWR2-16 N/D 11.46 DMW-1 N/D 11.55 DMW-2 DMW-3 RW-1 N/D 9.37 RW-2 N/D 10.70 RW-3 N/D (0.37 RW-4 N/D (0.38) RW-4 N/D (0.38) RW-5 10.13 10.14 Not (0.38)		ND	9.02		
MWR2-15 N/D D, 95 MWR2-16 N/D 1, 46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 0,70 RW-2 N/D 0,70 RW-3 N/D 0,37 RW-4 N/D 0,38 RW-5 10,13 0,14 Not (Ab) KH To RIM D					
MWR2-15 N/D D, 95 MWR2-16 N/D 1, 46 DMW-1 N/D 11,55 DMW-2 DMW-3 RW-1 N/D 0,70 RW-2 N/D 0,70 RW-3 N/D 0,37 RW-4 N/D 0,38 RW-5 10,13 0,14 Not (Ab) KH To RIM D	MWR2-14		9.06		
MWR2-16 N/D 1,46 DMW-1 N/D 1,55 DMW-2 DMW-3 RW-1 N/D 0,70 RW-2 N/D 0,70 RW-3 N/D 0,37 RW-4 N/D 0,38 RW-5 0,13 0,14 Nat (Ab) KH To RIM D	MWR2-15	N/D	10,95		
DMW-1 DMW-2 DMW-3 RW-1 RW-2 N/D RW-2 N/D RW-3 N/D RW-3 N/D RW-4 N/D RW-5 10.13 10.14 Not (Ab) KH To RIM D		NID			
DMW-2 DMW-3 RW-1 RW-2 N/D RW-3 N/D RW-3 N/D RW-4 N/D RW-5 10.13 10.14 Not (Ab) KH To RIM D		N/D	11,55		
RW-1 N/D 9.37 RW-2 N/D 10.70 RW-3 N/D (0.37 RW-4 N/D (0.38 RW-5 10.13 10.14 Not (Ab) 15 H To 19 H D					
RW-2 N/D 10.70 RW-3 N/D (0.37 RW-4 N/D (0.38 RW-5 10.13 (0.14 Not (Ab) KH To RIM D					
RW-2 N/D 10.70 RW-3 N/D (0.37 RW-4 N/D (0.38 RW-5 10.13 10.14 Not (Ab) KH To RIM D		0/14	9.37		
RW-4 N/D (0.38) RW-5 10.13 10.14 Not ENDINGH TO PUMD		NO	10.70		
RW-5 10,13 10,14 NOT ENDINGH TO PLIND		N/0	10.31		
RW-5 10,13 10,14 NOT ENDINGH TO PIND			10.38		
		10,13	10,14		NOT ENDIGHTO PLAND
RW-6 N/D 10.37			10.37		Day to John
RW-7 N/, D 8,53			8,53		
RW-8 N/O 8. (3)		NIO	8. 63		
-RW-9 N/D 11,09			11,091		
RW-10 9,70 9.76 NOT ENOUGH TO PUMD		9,70			NOT ENOUGH TO PUMD
11/10					
RW-12 N/D 10.87		NVD			
RW-A 6,31 6.32 NOT ENOUGH TO PUMD					NOT ENOUGH TO PUMP
RW-B 1,01 7,04, NOT ENOUGH TO PUMP					
10,65 11,69 4,5 ENDING DEDTH 12,21-12,31		10,63			ENDING DEDTH 12.21-12.31
RW-D 6.95 7.07 40.25 ENDING DEPTH 7.15-7.17	RW-D	6,45	7.07	40.25	FUDING DEDTH 7.15-7.17

BROAD RIVER AMOCO

Date: JUNE 17 Well Gauging KEVIN W

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MW-1	ND	11.40		
MW-2	NA			5 7 A ASSAULT OF W
MW-3	10,82	10.36		ENDING DEATH 12.20
MW-4	ND	8,49	-V/20/2	ENDING DEATH 12.20 ODER
MW-5	9010	9,21		NOT ENOUGH TO PUMP
MW-6A	2/2	11.60		
MW-7A				
MW-8A				
MW-8B				
MW-9A				
MW-9B				
MW-10A				
MW-10B				
MW-11A		1		
MW-11B	7875			
MW-12A				317
MW-12B				
MW-13A				
MW-13B				
MW-14A				
MW-14B				
MW-15A			V-000	
MW-15B	2	0. 50, 220		
MW-16A				
MW-16B			3007-	
MW-17B	9 20 10 10 10 10 10 10 10 10 10 10 10 10 10			
MW-18A				
MW-18B		2 2		
MW-19A				
WM-19B				
WM-20A				
MW-20B				
MW-21A				
MW-21B		10		
MW-22A		20-		
MW-22B				

Prood Divor Amoco

NW-6B N/D 1169

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN

Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10.63	11,69	11:00	12.21	1231	4,5	
	ALL SHEET CHARGES	10.63 11.69	Product	Product Free Product	Product Free Product Water	Product Free Product Water Recovered

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1:05	ND	8.64	11:07				STRONG ODER
							STRONG ODER VERY DARK ON TAD
				-			
					-		
				-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1:57	10.82	10.95	12,10	N/D	12.20		TUB HAD FELL DOWN TO MAKE THE DEEPER
							TO MAKE THE DEEDER

Date JUNE 17 Well Gauging KEVIN J

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12:16	1/0	10.87	12:18				
73.75							
		-					

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12:18	7.01	7.04	17;20				
			-				
			511/10/2016				

ime Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
5:50	6.31	6.32	12:22				
			-				Water State of the Control of the Co

Date: JUNE 17 Well Gauging KEVIN W

Time Start	2-1-2-620-6	to Free	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12:24	7	D	10.36	12:26				
						1737-1		

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12:31	10.13	10,14	12:33				
	L. C.		3 757 12 75 17 77				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
2:28	9.70	9.76	12:30				
							×

Date: JUNE 17 Well Gauging KAVIN W

Well Name: WW-5

	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
12:38	9,18	9.21	12:40			RECOVETED	
			1				
							N 5/10 (1997)
/ell Name: _W	M K Z - C	0					
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
12:57	7,28	7.30	12:59				
				-			
/ell Name: W	W KZ-	7					
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
necessary and							
13:00	ND	5.76	13:02				
13:00	1/0	5.76	13:02				
13:00	1/0	5.76	13:02				
13:00	7/0	5.76	13:02				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
13:15	6.95	7.07	13:32	7.15	7.17	<0,25	
Veli Name:						70/3/3	
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
Vell Name.							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gailons Recovered	Observations

Date: UNE | S Well Gauging YTY!N N

Well Name: MWK2-8

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:15	8,70	8.71	10.4	ND	8,90		USED BALER
eli Name: K	W-C						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to	Ending Depth to Water	Gallons Recovered	Observations
10:19	11.55	12.15	10:21				
-11.5							
ell Name:	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
						-	

Date: JUNE 8 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
3:55	7,06	7.07					
	ND	13.15	5,25				
						-7.5	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
8,55	20	4 33					
	7	13,30	5:24				

Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
	The second secon	Depth to Free Product Depth to Water	Denth to Water Time Stop	Denth to Water Time Ston	Denth to Water Time Ston	Depth to Water Time Stop

BROAD RIVER AMOCO

	OAD RIVER AIM		1
Date: UNE 18	Well Gauging	Varul	
Date.	_ reconician: _	NEW IN	•

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1				READING HT NOON
MWR2-2	20	9.90		
MWR2-3				
MWR2-4	77	9,25		
MWR2-5	Q N	9,25		
MWR2-6				
MWR2-7				
MWR2-8				
MWR2-9				
MWR2-10				
MWR2-11				
MWR2-12				
MWR2-13	200000000000000000000000000000000000000			
MWR2-14				
MWR2-15	70	10,90		
MWR2-16	20 12 35 -			
DMW-1				
DMW-2				
DMW-3				
RW-1	A: 121-2-1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2			
RW-2	ND	10.64		
RW-3	ak	10.35		
RW-4				
RW-5	20	10.18		
RW-6				
RW-7				
RW-8				
RW-9				
RW-10				
RW-11				74/4
RW-12	a/a	10.85		
RW-A		-0-0-1		
RW-B				
RW-C				
RW-D				

Date: JUNE 18 Well Gauging KEVIN W

Well Na	me Depth to Fre		Recovery Today?	Notes
MWR2-1	11oddet (It.	.) Water (it.)	Todayr	1 2 2 2
- MWR2-2	DU	9.88		RODING IT 4 PM
MWR2-3	1 10	1.00		
MWR2-4	ND	9.26		
MWR2-5	ND	8.43		
MWR2-6		10.70		
MWR2-7				
MWR2-8				
MWR2-9				
MWR2-10				
MWR2-11				
MWR2-12				
MWR2-13				
MWR2-14				
MWR2-15	ND	11.86		
MWR2-16		1		
DMW-1				
DMW-2				
DMW-3				
RW-1				A. SROW
RW-2	ND	10,46		
RW-3	ND	10.40		
RW-4		3000		
RW-5	ND	10.27		
RW-6				
RW-7				
RW-8		-		
RW-9		+		
RW-10				
RW-11	-	1.0.00		
RW-12	ND	10.87		
RW-A		+		
RW-B RW-C		+		
RW-C RW-D	-	+		
מ-אא				

BROAD RIVER AMOCO
Well Gauging
Technician:

	Donth to Fee	Death to	B	
Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1				8:45AM - 9:05 AM
MWR2-2		9.63		
MWR2-3	W. A. A. A. C.			
MWR2-4		9.22		
MWR2-5		8.45		
MWR2-6				
MWR2-7				
MWR2-8				
MWR2-9				
MWR2-10				
MWR2-11	***			
MWR2-12				
MWR2-13				
MWR2-14				
MWR2-15		10,81		
MWR2-16				
DMW-1				
DMW-2				
DMW-3				
RW-1	-	7 1 1 1		
RW-2		10.60		
RW-3		9.07233		
RW-4		- 10 A 10 D		
RW-5	10,16	10.17		
RW-6				
RW-7				
RW-8		- Comme		
RW-9				
RW-10	3 (1)			
RW-11				
RW-12		10.80		
RW-A		6.102		245 2722
RW-B	11.15	11.25		50 St. 10 St
RW-C				
RW-D				

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN W

Well Name	Depth to Free	Depth to	Recovery	Notes
	Product (ft.)	Water (ft.)	Today?	
MW-1		11.32		
MW-2		10.09		
MW-3	10,76	10.09	2 TB5	
MW-4		8.25		
MW-5		9.20		
MW-6A	577 VUURANTSV	11,44		
MW-7A				
MW-8A				
MW-8B				
MW-9A		SAMINE O LES		
MW-9B	/2 Vertical 1		977 N. 1878	
MW-10A				
MW-10B				
MW-11A		0241 958-5		
MW-11B				10 VOM
MW-12A				
MW-12B				
MW-13A				
MW-13B	NEW YEAR			
MW-14A				
MW-14B	200			
MW-15A	100011 5-1			
MW-15B				
MW-16A	75.72	Vice N	1976 - 276	2
MW-16B				
MW-17B		- TO THE		
MW-18A				
MW-18B				ALCOHOL ST
MW-19A				
WM-19B				
WM-20A				
MW-20B	4.5			200 201 201 201 201 201 201 201 201 201
MW-21A				
MW-21B	es en e			
MW-22A				70.00 TO 10
MW-22B	s = 15 4	11 21		

11.51 MW-6B

BROAD RIVER AMOCO

Well Gauging
Technician: KEVIN W

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1		7.07		-241002 000
MWR2-2		9.66		
MWR2-3		1,00		
MWR2-4		9,21		
MWR2-5		8.38		
MWR2-6	7.18	7019		7.65 (1977)
MWR2-7		5,80		30000-00-00-00-00-00-00-00-00-00-00-00-0
MWR2-8	8,88	8,90	TSP	9,05 ENDING
MWR2-9		11.18		*
MWR2-10		8,95		
MWR2-11		11.73		10 SEC 11 - 10 10 10 10 10 10 10 10 10 10 10 10 10
MWR2-12		9,00		
MWR2-13				
MWR2-14		8.80		
MWR2-15		10.82		
MWR2-16		1,39		
DMW-1		11.35		
DMW-2		11.		
DMW-3				
RW-1		9.23		
RW-2		10,59		2 2 2 AWAY
RW-3		9.70.		
RW-4		8.54		
RW-5		10.15		
RW-6		10.35		
RW-7		8.43		
RW-8		8.55		
RW-9		11.03		0
RW-10	9,64	9.77		DID NO PRODUCT TOO MUCH TRAFFIC
RW-11		11 /1-1		
RW-12	0.58	0.82		
RW-A		6,60		
RW-B	11.01	11.11		
RW-C	11.00	12,11	3,5	7.20-7.24 HUDING
RW-D	6112	7.01	0.25	7.20-7.24 HUDING

Date: JUNE 19 Well Gauging LEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:15	8.88	8.90	9:33	ND	9,05	TSP	USED HAND BATER
•							TO GET SMALL FAW
H117				-			-
	-	-		-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
0:33	1074	10,88	10.41	ND	12,70	2 TB5	USED HAND BAIER TO GET SMALL AMOUNT
							TO GET SMALL AMOUNT
				-			-

Date: VNE 9 Well Gauging LEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop		Ending Depth to	Gallons	Observations
17.11		100		Free Product	Water	Recovered	
12:11	6.93	7.01	12:20	7,20	7.24	0.15	USED HAND BAKE
					-		
ell Name: K	11-10						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
2:31	9.64	9.71	12:50				TOO WUCH TRAFFIC
			(4)				AND TOO LITTLE PRODUCT
il Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
			rantz-stale zeropa e				

Date: JUNE 71 Well Gauging KEVIN L.

Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
11.15	12.13	10:56	12.71	BOTTOM	4	SOMIE 1.14 4 8 %
					-	
				-		
	11.15	11.15 12.13	11.15 12.13 10:56			NATE: NECOVERED

Time Start	Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:05	9.05	9.07	9319	ND	9.38	TSP	
			0 181-				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1:02	9.60	9.68	11:26	AN	10,00	1	
							W. C. W. C. W. C.

Date: JUNE 21 Well Gauging LEVINIV

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1:32	9.59	9.75	11:43	ND	9,79	.5	
	termine e-wh						

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
1,58	6.91	7.06	12:30	ND	7.09	x 25	
				-			
Loren en State en en en							

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
			aner - r				
				-			
				-			

BROAD RIVER AMOCO
Well Gauging
Technician: KEVIN W Date: JUNE 21

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MW-1		1967 - 1964 - PA		
MW-2	N D 10.90	10,32		12:10
- MW-3	10.90	11.05	CUP	12:12 11.81 STOPTIME
MW-4	2-5			
_MW-5	ND	9,19		12:08
MW-6A				2011 77 110 100 100 100 100
MW-7A				31 1922
MW-8A				
MW-8B				
MW-9A	71. 74 557.72			
MW-9B				
MW-10A				
MW-10B				
MW-11A				
MW-11B				
MW-12A				
MW-12B				
MW-13A				12 1- 36-236
MW-13B				
MW-14A				
MW-14B				
MW-15A				
MW-15B				
MW-16A				
MW-16B				
MW-17B				
MW-18A			10.50	
MW-18B				
MW-19A		3 20 23		
WM-19B			1	
WM-20A				
MW-20B				
MW-21A				300
MW-21B				
MW-22A		2 L-3 - 5 - 1		
MW-22B				

Date: JUNE 21 Technician: KEVIN W

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1				
MWR2-2		9,73		START 9:20
MWR2-3				END 9:37
MWR2-4		9.24		70 11 1
MWR2-5		9.24		
MWR2-6				
MWR2-7				
MWR2-8				
MWR2-9				
MWR2-10				
MWR2-11				
MWR2-12				
MWR2-13				
MWR2-14				
MWR2-15		10.81		
MWR2-16				
DMW-1				
DMW-2				
DMW-3				
RW-1		9.32	78.2229	7 (Annal).
RW-2		10,58		
RW-3				
RW-4				
RW-5		10.04		
RW-6				1
RW-7		-31200		· · · · · · · · · · · · · · · · · · ·
RW-8				
RW-9	10			
RW-10				
RW-11				
RW-12		10.87 4,54		
RW-A		6,54		
RW-B	9.62	9.79		Salari - Sal
RW-C				NA 100 00 00 00 00 00 00 00 00 00 00 00 00
RW-D	7,772			20 A 70 A

Well Name	Depth to Free Product (ft.)	Depth to Water (ft.)	Recovery Today?	Notes
MWR2-1	72.00 VI (10.00			
MWR2-2	717			
MWR2-3				
MWR2-4				
MWR2-5				
MWR2-6	7.14	7.17		17.70
MWR2-7		5.78		12.20
MWR2-8				
MWR2-9				
MWR2-10		-		
MWR2-11				
MWR2-12				
MWR2-13	1000			
MWR2-14				
MWR2-15		760		
MWR2-16		-		
DMW-1	7602			3 N/
DMW-2		2000		
DMW-3	<u> </u>			
RW-1				215
RW-2			1 2	
RW-3				1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
RW-4				
RW-5				
RW-6			Marries .	
RW-7				
RW-8		- W. W 120	S-218-1 1-2	
RW-9				1000
RW-10	1977			
RW-11	2 2 0 0			3330
RW-12				
RW-A				
RW-B				
RW-C		711kH (i.e		
RW-D				

Date: WE 74 Well Gauging KEVIS IN

/ell Name: Recovered /ell Name: Recovered /ell Name: Recovered //ell Name: Recovered //	bservations	Observa		Ending Depth to Water	Ending Depth to	Time Stop	Depth to Water	Depth to Free Product	Time Start
Time Start Depth to Free Product Product Depth to Water Time Stop Free Product Recovered Observed Product N D CO.40 W.43 Ending Depth to Water Recovered Observed Observed No.40 Water Recovered Observed			Recovered	water	reerioude	11:41	6.95	6.93	11:39
Time Start Depth to Free Product Depth to Water Time Stop Free Product Water Recovered Obs 1.42 N D 0.40 1.43									
Time Start Depth to Free Product Depth to Water Time Stop Free Product Start Depth to Water Start Depth to Water Start Start Start Depth to Water Start St								w #	Name: R
ell Name. PU-12 Time Start Depth to Free Product Product Depth to Water Time Stop Free Product Water Recovered Obs.	servations	Observa						Depth to Free Product	Time Start
Time Start Depth to Free Product Depth to Water Time Stop Product Free Product Water Recovered Obs.						11:43	6.40	ND	1.42
Time Start Depth to Free Product Depth to Water Time Stop Product Product Obs.									
Time Start Depth to Free Product Depth to Water Time Stop Free Product Gallons Obs.								IJ-12	eli Name. K
(1:43 N1) (0.80 1:44	servations	Observat	72				A section of the second section is	Depth to Free Product	Time Start
						11:44	10.80	ND	11:43
		1101 100000000							

Date: JUNE 24 Well Gauging KEVIN W

Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
ND	10.23	11:47				
		-1				
			FIGURE	Free Product	Free Product Water	Free Product Water Recovered

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered		Observations
11:48	8,86	8.87	11:50				WITH	ODER
				-				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered		Observations
11:51	10,02	10.04	11:53				WITH	OUER
		-					-	
					122			

Date: JUNE 24 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
2:51	7.15	7.22	13:01	ND	7.42	TOS	HAND BAER
			Square no execu-				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
13:01	ND	5.64	13:03				
							3.000 32 3.000 32 32 32 32 32 32 32 32 32 32 32 32 32
			-				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Recovered	Observations
13:04	6.76	6.87	13:12	6.98	7,00	3 CUPS	
				-			

Date: JUNE 24 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
13:16	ND	9.55	13:18				000 NOT HAILING
							PRODUCT
				-			
							-

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
3:22	11,07	12,55	14:50	12.12	ND	3	PUMP NOT GETTIN
							ANY MORE.
							1 22 2

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
3:22	аи	8.34	13:24				

Date: SPOAD RIVER AMOCO Well Gauging LEVIN L

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
4:53	10.63	10.86	14:59				
		-					
							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
			13				
	-		0.00	-			
				1	-		
			-	1			
				1			

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
		-		-			
				-			
	-						
				+			

Date: SUNE 26 Technician: KEVIN LA

Well Name: RW-B

	Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:34	6,95	6.97	10:37				
Vell Name:	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
				101			
Vell Name:							
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations

Date: JUNE 26 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:56	ND	5,69	9:57				STRONG OVER
							Name of the last o

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:58	6.81	6.94	9:59	ND	7.10	,5	10:15 HAND BALED

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
10:29	ND	9.60	10:32				CHECKED TWICE
				000000000000000000000000000000000000000			
	 						
5 :- MV - 2 s							

Date: JUNE 76 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:47	ND	10.75	9:48				
				<u> </u>	-		
				-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:48	ND	6.42	9:49				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:51	ND	7.28	9:52				
	 	-					3.000 Sec. 10.000

Date: UNE 26 Well Gauging LEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:41	ND	10.10	9:42				
	7 W - 2 S. 11						
	Andrew Company and the party and						

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
9:43	ND	8.98	9:44				
				-			
					-		

Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
ND	10.20	9:45				
			-		-	
֡	THE RESERVE OF THE PROPERTY OF	Product Depth to Water	Depth to Water Time Stop	Product Depth to Water Time Stop Free Product	Product Depth to Water Time Stop Free Product Water	Product Depth to Water Time Stop Free Product Water Recovered

Date: JUNE 26 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recoyered	Observations
8-32	11.23	12.65	10,22		BOTTOM	4	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
8:32	ND	8.53	8:35				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Recovered		rvations
9:38	10.76	10.85	9:40	ND	11.78	TSP	10:08 STOP	HANDBALED
								HAN SOURCE ST

Date: LUNE 28 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
6:50	20	8,67	6:52	1			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
6:50	11 85	Full AGATH	7:59	ND	BOTTOM	2,5	
-				 			
					A STATE OF THE STA		

Time Start	Depth to Free Product	Depth to Water	Time Stop	Free Product	Ending Depth to Water	Gallons Recovered	Observations
1:10	10.77	[1.0]	7:16	ND	11.70	CUP	HAND BALED
				-			
				-			
				-	-	0.000	

Date: JUNE Z8 Well Gauging KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:20	ND	955	7:21			necovered	
				-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:22	ND	10.10	7:23				
						-	
				-			
				-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:23	ND	9,09	7:24				
				-			
	_						
			12222				

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:25	ND	10,75	7:26				
114 10 10 10 10 10 10 10 10 10 10 10 10 10							
_				 			
ell Name: 🗜	W-A						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:27	ND	6.47	7:28	riee riodact	water	Recovered	
		<i></i>					
ell Name.	W-12						
Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
	ALD.	10,81	7:30				
7: 29	74 0			1			
7: 29	70.0						
7: 29	70.0						
7: 29							

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:38	7,35	7.35	7:43	ND	7.51	CUD	HAND BALED
		641		-			

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:44	ND	5.80	7:45				
		-	311				
						0-10-10-10-10-10-10-1	
		Association of the Commission			Autobal tely (Niella) a	essay residence and the service	

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7:47	6.98	7.07	7:52	ND	7.23	.25	
			32-77-77				
	10-10-2 to 20-2 1 column						

BROAD RIVER AMOCO.

Date: LINE 28 Well Gauging KEVIN W
Technician: KEVIN W

Time Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
8:11	6,98	7.01	8:19	ДИ	7.12	CUP	HAND BALLED

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
7. 7. 7. 7.							
				-			
			5000				

ime Start	Depth to Free Product	Depth to Water	Time Stop	Ending Depth to Free Product	Ending Depth to Water	Gallons Recovered	Observations
5450 FE-5100 S. S. A. A.							

Date: July 5 2019 Measured by: KEVIN WESSINGER Instrument #: INTERFACE PROBE 1068013

Monitoring Well ID#	Depth to Water (ft)	Depth to Free Product (ft)	Comments
MW-1	11.95	ND	
MW-2	10.55	ND	
MW-3	12.74	10.97	
MW-4	8.92	8,91	
MW-5	9.23	9.22	
MW-6A	12,02	ND	
MW-6B	12,17	ND	
MW-7A	not measured		
MW-8A	not measured		
MW-8B	not measured		
MW-9A	not measured		
MW-9B	not measured		
MW-10A	6.95	ND	
MW-10B	6.87	ND	
MW-11A	3.18	DU	
MW-11B	1,85	ND	
MW-12A	not measured		
MW-12B	not measured	1000	
MW-13A	not measured		
MW-13B	not measured		
MW-14A	not measured		
MW-14B	not measured		

Date: July 5 2019 Broad River Amoco
Measured by: KEVINWESSINGER
Instrument #: INTERFACE PROBE 1068013

Monitoring Well ID#	Depth to Water (ft)	Depth to Free Product (ft)	Comments
MW-15A	not measured		
MW-15B	not measured		
MW-16A*	not measured		
MW-16B*	not measured		
MW-17B	not measured		
MW-18A	0.85	ND	
MW-18B	WATER	ND	
MW-19B	not measured		
MW-20A	not measured		
MW-20B	not measured		
MW-21A	not measured		
MW-21B	not measured		
MW-22A*	not measured		
MW-22B	not measured		
MWR2-1	7.32	ND	(c
MWR2-2	10.07	ND	
MWR2-3	11.60	ND	
MWR2-4	9,51	ND	
MWR2-5	8,60	ND	
MWR2-6	7.28	ND	
MWR2-7	6.07	NU	ItEXINGORMA-DOER
/WR2-8	8296	ND	

Date: July 5 2019

Broad River Amoco

Measured by: KEVIN WESSINGER

Instrument #: INTERFACE PROBE 1068013

Monitoring Well ID#	Depth to Water (ft)	Depth to Free Product (ft)	Comments
MWR2-9	11.75	ND	
MWR2-10	9.15	ND	
MWR2-11	11.80	ND	
MWR2-12	9,02	AL	A 16 TO ASSESSED AND THE STREET THE SECOND TO SECOND THE SECOND TO SECOND THE
MWR2-13	3,73	ND	
MWR2-14	3,65	ND	
MWR2-15	11,60	ND	
MWR2-16	12.00	ND	
DMW-1	11,22	ND	V=3/13-4/35(:0-4/1
DMW-2	not measured		
DMW-3	not measured	WARRY TO THE REAL PROPERTY OF THE PARTY OF T	

RW-1	9,28	70	
RW-2	11,08	ND	
RW-3	10.14	ND	
RW-4	10.36	4	
RW-5	10.32	10.31	
RW-6	1055	A 72	
RW-7	9.02	0	
RW-8	8,89	NO	
RW-9	11.65	7	
RW-10	9.62	9.65	

Date: July 5 2019 Broad River Amoco
Measured by: KEVIN WESSINGER
Instrument #: TNTEX FACE PROZE 1068013

Monitoring Well ID#	Depth to Water (ft)	Depth to Free Product (ft)	Comments
RW-11	12.00	ND	
RW-12	11.31	ND	
RW-A	6.54	ND	
RW-B	7.26	7.21	
RW-C	12.52	10.30	
RW-D	7.30	7.18	



June 19, 2019

Mr. Bill Wood

CTSI

Office: (843) 610-1953

Email: wwood@ctsiengineering.com

RE: 8-Hour AFVR Event

4335 Broad River Rd

Columbia, SC

Mr. Wood:

A&D Environmental Services (SC) LLC (A&D) performed an 8-Hour AFVR event at the subject site on Tuesday, June 18, 2019. The event was conducted on wells RW-A and RW-B. During the event vacuum at the recovery pump was measured at -17 to -16 inches of mercury at RW-A and -15 to -13 inches of mercury at RW-B. Airflow was registered at 440 to 455 CFM and the system temperature ranged from 187.7 to 223 degrees F. Humidity ranged from a high of 7.4 percent to a low of 3.0 percent. Field gauged volatile organic compounds (VOC's) emissions exceeded >15,000 parts per-million (PPM).

Groundwater / Product Mix Recovered

During the event a total of 125 gallons of product/water mix were removed from the site and properly disposed at a certified South Carolina disposal facility. No additional free product was removed as liquid. Based on 8 hours of operation and a total of gallons recovered, the average groundwater recovery rate was calculated to be approximately 15.63 gallons per hour.

Event Results

Based on mass-removal calculations, 846.13 pounds or 135.38 gallons of VOC's were removed as vapor. Attached are the calculation spreadsheets.

A&D appreciates the opportunity to assist you with this project. If you have any questions or need further information please contact me at (336) 804-0824.

Sincerely,

A&D Environmental Services (SC) LLC

Jeff Albano, PG Project Manager

jalbano@adenviro.com

C) all

15. International Shipments Import to U.S. Export from U.S. Port of entrylexit: Date leaving U.S.: 16. Transporter Acknowledgment of Receipt of Materials Date leaving U.S.: 17. Transporter 2 Pfinted/Typed Name Signature Month Day 17. Discrepancy Transporter 2 Pfinted/Typed Name Signature Month Day 17. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection 170. Alternate Facility (or Generator) U.S. EPA ID Number 171. Signature of Alternate Facility (or Generator) U.S. EPA ID Number 172. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 173. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 174. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 175. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 176. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 177. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 178. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 179. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 170. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 170. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 170. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 170. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 171. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 172. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 174. Discrepancy U.S. Epa ID Number 175. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 176. Signature of Alternate Facility (or Generator) U.S. Epa ID Number 177. Discrepancy U.S. Epa ID Number U.S. Epa I	NON-HAZARDOUS WASTE MANIFEST	Generator ID Number	14-	1 1	3. Emergency Respon		1900	recking Nur 6-03	3 <i>5</i>			
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No. 1790 Outside Windows TT 185 G 1. TT 185 G 2. 13. Special Hearding Interactions and Additional Information 11. Special Hearding Interactions and Additional Information 12. Special Hearding Interactions and Additional Information 13. Special Hearding Interactions and Additional Information 14. GENERATOR Special Interactions and Additional Information 15. Interactions Continued Interactions and Additional Information Interaction Interactions and Information Interaction In	9. Waste Shipping Nan	me and Description			10. Co	ntainers	11. Total	12. Unit				
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AFVR Data Sheet - Emissions Data & Calculation

Client: CTSI					Site: 4335	Broad Riv	er Rd, Co	lumbia, SC					6/18	/2019	Job#	1267
Technician:					Meters: M	iniRae 200	0-10.6 eV	PID, TESTO	0 445-Van	e, %RH, T	emp	Resp	onse Fact	or:	1 Stack Dia	a(in): 4
Time (h:m)	Delta Time (min)	Pre PPMmea (PPMv)	Post PPMmea (PPMv)	Velocity (fpm)	Temp (° F)	RH (%)	Flow (cfm)	Specific Humidity (IbW / IbDA)	Water Vapor (vol %)	Qstd (dscfm)	Dry Conc (PPMv)	Response Factor	Corrected Conc (PPMv)	Mass C		Mass Removed (
	Start															
0945	30	15000	11.5	5216	186.7	7.4	455	0.100	0.138	320	17403	1	17403	9254	0.005778	55.49
1015	30	15000	11.1	5196	192.7	6.5	453	0.100	0.138	316	17403	1	17403	9254	0.005778	54.77
1045	30	15000	25.6	5210	200.3	6.0	454	0.100	0.138	313	17403	1	17403	9254	0.005778	54.29
115	30	15000	44.9	5183	201.5	5.5	452	0.100	0.138	311	17403	1	17403	9254	0.005778	53.91
1145	30	15000	66.9	5031	205.0	5.0	439	0.100	0.138	300	17403	1	17403	9254	0.005778	52.05
1215	30	15000	77.7	5212	209.0	4.9	455	0.100	0.138	309	17403	1	17403	9254	0.005778	53.60
1245	30	15000	89.6	5108	213.0	4.0	446	0.100	0.138	301	17403	1	17403	9254	0.005778	52.22
1315	30	15000	111.3	5126	217.0	3.7	447	0.100	0.138	301	17403	1	17403	9254	0.005778	52.09
1345	30	15000	110.9	5213	215.0	3.5	455	0.100	0.138	307	17403	1	17403	9254	0.005778	53.14
1415	30	15000	112.7	5305	218.0	3.0	463	0.100	0.138	311	17403	1	17403	9254	0.005778	53.83
1445	30	15000	116.2	5210	217.0	3.9	454	0.100	0.138	305	17403	1	17403	9254	0.005778	52.95
1515	30	15000	119.5	5106	219.0	3.7	445	0.100	0.138	298	17403	1	17403	9254	0.005778	51.74
1545	30	15000	219.9	5136	221.0	3.5	448	0.100	0.138	299	17403	1	17403	9254	0.005778	51.89
1615	30	15000	203.6	5044	223.0	4.0	440	0.100	0.138	293	17403	1	17403	9254	0.005778	50.81
1645	30	15000	234.5	5126	222.0	3.9	447	0.100	0.138	298	17403	1	17403	9254	0.005778	51.71
1715	30	15000	248.9	5118	222.0	3.6	446	0.100	0.138	298	17403	- 1	17403	92548	0.005778	
PMmea = Measu	red VOC	concentratio	n from OVA/T	VA (PPMv)								Total	emissions, po	ounds		846.13
elocity = Measur	ed veloci	ty (fpm)										Total	emissions, ga	llone /6 2	5 lb/oal)	135.38

Temp = Measured temperature (°F) RH = Measured relative humidity (%)

Flow = Actual Flow Volume (cfm)

Specific Humidity = data from psychrometric chart at measured Temp and RH (lb water/lb dry air) (lbW / lbDA)

Water Vapor = % water vapor on a volume basis = (Specific Humidity / 18 lb-mole H2O) / [(1 / 28.84 lb-mole dry air) + (Specific Humidity / 18 lb-mole H2O)]
Qstd = Flow volume on a dry basis at a standard temperature of 68° F = (1-Water Vapor) (Flow) [528 0R / (Temp +460)]

Dry Conc = PPMv VOC on a dry basis = [PPMmea / (1-Water Vapor)]

Response Factor of OVA/TVA meter; 1 if response factor is unknown

Corrected Conc = Dry Conc PPMv VOC corrected by Response Factor = (Dry Conc) (Response Factor)

Mass Conc (mg/m³) - Mass concentration VOC as gasoline dry basis at standard temperature = (Corrected Conc) (128 mg/mg-mole / 24.07 m3/mg-mole)
Mass Conc (lb/t¹³) = [Mass Conc (mg/m3)] [(6.243 * 10-10)(lb/th3)/(mg/m3)]

Mass Removed (lb) = [Mass Conc (lb/ft3)] [Ostd (dscfm)] [Time Interval (min)]

AFVR Field Data Sheet

Client: CTSI Technician:				Site:	Site: 4335 Broad River Rd, Columbia, SC										18-Jun-19			Job #1267							
				Truck Operator: Green							Tank Vol: 2900 gal Blow				ver Rating at 24 in Hg: 492 scfm;		fm;	27 in Hg: 103 scfm							
Time (hh:mm) Start Time:	Depth (11)			Extract		H-head Vacuum h Hg)				Influence On Surrounding Well Vacuum (in water)						Adjacent Well Water Level Measurements No Product Detected									
9915 & 6		RW.A	FW-B	NW.	NW.	New.	NW.	WW.	ww.	MW-RS	MW-R4	12.99	WW-R2	HW-1	WW-R15	ww.	- Aun	- Mark	New.	ww.	MW.	MW.	WW.	-Aun	W.
0945	7	-17	-13							0.00	0.00	0.00	0.00	0.00	0.00			-	_	_	-		1	-	_
1015	8	-17	-13							-5.46	0.00	0.00	0.00	0.00	0.00		\top								\vdash
1045	8	-17	-13							-7.41	0.00	0.00	0.00	0.00	0.00										\vdash
115	9	-17	-13							6.38	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1145	10	-17	-13							-8.52	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1215	11	-17	-13			1				-8.41	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1245	12	-17	-13							-8.26	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1315	12	-17	-13							-7.91	0.00	0.00	0.00	0.00	0.00	-									$\overline{}$
1345	12	-17	-13							-8.36	0.00	0.00	0.00	0.00	0.00										
1415	12	-17	-15			Ų.				-8.17	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1445	12	-17	-15							-8.43	0.00	0.00	0.00	0.00	0.00										$\overline{}$
1515	12	-17	-15							-8.71	0.00	0.00	0.00	0.00	0.00										
1545	12	-16	-15							-8.52	0.00	0.00	0.00	0.00	0.00										\vdash
1615	12	-16	-15							-8.86	0.00	0.00	0.00	0.00	0.00										
1645	12	-16	-15							-9.08	0.00	-0.23	-0.10	-3.0	-0.26										
1715	12	-16	-15							-11.07	-0.08	-0.36	-0.14	-3.1	-0.26										
		RV	/-A	RW	V-B						1														
Depth Below Top of Casing		6.33		7.01										-		-		Depth to groundwater pre-AFVR/EFR							
																Depth to groundwater post-AFVR/EFR				EFR		-			
																	Depth to groundwater 20 minutes post-AFV			REFR					
		0.00		0.0	00										7			Depth to free product pre-AFVR/EFR							
																		Depth to free product post-AFVR/EFR							
			- 6.															Depth to	free pro	duct 20	minutes p	ost-AFV	REFR		



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environm

the environme CAETING

FREDRICK N CECCHINI BROAD RIVER AMOCO 4335 BROAD RIVER ROAD COLUMBIA SC 29210-4009

MAR 2 6 2012

Re: Tier II Directive

Broad River Amoco, 4335 Broad River Road, Columbia, SC UST Permit # 11946; CA # 42065; MWA # UMW-24502

Release reported January 4, 2011 Tier I Report received April 11, 2011

Monitoring Well Installation Report received June 21, 2011

QAPP Contractor Addendum received February 21, 2012 and Revision received March 15,

2012

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the referenced reports submitted by Enviro-Test Services, Incorporated on your behalf. The reports indicate the presence of chemicals of concern (CoC) in the groundwater and soil plus free phase product exists in monitoring well MW-5. A Tier II assessment should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) and in compliance with all applicable regulations. A copy of SCDHEC QAPP for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/html/ust.htm.

Assessment activities at the site should begin immediately upon receipt of this letter. Cost agreement number 42065 has been approved for the amount shown on the enclosed cost agreement form for installation of up to 50 temporary, 24 shallow and 3 deep monitoring wells plus sampling the entire monitoring well network to define the extent of free phase product plus horizontal and vertical extent of dissolved CoC. Please be aware that the July 1, 2011 State Underground Petroleum Environmental Response Bank (SUPERB) Allowable Costs sheet states that "If the vertical and horizontal extent of chemicals of concern is not fully defined by the tier report, the Department may not approve additional future mobilizations for additional screening or well installation." Screening points that are converted to a permanent monitoring well will be reimbursed at the approved well installation rate. Please contact the Department prior to well installation for concurrence regarding the final well locations. All shallow wells are to be installed with screen intervals that bracket the water table. Shallow wells should have a 10-foot screen. The SUPERB Account cannot reimburse costs for any shallow well with a screen that does not properly bracket the water table.

A groundwater sample from any water supply well within 1,000 feet of the facility should be collected and analyzed for BTEX, naphthalene, 8 oxygenates, 1,2 DCA Ethanol, and EDB. Existing groundwater monitoring wells must be purged prior collection of a groundwater sample since it has been more than 12 months since the wells were last sampled. Groundwater samples from the monitoring well network should be collected and analyzed for BTEX, naphthalene, 8 oxygenates, 1,2 DCA, Ethanol, lead, and EDB. Analyses should be in accordance with Appendix E of the QAPP For the Underground Storage Tank Management Division to include duplicate samples, field and trip blanks.

The Tier II Assessment Report, contractor checklist, and invoice are due within 90 days from the date of this letter. The report (a signed .pdf copy on CD is preferred) submitted at the completion of these activities should include information outlined in the Master QAPP document to include the following:

- Geological cross sections that include the shallow and deep monitoring wells.
- Report the percentage of sand, percentage of silt, and percentage of clay in two shallow and two adjacent deep wells in the report and on the geological cross sections.
- Boring logs and well logs (DHEC form 1903) signed by a well driller licensed in the state of South
 Carolina for each new temporary or permanent monitoring well in accordance with the South Carolina
 Well Standards, R.61-71. 1903 forms are required for field screening borings (whether direct push or
 drilled) where a sample is extracted for analysis.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well location.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular format. Historical groundwater laboratory analytical data and depth to groundwater, and product if applicable, for this and all previous monitoring events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data. A second contour map will be necessary if three or more deep wells are installed.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.
- According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site
 rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by
 the certified contractor and bear his certification number.

Cost agreement number 42065 has been approved for the amount shown on the enclosed cost agreement. Please note the following changes to the submitted cost agreement:

- The number of equipment mobilizations has been reduced from three to two. One for screening and a
 second for well installation. The number of personnel mobilizations has been reduced by two to a total of
 six.
- The field screening footage has been decreased to 2,000 feet. Additional footage can be approved if needed. Please be sure that free phase product is not allowed to migrate downward when conducting deep screening.
- The number of deep pit cased wells plus sample collection and laboratory analyses has been increased by
 one so the groundwater flow direction and CoC levels in the lower portion of the aquifer can be
 determined. The location of the third deep well will be determined once screening results are submitted.
- Costs for groundwater sample collection of two duplicate samples, two field blank samples, sampling below product for one well with the greatest thickness of product, plus gauging three wells with product have been added to the cost agreement.
- Laboratory analyses for unfiltered lead has been decreased by two, since laboratory analyses of blanks is not required for metals.
- Laboratory analyses for BTEX plus Naphthalene of a soil sample collected at a depth of 15 feet or less below the ground surface for each new permanent shallow monitoring well has been added.
- Laboratory soil grain size/hydrometer testing has been added for soil samples collected from the screen intervals of two pair of newly installed shallow and deep wells.
- As the UST Management Division staff will conduct modeling, costs associated with modeling and Tier II
 Risk Evaluation have been deleted from the approved cost agreement.

According to Division records, the release at the facility was reported to SCDHEC on January 4, 2011. In accordance with Section 44-2-40(D) of the State Underground Petroleum Environmental Response Bank (SUPERB) Account, you are responsible for the first \$25,000 of site rehabilitation costs. Please be sure to

provide proof of costs that will be applied to the deductible with the invoice. Acceptable proof or payment of deductible costs include a copy of the cancelled check (front and back) that made payment to your contractor or a signed notarized statement by your site rehabilitation contractor for the amount that was paid directly to your contractor. Enviro-Test Services, Incorporated can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs that exceed the \$25,000 deductible. An interim well drilling invoice may not be submitted for this scope of work as the deductible has not been met. By law, the SUPERB Account cannot compensate any costs that are not preapproved. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. The UST Management Division, because of unnecessary dilution, cannot make decisions if the reporting limit of individual petroleum CoC exceeds Risk-Based Screening Levels (RBSLs). The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release. Note that the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division requires that laboratories be certified through the SCDHEC Office of Environmental Laboratory Certification for the oxygenate compounds.

Please note that you and/or your contractor are responsible for obtaining all off-site access agreements and/or encroachment permits necessary for this scope of work.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note that in accordance with R.61-92, Subpart H, Section 280.114, you are required to notify the Division by certified mail within ten (10) days of commencing a voluntary or involuntary proceeding in bankruptcy. State law also requires that an owner/operator or guarantor that files for bankruptcy protection must immediately submit appropriate forms documenting that entity's ability to demonstrate financial responsibility.

Please reference UST Permit number 11946 on all correspondence. If you have any questions, please contact me by phone at (803) 896-6669, by fax at (803) 896-6245, or by email at shradeaa@dhec.sc.gov.

Sincerely,

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Approved Cost Agreement (ACA)

Monitoring Well Approval (MWA)

Signed Site Specific QAPP Contractor Addendum

cc: Enviro-Test Services, PO Box 2237, Irmo, SC 29063 (with enc.)

Technical File (with enc.)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval

Approval is hereby granted to: Enviro-Test Services, Incorporated

(on behalf of): Broad River Amoco

Facility: Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST Permit Number: 11946

County: Richland

This approval is for the installation of 50 temporary, 24 shallow, and 3 deep groundwater monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

- 1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
- 2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
- 3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f.
- 4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
- 5. If any of the information provided to the Department changes, notification to Arthur Shrader (tel: (803) 896-6669 or e-mail: shradeaa@dhec.sc.gov) shall be provided a minimum of twentyfour (24) hours prior to well construction as required by R.61-71.H.1.a.
- 6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
- 7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance:

March 19, 2012

Approval #:

UMW-24502

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

Section A: Project Management A1 Title and Approval Page



Broad River Amoco (BP) Revision Number 1 UST Permit #11946 Date: February 20, 2012



Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For

Broad River Amoco, UST Permit # 11946

4335 Broad River Road, Columbia, SC - Richland County

Prepared by: Terry L. Teate
Enviro-Test Services Inc. - SCDHEC Certified Contractor No. 14

Date: February 20, 2012

Approvals (II)
Arthur Shrader, Hydrogeologist Scheme Date 3/19/12 SCDHEC Project Manager Signature
Terry L. Teate Site Rehabilitation Contractor Signature Signature
Enviro-Test Services, Inc.
Jim Kotti, P.G Contractor QA Manager Signature
Ashley B. Amick Laboratory Director Date Z-17-1Z
Access Analytical, Inc. Signature Bunda Mattoria for
Scott Bailey Laboratory Director Brenda Martinez Wed Mar 14 2012 10:41:36 Date 03/14/12 Date 03/14/12
GCAL Oignature

Approved Cost Agreement 42065

Facility: 11946 BROAD RIVER AMOCO

SHRADEAA PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN			× .	W a
	C TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
3 COMPREHENSIVE SURVEY			17 17 17 17 17	
	COMPREHENSIVE SURVEY	1.0000	1,000.00	1,000.00
4 MOB/DEMOB		453.00		
	A EQUIPMENT	2.0000	575.00	1,150.00
	B PERSONNEL	4.0000	290.00	1,160.00
06 SOIL BORINGS (DRILLED)				
	A SOIL BORINGS & FLD SCREENING	2,000.0000	17.00	34,000.00
8 ABANDONMENT	~			
	A ABANDONMENT 2" DIA OR LESS	2,000.0000	5.00	10,000.00
9 WELL INSTALLATION	74	- A - S - S - S - S - S - S - S - S - S		
	B WATER TABLE (DRILLED)	720.0000	38.00	27,360.00
	C TELESCOPING	180.0000	58.00	10,440.00
0 SAMPLE COLLECTION	OF			4
18 15 - 18 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	A GROUND WATER	30.0000	55.00	1,650.00
	D GROUNDWATER NO-PURGE	2.0000	35.00	70.00
	E GAUGE WELL ONLY	3.0000	20.00	60.00
	F SAMPLE BELOW PRODUCT	1.0000	50.00	50.00
2 12	H FIELD BLANK	2.0000	5.00	10.00
1 ANALYSES				
GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	37.0000	100.00	3,700.00
	E LEAD	35.0000	20.00	700.00
	F EDB	37.0000	55.00	2,035.00
SOIL SOIL	Q BTEX+NAPTH	24.0000	100.00	2,400.00
	W GRAIN SIZE/HYDROMETER	4.0000	99.00	396.00
2 AQUIFER CHARACTERIZATION				
	B SLUG TEST	2.0000	150.00	300.00
7 DISPOSAL				
	A WASTEWATER	330.0000	0.80	264.0
	B1 FREE PRODUCT	10.0000	0.85	8.50
	C SOIL (TREATMENT/DISPOSAL)	4.0000	72.50	290.0
	D DRILLING FLUIDS	110.0000	0.80	88.00
9 RPT/PROJECT MNGT & COORDINATIO	- 100 - 100			
	PCT PERCENT	0.1500	97,656.50	14,648.4
				112 204 0

Total Amount

112,304.98

July 10, 2019

Debra Thoma, Hydrogeologist
Underground Storage Tank Section
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re:

Soil Vapor and Air Quality Assessment

Broad River Amoco (BP)

4335 Broad River Rd., Columbia Richland County, South Carolina

UST Permit #11946

ARM Project #12-414.3-19



Dear Ms. Thoma:

ARM Environmental Services, Inc. (ARM) has conducted additional sub-slab soil vapor and indoor and outdoor air sampling associated with the Broad River Amoco (BP) site on behalf of Enviro-Test Services, Inc. (Enviro-Test). Enviro-Test is the primary consultant for the responsible party for petroleum release #1 at the Underground Storage Tank (UST) site. The site is located along Broad River Rd. at the intersection of Dothan Rd. in Columbia, Richland County, South Carolina.

A summary of the services provided and data collected during this sampling event is documented in the following report and attached figures, tables, and appendices.

If you have any questions or comments regarding this report, please do not hesitate to contact us.

Sincerely,

ARM Environmental Services, Inc.

Michael L. Faris, P.G. Senior Geologist

enior Geologist

Andrew M. Wilson, P.G.

Sr. Project Manager / Principal

Andrew M. Unlser

cc: Terry Teate, Enviro-Test Services, Inc.

Assessment Activities

In order to further evaluate the air quality and sub-slab soil vapor at the Play Pals property, the following assessment activities were completed:

Sub-Slab Soil Vapor Sampling:

Six (6) sub-slab soil vapor points (Vapor Pins), designated SG-1 through SG-6, were previously installed in the concrete slab inside the Play Pals structure closest to the subject site. The Vapor Pin sub-slab vapor monitoring points were installed in December 2018 in order to facilitate the collection of soil gas from beneath the concrete slab portion of the building. 5/8-inch diameter holes were drilled through the concrete slab at six locations and the Vapor Pins were securely placed within these holes by advancement with a dead blow hammer. The Vapor Pins included a silicone sleeve that compressed against the hole in the concrete slab, sealing the hole around the Vapor Pin. Subsequent to sample collection in 2018, each of the vapor pins were capped and left in place for potential future sampling events. The same six vapor pins were utilized during this assessment for sample collection. The six sub-slab soil vapor points are indicated on Figure 3, the Play Pals Site Sketch. The site sketch consists of a photograph of the Play Pals Day Care building evacuation plan with sample locations indicated.

The Vapor Pins were connected with tubing to 2.7L stainless steel Summa Canisters. The flow rate of soil vapor to the Summa Canisters was controlled with a flow controller set at the laboratory to continuously draw soil vapor at a rate of approximately 200 milliliters per minute (ml/min). Soil vapor sampling at less than or equal to 200 ml/min is recommended in order to minimize the potential for drawing ambient or other air / vapor into the sample (short circuiting).

The sample train tubing connections were pressure tested with a shut in test to insure no leakage within the sample train. The valve closest to the vapor pin was closed and a vacuum equivalent to 15 inches of mercury was placed on the sample train with the integrated syringe. A pressure gauge was used to monitor any vacuum loss within the train. A sample train with a vacuum loss of less than 0.5 inches of mercury over a 1 minute period was considered tight.

A leak test, using the water dam method, was also used to test the integrity of the tubing connection to the Vapor Pin and the silicone seal against the concrete hole. After installation of the Vapor Pin, a two inch PVC pipe couple was placed over the Vapor Pin and was sealed against the concrete floor with VOC free Play-Doh. When all tubing connections had been made and the "shut-in" test had been completed, distilled water was placed into the PVC pipe couple to a level above the tubing connection to the Vapor Pin. The sample point was then purged by removing approximately 3 to 5 tubing volumes of air with the syringe.

A sudden drop in water level, or the appearance of water in the tubing would indicate leakage. The connection to the syringe was then closed and the valve to the Summa Canister was opened to begin sampling. The water level in the pipe couple was monitored throughout the approximate 13 to 15 minute sampling period at each location to insure no leakage occurred during sample collection. The water level within the PVC water dam remained constant throughout sampling and no water was observed in the tubing at each location.

The sub-slab soil vapor samples (Summa canisters) were shipped overnight to a certified laboratory for analysis. Each sample was analyzed for BTEX, naphthalene, MTBE, and 1,2-DCA via EPA analytical method TO-15. The results are tabulated along with Vapor Intrusion Screening Levels (VISL) in Table 1. Vapor sampling field data logs for each sample are included in Appendix A. The complete laboratory analytical data is included in Appendix B. The locations of each of the soil vapor sample locations are indicated on Figure 3.

Indoor Air, Outdoor Air, Crawlspace Vapor Sampling:

A total of six (6) indoor air, outdoor air, and crawlspace vapor samples, designated A-1, and A-3 through A-6, were collected at the Play Pals Daycare property and from the residence located adjacent to and downgradient (southwest) of the Play Pals property. The address of the adjacent residence is 1235 Dothan Rd.

ARM utilized 6 liter (L) stainless steel Summa canisters with flow controllers set by the laboratory for 8 hours. One canister was deployed outside the Play Pals building between the building and the Broad River BP location (A-1), one canister was deployed inside the portion of the Play Pals building that is over a slab (A-3), one canister was deployed inside the portion of the Play Pals building that is over a crawlspace (A-4), two canisters were deployed in the crawlspace of the Play Pals building (one above the polyethylene moisture barrier [A-5] and one below the polyethylene moisture barrier[A-6]), and one canister was deployed in the crawlspace of the residence located at 1238 Dothan Road (A-7).

The air samples (Summa canisters) were shipped overnight to a certified laboratory and analyzed for BTEX, naphthalene, MTBE, and 1,2-DCA via EPA analytical method TO-15. The results are tabulated along with Vapor Intrusion Screening Levels (VISL) in Table 1. Vapor sampling field data logs for each sample are included in Appendix A. The complete laboratory analytical data is included in Appendix B. The locations of each of the air sample locations are indicated on Figure 3.

Conclusions

Sample results were compared to EPA VISLs indicative of a 10-6 cancer risk or a hazard quotient of 0.1 for non-carcinogens (default VISLs).

None of the sub-slab results exceeded the VISLs, indicating that vapor intrusion from the subsurface was not occurring at the time of sample collection. The weather pattern around this time had been very dry (no rain for an extended period of time). Because of the high water table, wetter weather periods have likely been a driver for pushing contaminants and/or contaminant vapors into the sub-slab environment, which is likely a porous sand base beneath the concrete slab. Therefore these recent results may be a snapshot of conditions in a favorable (dry) environment.

Naphthalene was detected in the indoor air space in the slab portion of the Play Pals building at a concentration exceeding the commercial and residential VISLs. Benzene was detected in the indoor air space in the crawlspace portion of the Play Pals building at a concentration exceeding the commercial and residential VISLs. A significant concentration of naphthalene was also detected in the crawlspace of the residence at 1238 Dothan Road.

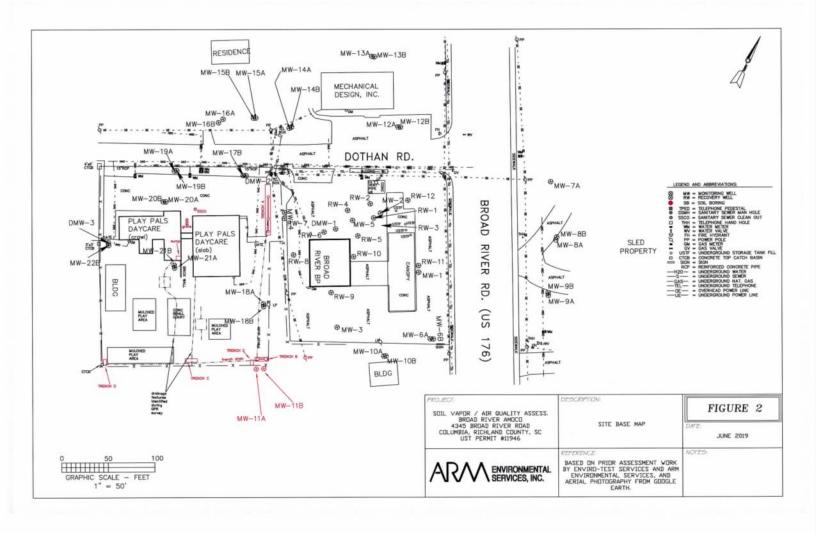
Several other CoCs were detected in exterior, interior, and crawlspace areas at concentrations that do not exceed commercial VISLs, but do exceed residential VISLs.

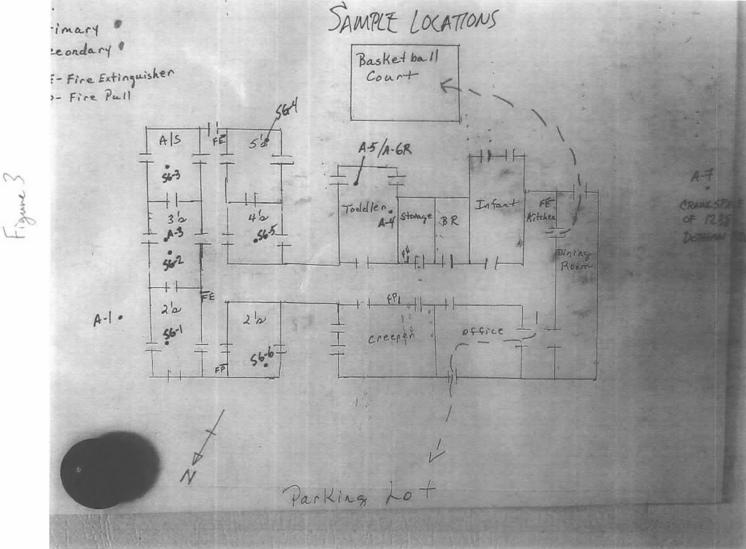
The sub-slab results do not suggest active vapor intrusion from the subsurface into that portion of the Play Pals building. This seems to suggest that the detected CoCs in indoor air are resulting from communication with outdoor air or via preferential pathways, such as subsurface utilities. The outdoor air sample results do not seem to line up in some areas with indoor or crawlspace air results. For instance, naphthalene was not detected in the outdoor air sample but was detected in the Play Pals building and the crawlspace of 1238 Dothan Road. It should be noted that the results are "snapshots" of conditions at a point in time and that the outdoor environment may change more dynamically than the indoor or crawlspace environments, where vapors may linger or there may be a lag effect. It should also be noted that the Play Pals building has been closed up with no air conditioning for an extended period of time with only occasional entry by the owners, a situation that has potentially led to a stagnant air environment, with little circulation.

FIGURES

- FIG. 1 SITE LOCATION MAP (Topo.)
- FIG. 2 SITE BASE MAP
- FIG. 3 PLAY PALS STURCTURE SKETCH with SAMPLING LOCATIONS







TABLES

Table 1 - Air and Soil Vapor Analytical Data

Default VISL Results Commercial Equation Inputs

Output generated 10DEC2018:13:17:57

Variable	Value
Exposure Scenario	Commercial
Temperature for Groundwater Vapor Concentration C	
THQ (target hazard quotient) unitless	25
TR (target risk) unitless	0.1
AT _w (averaging time - composite worker)	0.000001
EF _w (exposure frequency - composite worker) day/yr	365
	250
ED _w (exposure duration - composite worker) yr	25
ET _w (exposure time - composite worker) hr	18
LT (lifetime) yr	70
AF _{gw} (Attenuation Factor Groundwater) unitless	0.001
AF _{ss} (Attenuation Factor Sub-Slab) unitless	0.03

Commercial Vapor Intrusion Screening Levels (VISL)
Air Samples
1246 Dothan Rd (Play Pals) and 1238 Dothan Rd (Play

1246 Dothan Rd. (Play Pals) and 1238 Dothan Rd. (Residence) 6/4/2019 and 6/5/2019

Chemical	Target Indoor Air Concentration (TCR=1E-08 or THQ=0.1) MIN(C _{IB,O} C _{IB,NC}) (µg/m³)	A-1 (Exterior Air) (µg/m3)	A-3 (Interior of Slab Building - 1246 Dothan) (µg/m3)	A-4 (Interior of Crawlspace Building - 1246 Dothan) (ug/m3)	A-5 (Crawispace Air - Above Poly Liner - 1246 Dothan) (µg/m3)	A-6R (Crawispace Air - Below Poly Liner - 1246 Dothan)	A-7 (Crawispace Air - 1238 Dothan)
Benzene	1.57	0.677		(Jag.1110)		(µg/m3)	(µg/m3)
Dichloroethane, 1,2-	0.472	0.117	1100	2.2	1.02	0.393	0.361
Ethylbenzene	4.91		0.00	0.295	0.105	ND (0.081)	0.17
Methyl tert-Butyl Ether (MTBE)	47.2	0.304	1,00	0.604	0.5	0.161	0.208
Naphthalene		ND (0.721)		ND (0.721)	ND (0.721)	ND (0.721)	
African peri substantia anticolori	0.361	ND (1.05)	1.32	ND (1.05)		ND (1.05)	
Toluene	2190	2.82	5.28	2.59	1.1.0.07		21.1
Xylenes	43.8	3.27			7106	1.09	2.69
		0.27	13,24	2.933	3.8	0.573	1.107

Residential Vapor Intrusion Screening Levels (VISL)
Air Samples
1246 Dothan Rd (Play Pals) and 1238 Dothan Rd (Play

1246 Dothan Rd. (Play Pals) and 1238 Dothan Rd. (Residence) 6/4/2019 and 6/5/2019

Chemical	Target Indoor Air Concentration (TCR=1E-06 or THQ=0.1) MIN(C _{ia.o.} C _{ia.o.}) (µg/m³)	A-1 (Exterior Air) (µg/m3)	A-3 (Interior of Slab Building - 1246 Dothan) (µg/m3)	A-4 (Interior of CrawIspace Building - 1246 Dothan) (µg/m3)	A-5 (Crawlspace Air - Above Poly Liner - 1246 Dothan) (µg/m3)	A-6R (Crawispace Air - Below Poly Liner - 1246 Dothan) (µg/m3)	A-7 (Crawispace Air - 1238 Dothan)
Benzene	0.36	0.677	1.03	2.2			(µg/m3)
Dichloroethane, 1,2-	0.108	0.117			- Contraction	0.393	
Ethylbenzene	1.12	0.304	0,00	0.295	9.100	ND (0.081)	0.17
Methyl tert-Butyl Ether (MTBE)	10.8		4.00	0.604	0,0	0.161	0.208
Naphthalene		ND (0.721)	110 (211 12)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)
	0.0826	ND (1.05)		ND (1.05)	ND (1.05)		(-1.1.0.1
Toluene	521	2.82	5.28	2.59		/ 1/ 2.30 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /	
Xylenes	10.4	3.27	13.24	2.933	0.02	1.09	6.00
			10.24	2.833	3.8	0.573	1.107

Default VISL Results Commercial Equation Inputs

Output generated 10DEC2018:13:17:57

Value
Commercial
25
0.1
0.000001
365
250
25
8
70
0.001
0.03

Commercial Vapor Intrusion Screening Levels (VISL) Subslab Soil Gas Play Pals - 1246 Dothan Rd. 6/3/2019

Chemical	Target Sub-Siab and Near-source Soil Gas Concentration (TCR=1E-08 or THQ=0.1) C ₄₉ ,Target (µg/m ²)	SG-1 (Classroom 1, Slab Building) (µg/m3)	SG-2 (Classroom 2, Slab Building) (µg/m3)	SG-3 (Classroom 3, Slab Building) (µg/m3)	SG-4 (Classroom 4, Stab Building) (µg/m3)	SG-5 (Classroom 5, Slab Building) (µg/m3)	SG-6 (Classroom 6, Slab Building) (µg/m3)
Benzene	52.4	ND (0.639)	ND (0.639)	ND (0.639)	ND (0.639)	2.21	ND (0.639)
Dichloroethane, 1,2-	15.7	ND (0.809)					
Ethylbenzene	164	1.06	1.44	0.921	1.65	1.8	1.26
Methyl tert-Butyl Ether (MTBE)	1570	ND (0.721)					
Naphthalene	12:	ND (1.05)					
Toluene	73000	5.69	7.12	4.33	6.93	5.77	4.6
Xylenes	1460	4.81	6.72	4.23	7.95	6.85	5.68

Residential Vapor Intrusion Screening Levels (VISL) Subslab Soil Gas Play Pals - 1246 Dothan Rd. 6/3/2019

Chemical	Target Sub-Siab and Near-source Soil Gas Concentration (TCR=1E-08 or THQ=0.1) Csg.Target (µg/m³)	SG-1 (Classroom 1, Slab Building) (µg/m3)	SG-2 (Classroom 2, Slab Building) (µg/m3)	SG-3 (Classroom 3, Slab Building) (µg/m3)	SG-4 (Classroom 4, Slab Building) (µg/m3)	SG-5 (Classroom 5, Slab Building) (µg/m3)	SG-6 (Classroom 6, Slab Building) (µg/m3)
Benzene	12	ND (0.639)	ND (0.639)	ND (0.639)	ND (0.639)	2.21	ND (0.639)
Dichloroethane, 1,2-	3.6.	ND (0.809)					
Ethylbenzene	37.4	1.08	1.44	0.921	1.65	1.8	1.26
Methyl tert-Butyl Ether (MTBE)	360	ND (0.721)					
Naphthalene	2.75	ND (1.05)					
Toluene	17400	5.69	7.12	4.33	6.93	5.77	4.6
Xylenes	348	4.81	6.72	4.23	7.95	6.85	5.68

APPENDICES

- A. FIELD DATA VAPOR SAMPLING LOGS
- **B.** LABORATORY ANALYTICAL REPORTS

APPENDIX A

FIELD DATA - VAPOR SAMPLING LOGS

ΔDΛ	ENVIRONMENTAL SERVICES, INC.	Sample Collection Log		
/-VV	V \ SERVICES, INC.	Sample ID	SG-1	
Client	SOHEC	Date of Collection	5G-1 6-3-19	
Project	PLAY PALS	SUMMA Canister Size	2.7 L	
Location	1246 DOTHAN RD	Canister ID	2999	
Project #	12-414.2-18	Flow Controller ID	01228	
Personnel	RC, AD	Outdoor/Indoor		
Sample Location	CLASS 1, SLAB BLOG	Sample Intake Height		
Sampling Depth	VAPON PIN	Misc. Equipment		
Sample Type (Soil Gas, &ub-Slab Indoor, etc.)		Time On / Off	1045	
PID Reading	0.0	Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method		
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.14	
		Temperature (Start)	80°F	
		Barometric Pressure (End)	29.95	
		Canister Pressure (End)	0	
		Temperature (End)		

VACUUM TEST: 15" Hg FOR 1 MIN WATER DAM TEST: PASS

ARM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log		
		Sample ID	56-2	
Client	SCOHEC	Date of Collection	56-2	
Project	PLAY PALS	SUMMA Canister Size	2.7 4	
Location	1246 DOTHAN 20	Canister ID	3002	
Project #	12-4142-18	Flow Controller ID	01195	
Personnel	RC/AD	Outdoor/Indoor		
Sample Location		Sample Intake Height		
Sampling Depth	BARRE CLASS 2 , SLAB VAPON PM	Misc. Equipment		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)		Time On / Off	1128	
PID Reading	0.0	Time of Collection	8	
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method		
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.30	
		Temperature (Start)	809	
8 4		Barometric Pressure (End)	640	
		Canister Pressure (End)	0	
		Temperature (End)		

VACUUM TEST: 15" Hg For / MIN ~ WATER DAM TEST: PASS

ARM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log		
		Sample ID	5G-3	
Client	SCOHEC	Date of Collection	6-3-19	
Project	PLAY PALS	SUMMA Canister Size	2.7 6	
Location	RUG DOTHAN RO	Canister ID	2994	
Project #	12-414.2-18	Flow Controller ID	0/182	
Personnel	RC/AD	Outdoor Indoor		
Sample Location	(LAS 3, SLAB	Sample Intake Height		
Sampling Depth	CLAS 3, SLAB VAPER PIN	Misc. Equipment		
Sample Type (Soil Gas, Sub-Slab) Indoor, etc.)		Time On / Off	1154	
PID Reading	0.0	Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	60 MC	
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.06	
		Temperature (Start)	807	
**************************************		Barometric Pressure (End)	80°F	
9		Canister Pressure (End)	0	
		Temperature (End)	0.09	

VACUUM TEST: 15" Hg For /MIN V WATER DAM TEST: VPAST

۸۵۸	↑ ENVIRONMENTAL	Sample Collection Log		
ENVIRONMENTAL SERVICES, INC.		Sample ID	56-4	
Client	4DHEC	Date of Collection	6-4-19	
Project	PLAY PAU	SUMMA Canister Size	2.72	
Location	1246 DOTHAN RO	Canister ID	217	
Project #	12-414,2-18	Flow Controller ID	01050	
Personnel	RC/AD	Outdoor/mdoor		
Sample Location	CLASS 4 SLAB	Sample Intake Height		
Sampling Depth	VAPOR PIN	Misc. Equipment		
Sample Type (Soil Gas, Sub-Slab) Indoor, etc.)		Time On / Off	1225 1240	
PID Reading	0.0	Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	60 ML	
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.21	
2/		Temperature (Start)		
		Barometric Pressure (End)	•	
		Canister Pressure (End)	0.10	
		Temperature (End)		

VACUUM TEST: 15" Hy FOR / MIN V

WATER DAM TEST: PASS

ARM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log		
		Sample ID	56-5	
Client	SC DHEC	Date of Collection	6-3-19	
Project	PLAYPACS	SUMMA Canister Size	2.7L	
Location	1246 DOTHAN RD	Canister ID	2420	
Project #	12-414.2-18	Flow Controller ID	0/198	
Personnel	RC/AD	Outdoor/Indoor		
Sample Location	CLASS 5, SLAB	Sample Intake Height		
Sampling Depth	CLASS 5, SCAB	Misc. Equipment		
Sample Type (Soil Gas, ub-Sla, Indoor, etc.)		Time On / Off	1244	
PID Reading	0.0.	Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	60 ML.	
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.05	
		Temperature (Start)		
ž.		Barometric Pressure (End)		
V2		Canister Pressure (End)	0.10	
		Temperature (End)	0.10 11.10	

VALLUUM TEST: 1 MIN @ 15 "Hg ~ WATER DAM TEST: PASS

ΔDΛ	ENVIRONMENTAL SERVICES, INC.	Sample Collection Log		
/40	V \SERVICES, INC.	Sample ID	54-6	
Client	SCOHEC	Date of Collection	5G-6 6-3-19	
Project	1246 DOTHAN 20	SUMMA Canister Size	2.76	
Location	PLAY TALS	Canister ID	2991	
Project #	12-414.2-18	Flow Controller ID	0604	
Personnel	RC/AD	Outdoor/udoor		
Sample Location	CLASS 6 SLAB	Sample Intake Height	FLUSH	
Sampling Depth	VAPA PIN	Misc. Equipment		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)		Time On / Off	1308	
PID Reading	0.0	Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	60 ML	
		Barometric Pressure (Start)		
		Canister Pressure (Start)	29.66	
		Temperature (Start)		
W-10-10-10-10-10-10-10-10-10-10-10-10-10-		Barometric Pressure (End)		
		Canister Pressure (End)	0	
		Temperature (End)		

VALUUM TEST: 17" Hy , 1 MIN /

ARVIRONMENTAL SERVICES, INC.		Sample Collection Log		
		Sample ID	A-/	
Client	SC DHEC	Date of Collection	6-4-19	
Project	PLAY PALS	SUMMA Canister Size	62	
Location	1246 DOTHAN RD	Canister ID	2568	
Project #	12-414.2-18	Flow Controller ID	076/	
Personnel	RC, AD	Outdoo /Indoor		
Sample Location	EXT, E SIDE, FEPCE	Sample Intake Height		
Sampling Depth		Misc. Equipment		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	OUTBOOK, AMBIENT	Time On / Off	0924 1645	
PID Reading		Time of Collection		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method		
	u .	Barometric Pressure (Start)	30.13	
		Canister Pressure (Start)	30.13 30.11	
		Temperature (Start)	74	
(10)		Barometric Pressure (End)		
		Canister Pressure (End)	3.24	
		Temperature (End)	. •	

HUAC OTF FOR LONG PENION NO NOTICABLE ODONS IN MING

ENVIRONMENTAL SERVICES, INC.		Sample Collection Log			
_/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V \SERVICES, INC.	Sample ID	A-3		
Client	SC DHEC	Date of Collection	6-4-19		
Project	PLAY PALS	SUMMA Canister Size	62		
Location	1246 DOTHAN RD	Canister ID	2837		
Project #	12-414.2-18	Flow Controller ID	0779		
Personnel	RC, AD	Outdoor/Indoor			
Sample Location	CLASS 2, SLAB BLOG	Sample Intake Height			
Sampling Depth		Misc. Equipment			
Sample Type (Soil Gas, Sub-Slab, Indoo, etc.)		Time On / Off	0952 1729		
PID Reading		Time of Collection	7.0		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	*		
× ×		Barometric Pressure (Start)			
		Canister Pressure (Start)	19.85		
		Temperature (Start)			
		Barometric Pressure (End)			
		Canister Pressure (End)	6.75		
		Temperature (End)	6.75 80°		

ARVIRONMENTAL SERVICES, INC.		Sample Collection Log				
/-UV \	V SERVICES, INC.	Sample ID A-4				
Client	SC DHEC	Date of Collection	A-4 6-4-19			
Project	PLAY PALS	SUMMA Canister Size	64			
Location	1246 DOTHAN RD	Canister ID	2702			
Project #	12-414.2-18	Flow Controller ID	0422			
Personnel	RC,AD	Outdoor/Indoor				
Sample Location	CLASS 1, CRAWLSPACE BLOG	Sample Intake Height				
Sampling Depth		Misc. Equipment				
Sample Type (Soil Gas, Sub-Slab,	**	Time On / Off	0954			
Indoor, etc.)	170 W.	Time Oil / Oil	1731			
PID Reading		Time of Collection				
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method				
	5.	Barometric Pressure (Start)				
		Canister Pressure (Start)	30.08			
	¥	Temperature (Start)				
	A	Barometric Pressure (End)				
		Canister Pressure (End)	6.05			
		Temperature (End)	6.05 80°			

ARM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log				
/10	V \ SERVICES, INC.	Sample ID	A-5			
Client	SC DHEC	Date of Collection	A-5 6-4-19			
Project	PLAY PALS	SUMMA Canister Size	64			
Location	1246 DOTHAN RD	Canister ID	2770			
Project #	12-414.2-18	Flow Controller ID	0905			
Personnel	RC, AD	Outdoor/Indoor				
Sample Location	CRAWLSPACE POLY	Sample Intake Height				
Sampling Depth		Misc. Equipment				
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRAWISPACE	Time On / Off	0929 1646			
PID Reading		Time of Collection				
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method				
	,	Barometric Pressure (Start)	8 1 0 8			
		Canister Pressure (Start)	30.21			
		Temperature (Start)	*			
		Barometric Pressure (End)				
	×	Canister Pressure (End)	7.47			
		Temperature (End)	89			

ARVIRONMENTAL SERVICES, INC.		Sample Collection Log				
/ 1/	V \ SERVICES, INC.	Sample ID	A-6			
Client	SC DHEC	Date of Collection	A-6 6-4-19			
Project	PLAY PALS	SUMMA Canister Size	62			
Location	1246 DOTHAN RD	Canister ID	1992			
Project #	12-414.2-18	Flow Controller ID	0803 0941			
Personnel	RC,AD	Outdoor/Indoor	ar .			
Sample Location	PC, AD (TRANSPACE POLY	Sample Intake Height				
Sampling Depth		Misc. Equipment				
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRAWDSPACE	Time On / Off	0940			
PID Reading		Time of Collection				
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method				
	1. 18	Barometric Pressure (Start)				
		Canister Pressure (Start)	27.05			
		Temperature (Start)	80°			
*1		Barometric Pressure (End)				
		Canister Pressure (End)	1605			
0		Temperature (End)	1605			

REPLACED THIS W/ A-6(R)
A-6 DID NOT COLLECT RIGHT

ARVIRONMENTAL SERVICES, INC.		Sample Collection Log				
/·1/\/\	SERVICES, INC.	Sample ID	A-6(R)			
Client	SCOHEC	Date of Collection	A-6(R) 6-5-19			
Project	PC4Y PALS	SUMMA Canister Size	6 L			
Location	1246 DOTHAN RD	Canister ID	2887			
Project #	12-414.2-18	Flow Controller ID	0803			
Personnel	RC	Outdoor/Indoor				
Sample Location	CRAWL SPACE BELOW POLY	Sample Intake Height				
Sampling Depth	_	Misc. Equipment				
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRAWL	Time On / Off	0940			
PID Reading	And the state of t	Time of Collection				
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method				
		Barometric Pressure (Start)	30.04 30.04 <u>29.17</u>			
iii		Canister Pressure (Start)	29.97			
10 15	**************************************	Temperature (Start)	80°			
(ii) (ii)		Barometric Pressure (End)	1.5.20			
		Canister Pressure (End)	6-66			
	30	Temperature (End)	6.66 89°			

THIS REPLACED A-6 WHICH DID NOT COLLECT RIGHT

ΔDΛ	↑ ENVIRONMENTAL	Sample Collection Log				
7-110	SERVICES, INC.	Sample ID	A-7			
Client	SC DHEC	Date of Collection	A-7 6-4-19			
Project	PLAY PALS	SUMMA Canister Size	62			
Location	1238 DHE DOTHAN RD	Canister ID	289/			
Project #	12-414.2-18	Flow Controller ID	289/ 0679			
Personnel	RC, AD	Outdoor/Indoor	•			
Sample Location	CRAWL UNDER 1238 DOTHAN 20	Sample Intake Height				
Sampling Depth		Misc. Equipment				
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRAWLSPACE	Time On / Off	0946 17:25			
PID Reading		Time of Collection				
,	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	2 No.			
	٠	Barometric Pressure (Start)				
		Canister Pressure (Start)	30.21			
		Temperature (Start)				
		Barometric Pressure (End)				
*		Canister Pressure (End)	6.78			
		Temperature (End)				

APPENDIX B LABORATORY ANALYTICAL REPORTS



ANALYTICAL REPORT

Lab Number:

L1924748

Client:

ARM Environmental Services, Inc.

1210 First Street South Ext.

Columbia, SC 29209

ATTN:

Richard Ciccolella

Phone:

(803) 783-3314

Project Name:

1246 DOTHAN RD.

Project Number:

Not Specified

Report Date:

06/18/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806 508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Serial_No:06181916:40

Project Name:

1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1924748-01	A-1	AIR	1246 DOTHAN RD.	06/04/19 16:45	06/10/19
L1924748-02	A-3	AIR	1246 DOTHAN RD.	06/04/19 17:29	06/10/19
L1924748-03	A-4	AIR	1246 DOTHAN RD.	06/04/19 17:31	06/10/19
L1924748-04	A-5	AIR	1246 DOTHAN RD.	06/04/19 16:46	06/10/19
L1924748-05	A-6R	AIR	1246 DOTHAN RD.	06/04/19 17:19	06/10/19
L1924748-06	A-7	AIR	1246 DOTHAN RD.	06/04/19 17:25	06/10/19
L1924748-07	UNUSED CAN #1992	AIR	1246 DOTHAN RD.		06/10/19
L1924748-08	UNUSED CAN #1783	AIR	1246 DOTHAN RD.		06/10/19
L1924748-09	UNUSED CAN #2043	AIR	1246 DOTHAN RD.		06/10/19

1246 DOTHAN RD.

Project Number:

Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



Serial_No:06181916:40

Project Name:

1246 DOTHAN RD.

Not Specified

Lab Number:

L1924748

Project Number:

Report Date: 06/18/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on May 29, 2019. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Christopher J. Anderson

Authorized Signature:

Title: Technical Director/Representative

Date: 06/18/19



AIR



Serial_No:06181916:40

Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-01

Client ID:

1246 DOTHAN RD.

Date Collected:

06/04/19 16:45

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15 06/17/19 18:30

Analyst:

	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield	d Lab							1777
Naphthalene	ND	0.200		ND	1.05	-		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	92		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-01

Client ID: Sample Location:

1246 DOTHAN RD.

Date Collected:

06/04/19 16:45

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 06/17/19 18:30

Analyst:

	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	Mansfield Lab	HAME!					da son	(格)社。 概 4 等效。
Methyl tert butyl ether	ND	0.200	-	ND	0.721		Secretary and the secretary second	1
1,2-Dichloroethane	0.029	0.020	-	0.117	0.081			1
Benzene	0.212	0.100		0.677	0.319		100	1
Toluene	0.749	0.050		2.82	0.188			1
Ethylbenzene	0.070	0.020		0.304	0.087			1
p/m-Xylene	0.485	0.040		2.11	0.174		* *	1
o-Xylene	0.267	0.020	-	1.16	0.087			1

Internal Standard	% Recovery	Qualifler	Acceptance Criteria
1,4-difluorobenzene	90		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	91		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-02

Date Collected:

06/04/19 17:29

Client ID:

A-3

Date Received:

06/10/19

Sample Location:

1246 DOTHAN RD.

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15 06/17/19 19:08

Analyst:

_	ppbV			ug/m3			Di	Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab) (() () ()				47.		P. P. L.	
Naphthalene	0.251	0.200		1.32	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	97		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-02

Client ID:

A-3

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/04/19 17:29

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 06/17/19 19:08

Analyst:

	ppbV		97 - 10 193	ug/m3			Dilution
Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Mansfield Lab		No.		Aug 1	7.74 E		
ND	0.200		ND	0.721		WATER A CO. LO CALLED MINISTER	1
0.089	0.020		0.360	0.081			1
0.322	0.100	-	1.03	0.319			1
1.40	0.050		5.28	0.188	-		1
0.935	0.020		4.06	0.087			1
1.96	0.040		8.51	0.174	-	111 12 10 0 115	1
1.09	0.020		4.73	0.087	_		1
	ND 0.089 0.322 1.40 0.935 1.96	Results RL Mansfield Lab ND 0.200 0.089 0.020 0.322 0.100 1.40 0.050 0.935 0.020 1.96 0.040	Results RL MDL Mansfield Lab ND 0.200 0.089 0.020 0.322 0.100 1.40 0.050 0.935 0.020 1.96 0.040	Results RL MDL Results Mansfield Lab ND ND 0.200 ND 0.089 0.020 0.360 0.322 0.100 1.03 1.40 0.050 5.28 0.935 0.020 4.06 1.96 0.040 8.51	Results RL MDL Results RL Mansfield Lab ND 0.721 0.089 0.020 ND 0.721 0.322 0.100 0.360 0.081 1.40 0.050 1.03 0.319 1.40 0.050 5.28 0.188 0.935 0.020 4.06 0.087 1.96 0.040 8.51 0.174	Results RL MDL Results RL MDL Mansfield Lab ND 0.721 0.089 0.020 0.360 0.081 0.322 0.100 1.03 0.319 1.40 0.050 5.28 0.188 0.935 0.020 4.06 0.087 1.96 0.040 8.51 0.174	Results RL MDL Results RL MDL Qualifier Mansfield Lab ND 0.721 ND 0.721 0.089 0.020 0.360 0.081 0.322 0.100 1.03 0.319 1.40 0.050 5.28 0.188 0.935 0.020 4.06 0.087 1.96 0.040 8.51 0.174

Internal Standard	% Recovery	Qualifler	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	97		60-140



Serial_No:06181916:40

Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-03

Client ID:

Date Collected:

06/04/19 17:31

Sample Location:

1246 DOTHAN RD.

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15

Analytical Date:

06/17/19 19:47

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield	d Lab 🏄 🗼							
Naphthalene	ND	0.200	-	ND	1.05		and the second s	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-03

Date Collected:

06/04/19 17:31

Client ID:

A-4

Date Received:

06/10/19

Sample Location:

1246 DOTHAN RD.

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15-SIM

Analytical Date:

06/17/19 19:47

Analyst:

		ppbV		70	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	IM - Mansfield Lab	184	5.74			W W		WW P. L.
Methyl tert butyl ether	ND	0.200	-	ND	0.721			1
1,2-Dichloroethane	0.073	0.020		0.295	0.081			1
Benzene	0.690	0.100	-	2.20	0.319			1
Toluene	0.688	0.050		2.59	0.188			1
Ethylbenzene	0.139	0.020	-	0.604	0.087			1
p/m-Xylene	0.452	0.040		1.96	0.174			1
o-Xylene	0.224	0.020		0.973	0.087			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	96		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-04

1246 DOTHAN RD.

Client ID:

Sample Location:

A-5

Date Collected:

06/04/19 16:46

Not Specified

Date Received: Field Prep:

06/10/19

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15 06/17/19 20:26

Analyst:

	ppbV			ug/m3			Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab			Alter A			Lian I	
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-04

Client ID:

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/04/19 16:46

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 06/17/19 20:26

Analyst:

		ppbV	pbV ug/m3					Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
platile Organics in Air by SIM	Mansfield Lab	TAL T		通 严禁 了				
ethyl tert butyl ether	ND	0.200		ND	0.721	-		1
2-Dichloroethane	0.026	0.020		0.105	0.081			1
nzene	0.319	0.100	-	1.02	0.319			1
luene	1.81	0.050		6.82	0.188			1
nylbenzene	0.115	0.020	-	0.500	0.087	-		1
n-Xylene	0.607	0.040		2.64	0.174			1
(ylene	0.268	0.020		1.16	0.087	-		1
n-Xylene	0.607	0.040	•	2.64	0.174	-		

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-05

Client ID:

A-6R

1246 DOTHAN RD.

Date Collected:

06/04/19 17:19

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15 06/17/19 21:43

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Man	sfield Lab				至温		A.	
Naphthalene	ND	0.200	_	ND	1.05		A COMMON TO A COMMON PORTING TO A COMMON PORTI	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	88		60-140

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-05

Client ID:

A-6R

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/04/19 17:19

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 06/17/19 21:43

Analyst:

2016	ppbV			ug/m3			Dilution
Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Mansfield Lab	WOLFE TO	Thu,		The Country	Tan 1		the Second
ND	0.200		ND	0.721	-		1
ND	0.020		ND	0.081	7.44		1
0.123	0.100		0.393	0.319			1
0.289	0.050		1.09	0.188			1
0.037	0.020		0.161	0.087	-		1
0.099	0.040		0.430	0.174		*****	1
0.033	0.020		0.143	0.087			1
	Mansfield Lab ND ND 0.123 0.289 0.037 0.099	Results RL Mansfield Lab ND 0.200 ND 0.020 0.123 0.100 0.289 0.050 0.037 0.020 0.099 0.040	Results RL MDL Mansfield Lab ND 0.200 ND 0.020 0.123 0.100 0.289 0.050 0.037 0.020 0.099 0.040	Results RL MDL Results Mansfield Lab ND ND 0.200 ND ND 0.020 ND 0.123 0.100 0.393 0.289 0.050 1.09 0.037 0.020 0.161 0.099 0.040 0.430	Results RL MDL Results RL Mansfield Lab ND 0.721 ND 0.200 ND 0.081 ND 0.020 ND 0.081 0.123 0.100 0.393 0.319 0.289 0.050 1.09 0.188 0.037 0.020 0.161 0.087 0.099 0.040 0.430 0.174	Results RL MDL Results RL MDL Mansfield Lab ND 0.721 ND 0.200 ND 0.081 ND 0.020 ND 0.081 0.123 0.100 0.393 0.319 0.289 0.050 1.09 0.188 0.037 0.020 0.161 0.087 0.099 0.040 0.430 0.174	Results RL MDL Results RL MDL Qualifier Mansfield Lab ND 0.721 ND 0.020 ND 0.081 ND 0.020 ND 0.081 0.123 0.100 0.393 0.319 0.289 0.050 1.09 0.188 0.037 0.020 0.161 0.087 0.099 0.040 0.430 0.174

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	88		60-140



Serial_No:06181916:40

Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-06

Client ID:

A-7

Sample Location: 1246 DOTHAN RD. Date Collected:

06/04/19 17:25

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15 06/17/19 22:22

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL MDL		Results RL		MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab	1	W. F	图为智	1		KANA	The State
Naphthalene	4.03	0.200		21.1	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	87		60-140

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924748-06

Client ID:

A-7

1246 DOTHAN RD.

Date Collected:

06/04/19 17:25

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date?

Sample Location:

48,TO-15-SIM 06/17/19 22:22

Analyst:

	ppbV			ug/m3			Dilution
Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Mansfield Lab						NIT CRA	
ND	0.200	-	ND	0.721	**	CONTRACTOR OF THE CONTRACTOR O	1
0.042	0.020		0.170	0.081			1
0.113	0.100		0.361	0.319			1
0.713	0.050		2.69	0.188			1
0.048	0.020		0.208	0.087			1
0.178	0.040	-	0.773	0.174	-		1
0.077	0.020		0.334	0.087			1
	Mansfield Lab ND 0.042 0.113 0.713 0.048 0.178	Results RL Mansfield Lab 0.200 ND 0.200 0.042 0.020 0.113 0.100 0.713 0.050 0.048 0.020 0.178 0.040	Results RL MDL Mansfield Lab ND 0.200 0.042 0.020 0.113 0.100 0.713 0.050 0.048 0.020 0.178 0.040	Results RL MDL Results Mansfield Lab ND 0.200 ND 0.042 0.020 0.170 0.113 0.100 0.361 0.713 0.050 2.69 0.048 0.020 0.208 0.178 0.040 0.773	Results RL MDL Results RL Mansfield Lab ND 0.721 ND 0.200 ND 0.721 0.042 0.020 0.170 0.081 0.113 0.100 0.361 0.319 0.713 0.050 2.69 0.188 0.048 0.020 0.208 0.087 0.178 0.040 0.773 0.174	Results RL MDL Results RL MDL Mansfield Lab ND 0.721 ND 0.200 ND 0.721 0.042 0.020 0.170 0.081 0.113 0.100 0.361 0.319 0.713 0.050 2.69 0.188 0.048 0.020 0.208 0.087 0.178 0.040 0.773 0.174	Results RL MDL Results RL MDL Qualifier Mansfield Lab ND 0.721 0.020 ND 0.721 0.042 0.020 0.170 0.081 0.113 0.100 0.361 0.319 0.713 0.050 2.69 0.188 0.048 0.020 0.208 0.087 0.178 0.040 0.773 0.174

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	89		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	88		60-140



Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

06/18/19

Project Number: Not Specified

Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield	Lab for samp	ole(s): 01	06 Batcl	n: WG12495	56-4		01795	严酷"。
Chlorodifluoromethane	ND	0.200		ND	0.707			1
Propylene	ND	0.500		ND	0.861			1
Propane	ND	0.500		ND	0.902	-		1
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	-	ND	1.40			1
Methanol	ND	5.00		ND	6.55			1
Vinyl chloride	ND	0.200		ND	0.511			1
1,3-Butadiene	ND	0.200		ND	0.442			1
Butane	ND	0.200		ND	0.475			1
Bromomethane	ND	0.200		ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethyl Alcohol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200	-	ND	0.842			1
Vinyl bromide	ND	0.200		ND	0.874			1
Acrolein	ND	0.500		ND	1.15			1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200		ND	0.336	-		1
Trichlorofluoromethane	ND	0.200		ND	1.12			1
isa-Propyl Alcahol	ND	0.500		ND	1.23			1
Acrylonitrile	ND	0.500	-	ND	1.09			1
Pentane	ND	0.200		ND	0.590			1
Ethyl ether	ND	0.200		ND	0.606			1
1,1-Dichloroethene	ND	0.200		ND	0.793	-		1
tert-Butyl Alcohol	ND	0.500	-	ND	1.52	-		1



Project Name: 1246 DOTHAN RD. Lab Number: Report Date:

L1924748 06/18/19

Project Number: Not Specified

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15 Analytical Date:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfiel	d Lab for samp	ole(s): 01	06 Batcl	n: WG12495	56-4			
Methylene chloride	ND	0.500		ND	1.74	-		1
3-Chloropropene	ND	0.200	-	ND	0.626			1
Carbon disulfide	ND	0.200		ND	0.623			1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200		ND	1.53			1
trans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
1,1-Dichloroethane	ND	0.200		ND	0.809	-		1
Methyl tert butyl ether	ND	0.200	***	ND	0.721	77		1
Vinyl acetate	ND	1.00	-	ND	3.52			1
2-Butanone	ND	0.500		ND	1.47			1
Xylene (Total)	ND	0.200		ND	0.869	-		1
cis-1,2-Dichloroethene	ND	0.200		ND	0.793			1
Ethyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977	-		1
Tetrahydrofuran	ND	0.500	-	ND	1.47	••		1
2,2-Dichloropropane	ND	0.200		ND	0.924			1
1,2-Dichloroethane	ND	0.200		ND	0.809	-		1
n-Hexane	ND	0.200	-	ND	0.705			1
Isopropyl Ether	ND	0.200		ND	0.836			1
Ethyl-Tert-Butyl-Ether	ND	0.200		ND	0.836			1
1,2-Dichloroethene (total)	ND	0.200		ND	0.793	-		1
1,1,1-Trichloroethane	ND	0.200		ND	1.09			1
1,1-Dichloropropene	ND	0.200		ND	0.908			1
1,3-Dichloropropene, Total	ND	0.200		ND	0.908			1
Benzene	ND	0.200		ND	0.639		ACCEPTANCE OF THE PARTY OF THE	1
Carbon tetrachloride	ND	0.200		ND	1.26			1



Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748 06/18/19

Project Number: Not Specified

Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method:

48,TO-15

Analytical Date:

	1990	ppbV	11000	0	ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Man	sfield Lab for samp	ile(s): 01	-06 Batcl	n: WG12495	556-4	St.	Mer Mile In	
Cyclohexane	ND	0.200		ND	0.688			1
Tertiary-Amyl Methyl Ether	ND	0.200		ND	0.836			1
Dibromomethane	ND	0.200		ND	1.42			1
1,2-Dichloropropane	ND	0.200		ND	0.924			1
Bromodichloromethane	ND	0.200		ND	1.34			1
1,4-Dioxane	ND	0.200		ND	0.721			1
Trichloroethene	ND	0.200		ND	1.07	-		1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500		ND	2.05	-		1
Heptane	ND	0.200		ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200		ND	0.908	-		1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
trans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
1,1,2-Trichloroethane	ND	0.200	2-	ND	1.09			1
Toluene	ND	0.200		ND	0.754			1
1,3-Dichloropropane	ND	0.200		ND	0.924			1
2-Hexanone	ND	0.200	223	ND	0.820			1
Dibromochloromethane	ND	0.200		ND	1.70			1
1,2-Dibromoethane	ND	0.200		ND	1.54			1
Butyl Acetate	ND	0.500		ND	2.38	-		1
Octane	ND	0.200		ND	0.934			ĭ
Tetrachioroethene	ND	0.200	-	ND	1.36			1
1,1,1,2-Tetrachloroethane	ND	0.200		ND	1.37	122		1
Chlorobenzene	ND	0.200	-	ND	0.921			1
Ethylbenzene	ND	0.200	-	ND	0.869			1



Project Name:

1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab for samp	le(s): 01	06 Batcl	n; WG12495	56-4		被判据。	ne i i
p/m-Xylene	ND	0.400		ND	1.74			1
Bromoform	ND	0.200		ND	2.07			1
Styrene	ND	0.200		ND	0.852			1
1,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1
o-Xylene	ND	0.200	-	ND	0.869			1
1,2,3-Trichloropropane	ND	0.200	-	ND	1.21			1
Nonane (C9)	ND	0.200	-	ND	1.05			1
Isopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200	-	ND	0.793			1
o-Chlorotoluene	ND	0.200		ND	1.04			1
n-Propylbenzene	ND	0.200		ND	0.983	-		1
p-Chlorotoluene	ND	0.200	-	ND	1.04			1
4-Ethyltoluene	ND	0.200		ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983			1
tert-Butylbenzene	ND	0.200	•	ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200		ND	0.983			1
Decane (C10)	ND	0.200		ND	1.16			1
Benzyl chloride	ND	0.200	-	ND	1.04			1
1,3-Dichlorobenzene	ND	0.200	-	ND	1.20	-		1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200		ND	1.10			1
o-Isopropyltaluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200	-	ND	1.20			1
n-Butylbenzene	ND	0.200	-	ND	1.10			1
1,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93			1



Project Name:

1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air Ma	nsfield Lab for samp	ole(s): 01	06 Batc	n: WG12495	56.4	TON, Th		
Undecane	ND	0.200	-	ND	1.28			1
Dodecane (C12)	ND	0.200		ND	1.39			1
1,2,4-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Naphthalene	ND	0.200	-	ND	1.05			1
1,2,3-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number: Not Specified

Report Date:

06/18/19

Method Blank Analysis Batch Quality Control

Analytical Method:

48,TO-15-SIM

Analytical Date:

	01 49	ppbV	200000000000000000000000000000000000000		ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab f	or sample	(s) 01-0	6 Batch: W	G124955	8-4		PARK I
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
Benzene	ND	0.100		ND	0.319			1
Toluene	ND	0.050	-	ND	0.188	_		1
Ethylbenzene	ND	0.020	-	ND	0.087			1
p/m-Xylene	ND	0.040		ND	0.174			1
o-Xylene	ND	0.020	-	ND	0.087			1
Naphthalene	ND	0.050		ND	0.262			1



Project Name:

1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1249556 Chlorodifluoromethane 94 - - Propylene 140 Q - Propane 88 - - Dichlorodifluoromethane 109 - - Chloromethane 108 - - 1,2-Dichloro-1,1,2,2-tetrafluoroethane 105 - - Methanol 80 - - Vinyl chloride 106 - - 1,3-Butadiene 98 - - Butane 125 - - Bromomethane 101 - - Chloroethane 103 - -	-3	70-130 70-130 70-130	:		200
Propylene 140 Q - Propane 88 - - Dichlorodifluoromethane 109 - - Chloromethane 108 - - 1,2-Dichloro-1,1,2,2-tetraffuoroethane 105 - - Methanol 80 - - Vinyl chloride 106 - - 1,3-Butadiene 98 - - Butane 125 - - Bromomethane 101 - -		70-130 70-130	•		
Propane 88 - Dichlorodifluoromethane 109 - Chloromethane 108 - 1,2-Dichloro-1,1,2,2-tetrafluoroethane 105 - Methanol 80 - Vinyl chloride 106 - 1,3-Butadiene 98 - Butane 125 - Bromomethane 101 -		70-130	-		
Dichlorodifluoromethane 109 -					
Chloromethane 108 - 1,2-Dichloro-1,1,2,2-tetrafluoroethane 105 - Methanol 80 - Vinyl chloride 106 - 1,3-Butadiene 98 - Butane 125 - Bromomethane 101 -		720 33			
1,2-Dichloro-1,1,2,2-tetrafluoroethane 105 - Methanol 80 - Vinyl chloride 106 - 1,3-Butadiene 98 - Butane 125 - Bromomethane 101 -		70-130			
Methanol 80 - Vinyl chloride 106 - 1,3-Butadiene 98 - Butane 125 - Bromomethane 101 -		70-130	1*1		
Vinyl chloride 106 - 1,3-Butadiene 98 - Butane 125 - Bromomethane 101 -		70-130			
1,3-Butadiene 98 Butane 125 Bromomethane 101		70-130	-		
Butane 125 - Bromomethane 101 -		70-130	-		
Bromomethane 101 -		70-130			
		70-130			
Chloroethane 103 -		70-130			
		70-130	280		
Ethyl Alcohol 67		40-160			
Dichlorofluoromethane 102		70-130			
Vinyl bromide 89 -		70-130			
Acrolein 77 -		70-130	192.0		
Acetone 96 -		40-160			
Acetonitrile 105		70-130			
Trichlorofluoromethane 93		70-130	*		
iso-Propyl Alcohol 94 -		40-160			
Acrylonitrile 81 -		70-130	-		
Pentane 120 -		70-130			
Ethyl ether 77 -		70-130	1,413		

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Project Name: 1246 DOTHAN RD.
Project Number: Not Specified

Lab Number: L1924748

Report Date: 06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01-06	Batch: WG1249556	3-3					
1,1-Dichloroethene	98		2		70-130	14			
tert-Butyl Alcohol	67	Q			70-130	194			
Methylene chloride	107				70-130				
3-Chloropropene	122				70-130				
Carbon disulfide	91				70-130				
1,1,2-Trichloro-1,2,2-Trifluoroethane	100		*		70-130				
trans-1,2-Dichloroethene	94		2		70-130				
1,1-Dichloroethane	100				70-130				
Methyl tert butyl ether	82				70-130				
Vinyl acetate	127				70-130				
2-Butanone	117				70-130	375			
cis-1,2-Dichloroethene	100				70-130				
Ethyl Acetate	115		(4)		70-130				
Chloroform	99				70-130				
Tetrahydrofuran	102				70-130				
2,2-Dichloropropane	86				70-130				
1,2-Dichloroethane	103				70-130				
n-Hexane	104				70-130				
Isopropyl Ether	86				70-130	-			
Ethyl-Tert-Butyl-Ether	84				70-130	22			
1,2-Dichloroethene (total)	96					•			
1,2-Dichloroethene (total)	96					*			
1,1,1-Trichloroethane	112		•		70-130	**			

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L1924748

Lab Control Sample Analysis Batch Quality Control

Project Name: 1246 DOTHAN RD.
Project Number: Not Specified

Quality Control

Lab Number:

Report Date: 06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01-06	Batch: WG1249556	6-3				
1,1-Dichloropropene	100		143		70-130			
Benzene	97				70-130			
Carbon tetrachloride	131	Q			70-130			
Cyclohexane	107				70-130			
Tertiary-Amyl Methyl Ether	77		-		70-130			
Dibromomethane	100		-		70-130			
1,2-Dichloropropane	118				70-130			
Bromodichloromethane	113				70-130			
1,4-Dioxane	96		٠.		70-130	4		
Trichloroethene	99				70-130			
2,2,4-Trimethylpentane	113				70-130			
Methyl Methacrylate	95				40-160			
Heptane	124				70-130			
cis-1,3-Dichloropropene	114		4		70-130	14		
4-Methyl-2-pentanone	122				70-130	14		
trans-1,3-Dichloropropene	100				70-130			
1,1,2-Trichloroethane	109				70-130			
Toluene	96				70-130			
1,3-Dichloropropane	93		12		70-130			
2-Hexanone	108		ů.		70-130			
Dibromochloromethane	124				70-130			
1,2-Dibromoethane	100				70-130	19		
Butyl Acetate	98				70-130			

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Project Name: 1246 DOTHAN RD.
Project Number: Not Specified

Lab Number: L1924748

Report Date: 06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01-06	Batch: WG124955	6-3					
Octane	89				70-130				
Tetrachloroethene	. 86				70-130	12			
1,1,1,2-Tetrachloroethane	108				70-130				
Chlorobenzene	96				70-130				
Ethylbenzene	100				70-130				
p/m-Xylene	104				70-130				
Bromoform	127				70-130	2			
Styrene	94				70-130				
1,1,2,2-Tetrachloroethane	110				70-130	194			
o-Xylene	109				70-130	9			
1,2,3-Trichloropropane	97				70-130				
Nonane (C9)	107				70-130	-			
Isopropylbenzene	97				70-130				
Bromobenzene	92		71		70-130				
o-Chlorotoluene	85				70-130	-			
n-Propylbenzene	90				70-130				
p-Chlorotoluene	89				70-130				
4-Ethyltoluene	101				70-130				
1,3,5-Trimethylbenzene	107				70-130				
tert-Butylbenzene	98				70-130				
1,2,4-Trimethylbenzene	110				70-130	Q.			
Decane (C10)	108				70-130	12			
Benzyl chloride	134	Q			70-130	19			

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1246 DOTHAN RD. Project Name: Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01-06	Batch: WG124955	6-3				
1,3-Dichlorobenzene	99		12		70-130	:*		
1,4-Dichlorobenzene	94		- 1		70-130	*		
sec-Butylbenzene	103				70-130			
p-lsopropyltoluene	90				70-130			
1,2-Dichlorobenzene	104				70-130			
n-Butylbenzene	109				70-130	:		
1,2-Dibromo-3-chloropropane	118				70-130			
Undecane	109		140		70-130			
Dodecane (C12)	90				70-130	980		
1,2,4-Trichlorobenzene	77				70-130			
Naphthalene	83				70-130			
1,2,3-Trichlorobenzene	75				70-130			
Hexachlorobutadiene	104				70-130			



Project Name:

1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

Parameter	LCS %Recovery	Qual	%	LCSD Recovery	y Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield La	b Associated s	ample(s):	01-06	Batch:	WG1249558-3				
Methyl tert butyl ether	75			0		70-130			25
1,2-Dichloroethane	94			2		70-130			25
Benzene	83					70-130	14		25
Toluene	77					70-130	88		25
Ethylbenzene	89					70-130			25
p/m-Xylene	92					70-130	2		25
o-Xylene	94					70-130	-		25
Naphthalene	57	Q				70-130			25



Lab Duplicate Analysis
Batch Quality Control

Lab Number: Project Name: 1246 DOTHAN RD. L1924748 06/18/19 Project Number: Not Specified Report Date:

Parameter	Native Sample	Duplie	cate Samp	ole Units	RPD	Qual	RPD Limits	
Volatile Organics in Air - Mansfield Lab Associa	ated sample(s): 01-06	QC Batch ID:	WG1249	556-5 QC Sa	mple: L192474	18-04 Client I	D: A-5	
Naphthalene	ND		ND	ppbV	NC		25	
Volatile Organics in Air by SIM - Mansfield Lab	Associated sample(s):	01-06 QC Ba	atch ID: W	VG1249558-5	QC Sample: I	1924748-04	Client ID:	A-5
Methyl tert butyl ether	ND		ND	ppbV	NC		25	
1,2-Dichloroethane	0.026		0.025	ppbV	4		25	
Benzene	0.319		0.322	ppbV	1		25	
Toluene	1.81		1.80	ppbV	1		25	
Ethylbenzene	0.115		0.115	ppbV	0		25	
p/m-Xylene	0.607		0.609	ppbV	0		25	
o-Xylene	0.268		0.274	ppbV	2		25	



Lab Number: L1924748

Report Date: 06/18/19

Project Name: 1246 DOTHAN RD.

Project Number:

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPI
L1924748-01	A-1	0761	Flow 4	06/04/19	293555					Pass	10.0	10.3	3
L1924748-01	A-1	2568	6.0L Can	05/29/19	292924	L1921894-01	Pass	-29.5	-7.5				
L1924748-02	A-3	0779	Flow 4	06/04/19	293555					Pass	10.0	10.7	7
L1924748-02	A-3	2837	6.0L Can	05/29/19	292924	L1921894-03	Pass	-29.5	-6.9				
L1924748-03	A-4	0422	Flow 3	06/04/19	293555		.	<u>. </u>		Pass	10.0	10.7	7
L1924748-03	A-4	2702	6.0L Can	05/29/19	292924	L1921894-03	Pass	-29.5	-6.8) • :		
L1924748-04	A-5	0905	Flow 4	06/04/19	293555		•			Pass	10.0	9.2	8
L1924748-04	A-5	2270	6.0L Can	05/29/19	292924	L1921894-03	Pass	-29.5	-4.5			à	
L1924748-05	A-6R	0803	Flow 4	06/04/19	293555					Pass	10.0	9.9	1
L1924748-05	A-6R	2887	6.0L Can	05/29/19	292924	L1921894-03	Pass	-29.6	-7.1	2		2	
L1924748-06	A-7	0679	Flow 4	06/04/19	293555				21	Pass	10.0	10.2	2
L1924748-06	A-7	2891	6.0L Can	05/29/19	292924	L1921894-03	Pass	-29.5	-6.5			4	

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1921628

Project Number: CANISTER QC BAT

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Sample Location:

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15 05/22/19 20:03

Analyst:

EW

	-	ppbV		ug/m3			_	Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab		ET.W		1 1 1	4 4	4	All s	
Chlorodifluoromethane	ND	0.200		ND	0.707			1
Propylene	ND	0.500		ND	0.861			1
Propane	ND	0.500		ND	0.902	-		1
Dichlorodifluoromethane	ND	0.200	-	ND	0.989	-		1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00		ND	6.55			1
/inyl chloride	ND	0.200		ND	0.511			1
,3-Butadiene	ND	0.200		ND	0.442			- '-
utane	ND	0.200		ND	0.475			1
romomethane	ND	0.200		ND	0.777			1
hloroethane	ND	0.200		ND	0.528			1
thanol	ND	5.00		ND	9.42			
ichlorofluoromethane	ND	0.200	-	ND	0.842	-		
inyl bromide	ND	0.200		ND	0.874			1
crolein	ND	0.500		ND	1.15	_		1
cetone	ND	1.00	-	ND	2.38			1
cetonitrile	ND	0.200		ND	0.336			1
richlorofluoromethane	ND	0.200		ND	1.12	-		1
opropanol	ND	0.500		ND	1.23	-		1
crylonitrile	ND	0.500		ND	1.09			1
entane	ND	0.200		ND	0.590			
1-Dichloroethene	ND	0.200		ND	0.793	-		1
ertiary butyl Alcohol	ND	0.500		ND	1.52	-		1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L

L1921628

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Sample Location:

Date Received:

05/22/19

Field Prep:

Not Specified

	7 <u>20</u>	ppbV		3	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab)					14		
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200		ND	0.626			1
Carbon disulfide	ND	0.200		ND	0.623			1
Freon-113	ND	0.200		ND	1.53			1
rans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
,1-Dichloroethane	ND	0.200		ND	0.809			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
/inyl acetate	ND	1.00		ND	3.52			1
2-Butanone	ND	0.500	-	ND	1.47	S === 0		1
Cylenes, total	ND	0.600		ND	0.869			1
is-1,2-Dichloroethene	ND	0.200		ND	0.793			1
thyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977			1
etrahydrofuran	ND	0.500		ND	1.47	-		1
2-Dichloropropane	ND	0.200		ND	0.924			1
,2-Dichloroethane	ND	0.200		ND	0.809			1
-Hexane	ND	0.200		ND	0.705			1
iisopropyl ether	ND	0.200	-	ND	0.836			1
ert-Butyl Ethyl Ether	ND	0.200		ND	0.836			1
2-Dichloroethene (total)	ND	1.00		ND	1.00			1
1,1-Trichloroethane	ND	0.200		ND	1.09			1
1-Dichloropropene	ND	0.200		ND	0.908			1
enzene	ND	0.200		ND	0.639			1
arbon tetrachloride	ND	0.200		ND	1.26			1
clohexane	ND	0.200		ND	0.688	-		1
rt-Amyl Methyl Ether	ND	0.200		ND	0.836	-		1
bromomethane	ND							100



Project Name:

BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number: CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

	<u> </u>	ppbV			ug/m3	_	Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab)				1 4 1		2 14 1	
,2-Dichloropropane	ND	0.200	-	ND	0.924			1
Bromodichloromethane	ND	0.200	-	ND	1.34			1
,4-Dioxane	ND	0.200	-	ND	0.721			1
richloroethene	ND	0.200		ND	1.07			1
,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
lethyl Methacrylate	ND	0.500		ND	2.05			1
leptane	ND	0.200		ND	0.820			1
is-1,3-Dichloropropene	ND	0.200		ND	0.908			1
-Methyl-2-pentanone	ND	0.500		ND	2.05	-		1
ans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
1,2-Trichloroethane	ND	0.200		ND	1.09			1
oluene	ND	0.200		ND	0.754	-		1
3-Dichloropropane	ND	0.200	**	ND	0.924			1
Hexanone	ND	0.200		ND	0.820			1
bromochloromethane	ND	0.200		ND	1.70			1
2-Dibromoethane	ND	0.200		ND	1.54	_		1
utyl acetate	ND	0.500		ND	2.38			1
ctane	ND	0.200		ND	0.934			1
etrachloroethene	ND	0.200		ND	1.36			1
1,1,2-Tetrachloroethane	ND	0.200		ND	1.37			1
nlorobenzene	ND	0.200	_	ND	0.921			1
hylbenzene	ND	0.200	-	ND	0.869			1
n-Xylene	ND	0.400	-	ND	1.74			1
omoform	ND	0.200	-	ND	2.07	-		1
yrene	ND	0.200		ND	0.852	-		1
,2,2-Tetrachloroethane	ND	0.200	-	ND	1.37	-		1
Kylene	ND	0.200		ND	0.869			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Sample Location:

Date Received: Field Prep:

Not Specified

05/22/19

	ppbV		ug/m3				Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab								
1,2,3-Trichloropropane	ND	0.200		ND	1.21	-		1
Nonane	ND	0.200	-	ND	1.05			1
Isopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200		ND	1.04			1
n-Propylbenzene	ND	0.200	-	ND	0.983			1
4-Chlorotoluene	ND	0.200		ND	1.04			1
4-Ethyltoluene	ND	0.200	-	ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983			1
ert-Butylbenzene	ND	0.200		ND	1.10			1
,2,4-Trimethylbenzene	ND	0.200	-	ND	0.983			1
Decane	ND	0.200		ND	1.16	-		1
Benzyl chloride	ND	0.200		ND	1.04	_		1
,3-Dichlorobenzene	ND	0.200	22	ND	1.20			1
,4-Dichlorobenzene	ND	0.200		ND	1.20			1
ec-Butylbenzene	ND	0.200		ND	1.10			1
-Isopropyltoluene	ND	0.200	440	ND	1.10			1
,2-Dichlorobenzene	ND	0.200		ND	1.20			1
Butylbenzene	ND	0.200		ND	1.10			1
,2-Dibromo-3-chloropropane	ND	0.200	(344)	ND	1.93			1
Indecane	ND	0.200		ND	1.28			1
odecane	ND	0.200		ND	1.39			1
,2,4-Trichlorobenzene	ND	0.200		ND	1.48			1
aphthalene	ND	0.200		ND	1.05	-		1
2,3-Trichlorobenzene	ND	0.200		ND	1.48			1
exachlorobutadiene	ND	0.200		ND	2.13	-		1



Project Name: **BATCH CANISTER CERTIFICATION**

Lab Number:

L1921628

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

Project Number:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

ppbV **Parameter** Results

ug/m3

RL

MDL

Dilution **Factor**

Volatile Organics in Air - Mansfield Lab

Results

RL

Qualifier

MDL

Units

Results

RDL

Dilution Factor

Qualifier

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	101		60-140
chlorobenzene-d5	99		60-140

Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Sample Location:

Date Received: Field Prep:

05/22/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15-SIM 05/22/19 20:03

Analytical Date: Analyst:

EW

		ppbV			ug/m3		<u></u>	Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab				SEPT 1		Maria J	
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413	-		1
Freon-114	ND	0.050	**	ND	0.349			1
/inyl chloride	ND	0.020		ND	0.051			1
,3-Butadiene	ND	0.020	-	ND	0.044			1
Bromomethane	ND	0.020		ND	0.078			1
Chloroethane	ND	0.100		ND	0.264			1
Acetone	ND	1.00	-	ND	2.38			1
richlorofluoromethane	ND	0.050		ND	0.281			1
Acrylonitrile	ND	0.500		ND	1.09			1
,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500		ND	1.74			1
reon-113	ND	0.050		ND	0.383			1
rans-1,2-Dichloroethene	ND	0.020	**	ND	0.079			1
,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
-Butanone	ND	0.500		ND	1.47			1
is-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020		ND	0.098			1
,2-Dichloroethane	ND	0.020	-	ND	0.081	-		1
,1,1-Trichloroethane	ND	0.020		ND	0.109			1
enzene	ND	0.100		ND	0.319			1
arbon tetrachloride	ND	0.020		ND	0.126			1
,2-Dichloropropane	ND	0.020		ND	0.092	**		1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1921628

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Sample Location:

Date Collected:

05/22/19 09:00

Date Received:

Field Prep:

05/22/19 Not Specified

2 8 7		ppbV		9-101	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM -	Mansfield Lab							
Bromodichloromethane	ND	0.020		ND	0.134	_		1
1,4-Dioxane	ND	0.100		ND	0.360	-		1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
I-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.020		ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109			1
oluene	ND	0.050	-	ND	0.188			1
Dibromochloromethane	ND	0.020		ND	0.170			1
,2-Dibromoethane	ND	0.020		ND	0.154			1
etrachloroethene	ND	0.020	-	ND	0.136			1
,1,1,2-Tetrachloroethane	ND	0.020	-	ND	0.137			1
Chlorobenzene	ND	0.100		ND	0.461			1
thylbenzene	ND	0.020	-	ND	0.087			1
/m-Xylene	ND	0.040		ND	0.174			1
Bromoform	ND	0.020		ND	0.207			1
tyrene	ND	0.020	227	ND	0.085			1
,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137			1
-Xylene	ND	0.020		ND	0.087			1
sopropylbenzene	ND	0.200	-	ND	0.983			1
-Ethyltoluene	ND	0.020		ND	0.098			1
3,5-Trimethybenzene	ND	0.020		ND	0.098	**		1
2,4-Trimethylbenzene	ND	0.020		ND	0.098			1
enzyl chloride	ND	0.200		ND	1.04			1
3-Dichlorobenzene	ND	0.020	-	ND	0.120			1
4-Dichlorobenzene	ND	0.020	-	ND	0.120			1
ec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab	The T	ter Tip.		Sec. Thirt	tec T	Physical Par	
p-Isopropyltoluene	ND	0.200		ND	1.10	-		1
1,2-Dichlorobenzene	ND	0.020	-	ND	0.120	**		1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050		ND	0.371			1
Naphthalene	ND	0.050		ND	0.262			1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371			1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	99		60-140



Project Name: BATCH CANISTER CERTIFICATION Lab Number:

L1921894

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Sample Location:

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15 05/23/19 17:16

Analytical Date: Analyst:

TS

	ppbV				ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200		ND	0.707			1
Propylene	ND	0.500		ND	0.861			1
Propane	ND	0.500		ND	0.902			1
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00		ND	6.55			1
/inyl chloride	ND	0.200	-	ND	0.511			1
,3-Butadiene	ND	0.200		ND	0.442			1
Butane	ND	0.200		ND	0.475			1
Bromomethane	ND	0.200		ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200		ND	0.842			1
/inyl bromide	ND	0.200		ND	0.874			1
Acrolein	ND	0.500		ND	1.15			1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200		ND	0.336			1
richlorofluoromethane	ND	0.200		ND	1.12			1
sopropanol	ND	0.500		ND	1.23			1
Acrylonitrile	ND	0.500		ND	1.09			1
Pentane	ND	0.200	-	ND	0.590			1
,1-Dichloroethene	ND	0.200	-	ND	0.793			1
Fertiary butyl Alcohol	ND	0.500		ND	1.52			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

R D	ppbV				ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab		Carlo Million						
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200		ND	0.626			1
Carbon disulfide	ND	0.200		ND	0.623	-		1
Freon-113	ND	0.200		ND	1.53			1
rans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
,1-Dichloroethane	ND	0.200		ND	0.809			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
/inyl acetate	ND	1.00	-	ND	3.52			1
2-Butanone	ND	0.500		ND	1.47			1
Kylenes, total	ND	0.600		ND	0.869			1
is-1,2-Dichloroethene	ND	0.200		ND	0.793			1
Ethyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977			1
etrahydrofuran	ND	0.500		ND	1.47			1
,2-Dichloropropane	ND	0.200		ND	0.924			1
,2-Dichloroethane	ND	0.200		ND	0.809			1
-Hexane	ND	0.200		ND	0.705			1
Diisopropyl ether	ND	0.200		ND	0.836			1
ert-Butyl Ethyl Ether	ND	0.200		ND	0.836			1
,2-Dichloroethene (total)	ND	1.00		ND	1.00			1
,1,1-Trichloroethane	ND	0.200		ND	1.09			1
,1-Dichloropropene	ND	0.200	**	ND	0.908			1
Benzene	ND	0.200		ND	0.639	-		1
Carbon tetrachloride	ND	0.200		ND	1.26			1
Cyclohexane	ND	0.200	**	ND	0.688			1
ert-Amyl Methyl Ether	ND	0.200	-	ND	0.836	-		1
Dibromomethane	ND	0.200		ND	1.42			1



Project Name: **BATCH CANISTER CERTIFICATION**

CANISTER QC BAT

Lab Number: L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Date Collected: Date Received: 05/23/19 09:00

Field Prep:

05/23/19 Not Specified

Sample Depth:

Sample Location:

Project Number:

	ppbV				ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab		The state of						
1,2-Dichloropropane	ND	0.200		ND	0.924			1
Bromodichloromethane	ND	0.200	-	ND	1.34			1
1,4-Dioxane	ND	0.200		ND	0.721			1
Trichloroethene	ND	0.200	-	ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500	-	ND	2.05			1
Heptane	ND	0.200		ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200		ND	0.908	-		1
I-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
,1,2-Trichloroethane	ND	0.200		ND	1.09			1
oluene	ND	0.200	-	ND	0.754			1
,3-Dichloropropane	ND	0.200		ND	0.924			1
-Hexanone	ND	0.200		ND	0.820			1
Dibromochloromethane	ND	0.200		ND	1.70			1
,2-Dibromoethane	ND	0.200		ND	1.54			1
Butyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934	-		1
etrachloroethene	ND	0.200		ND	1.36			1
1,1,2-Tetrachloroethane	ND	0.200		ND	1.37			1
hlorobenzene	ND	0.200		ND	0.921			1
thylbenzene	ND	0.200		ND	0.869			1
/m-Xylene	ND	0.400	***	ND	1.74			1
romoform	ND	0.200	-	ND	2.07			1
tyrene	ND	0.200	-	ND	0.852			1
1,2,2-Tetrachloroethane	ND	0.200	-	ND	1.37			1
-Xylene	ND	0.200		ND	0.869			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

		ppbV	ppbV		ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab)							
1,2,3-Trichloropropane	ND	0.200		ND	1.21			1
Nonane	ND	0.200		ND	1.05			1
Isopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200		ND	1.04	-		1
n-Propylbenzene	ND	0.200		ND	0.983			1
4-Chlorotoluene	ND	0.200	-	ND	1.04			1
4-Ethyltoluene	ND	0.200	-	ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983			1
ert-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200		ND	0.983			1
Decane	ND	0.200		ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.200		ND	1.20			1
,4-Dichlorobenzene	ND	0.200	-	ND	1.20			1
sec-Butylbenzene	ND	0.200		ND	1.10			1
o-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200		ND	1.10			1
,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93			1
Indecane	ND	0.200		ND	1.28			1
Dodecane	ND	0.200		ND	1.39			1
,2,4-Trichlorobenzene	ND	0.200		ND	1.48	-		1
Naphthalene	ND	0.200		ND	1.05			1
,2,3-Trichlorobenzene	ND	0.200	**	ND	1.48			1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921894

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Date Collected:

05/23/19 09:00

Sample Location:

Date Received:

MDL

05/23/19

Field Prep:

Not Specified

Sample Depth:

ppbV Parameter Results

ug/m3 RL

Qualifier

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

RL

Qualifier

MDL

Units

Results

RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	87		60-140

Project Name:

BATCH CANISTER CERTIFICATION

Project Number:

CANISTER QC BAT

Lab Number:

L1921894

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Date Collected:
Date Received:

05/23/19 09:00

Date Neceived

05/23/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15-SIM 05/23/19 17:16

Analyst:

TS

		ppbV		P1	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab					- 8		
Dichlorodifluoromethane	ND	0.200	_	ND	0.989			1
Chloromethane	ND	0.200	-	ND	0.413			1
Freon-114	ND	0.050		ND	0.349			1
/inyl chloride	ND	0.020		ND	0.051			1
,3-Butadiene	ND	0.020		ND	0.044			1
Bromomethane	ND	0.020		ND	0.078			1
Chloroethane	ND	0.100		ND	0.264	-		1
Acetone	ND	1.00		ND	2.38			1
richlorofluoromethane	ND	0.050		ND	0.281			1
crylonitrile	ND	0.500	44	ND	1.09	-		1
,1-Dichloroethene	ND	0.020		ND	0.079	-		1
lethylene chloride	ND	0.500		ND	1.74			1
reon-113	ND	0.050	22	ND	0.383			1
ans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
,1-Dichloroethane	ND	0.020		ND	0.081			1
lethyl tert butyl ether	ND	0.200	**	ND	0.721			1
Butanone	ND	0.500		ND	1.47			1
s-1,2-Dichloroethene	ND	0.020	**	ND	0.079			1
hloroform	ND	0.020	**	ND	0.098			1
2-Dichloroethane	ND	0.020		ND	0.081			1
1,1-Trichloroethane	ND	0.020		ND	0.109			1
enzene	ND	0.100		ND	0.319			1
arbon tetrachloride	ND	0.020		ND	0.126			1
2-Dichloropropane	ND	0.020		ND	0.092			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM -	Mansfield Lab		4 3		- Hall		41.6	
Bromodichloromethane	ND	0.020		ND	0.134			1
1,4-Dioxane	ND	0.100		ND	0.360			1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500	-	ND	2.05	***		1
trans-1,3-Dichloropropene	ND	0.020	-	ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109			1
Toluene	ND	0.050	-	ND	0.188			1
Dibromochloromethane	ND	0.020		ND	0.170			1
1,2-Dibromoethane	ND	0.020		ND	0.154			1
Tetrachloroethene	ND	0.020		ND	0.136			1
1,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137			1
Chlorobenzene	ND	0.100		ND	0.461			1
Ethylbenzene	ND ·	0.020		ND	0.087			1
o/m-Xylene	ND	0.040	***	ND	0.174			1
Bromoform	ND	0.020		ND	0.207			1
Styrene	ND	0.020	-	ND	0.085			1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137			1
o-Xylene	ND	0.020	-	ND	0.087			1
sopropylbenzene	ND	0.200		ND	0.983			1
4-Ethyltoluene	ND	0.020	***	ND	0.098			1
,3,5-Trimethybenzene	ND	0.020		ND	0.098			1
,2,4-Trimethylbenzene	ND	0.020		ND	0.098			1
Benzyl chloride	ND	0.200		ND	1.04			1
,3-Dichlorobenzene	ND	0.020		ND	0.120	**		1
,4-Dichlorobenzene	ND	0.020		ND	0.120	-		1
sec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: **BATCH CANISTER CERTIFICATION**

Lab Number:

L1921894

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-01

Client ID:

CAN 1562 SHELF 37

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

		Vdqq			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab					150	CONTRACTOR OF THE PARTY.	alti i
p-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.020		ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlarobenzene	ND	0.050		ND	0.371	7/22/		1
Naphthalene	ND	0.050		ND	0.262	-		1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371	-		1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Date Received:

Date Collected:

05/23/19 09:00

Field Prep:

05/23/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15 05/23/19 18:34

Analyst:

TS

	ppbV				ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab								THE STATE OF
Chlorodifluoromethane	ND	0.200		ND	0.707			1
Propylene	ND	0.500		ND	0.861			1
Propane	ND	0.500		ND	0.902			1
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200	-	ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00		ND	6.55			1
/inyl chloride	ND	0.200		ND	0.511			1
,3-Butadiene	ND	0.200		ND	0.442			1
tutane	ND	0.200		ND	0.475			1
Bromomethane	ND	0.200		ND	0.777			1
chloroethane	ND	0.200		ND	0.528			1
thanol	ND	5.00		ND	9.42			1
ichlorofluoromethane	ND	0.200		ND	0.842			1
inyl bromide	ND	0.200		ND	0.874			1
crolein	ND	0.500		ND	1.15			1
cetone	ND	1.00		ND	2.38			1
cetonitrile	ND	0.200		ND	0.336			1
richlorofluoromethane	ND	0.200		ND	1.12			1
sopropanol	ND	0.500		ND	1.23	-		1
crylonitrile	ND	0.500	-	ND	1.09			1
entane	ND	0.200		ND	0.590			1
1-Dichloroethene	ND	0.200	-	ND	0.793			1
ertiary butyl Alcohol	ND	0.500	-	ND	1.52			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Date Collected: Date Received: 05/23/19 09:00

05/23/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

	PpbV				ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab		上海 医咽道中						
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200		ND	0.626			1
Carbon disulfide	ND	0.200	-	ND	0.623			1
Freon-113	ND	0.200		ND	1.53	-		1
rans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
,1-Dichloroethane	ND	0.200		ND	0.809			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
finyl acetate	ND	1.00		ND	3.52			1
2-Butanone	ND	0.500		ND	1.47			1
ylenes, total	ND	0.600		ND	0.869			1
is-1,2-Dichloroethene	ND	0.200		ND	0.793			1
thyl Acetate	ND	0.500		ND	1.80			1
chloroform	ND	0.200		ND	0.977			1
etrahydrofuran	ND	0.500		ND	1.47			1
,2-Dichloropropane	ND	0.200		ND	0.924			1
,2-Dichloroethane	ND	0.200		ND	0.809			1
-Hexane	ND	0.200		ND	0.705			1
Diisopropyl ether	ND	0.200	7.7	ND	0.836			1
ert-Butyl Ethyl Ether	ND	0.200		ND	0.836			1
,2-Dichloroethene (total)	ND	1.00		ND	1.00			1
,1,1-Trichloroethane	ND	0.200	-	ND	1.09			1
,1-Dichloropropene	ND	0.200	**	ND	0.908			1
enzene	ND	0.200		ND	0.639			1
arbon tetrachloride	ND	0.200		ND	1.26	-		1
yclohexane	ND	0.200		ND	0.688			1
ert-Amyl Methyl Ether	ND	0.200		ND	0.836			1
Dibromomethane	ND	0.200		ND	1.42			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Date Collected:

05/23/19 09:00

Sample Location:

Date Received:

05/23/19

Field Prep:

Not Specified

5		Vdqq			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield L	ab							
1,2-Dichloropropane	ND	0.200		ND	0.924			1
Bromodichloromethane	ND	0.200		ND	1.34			1
1,4-Dioxane	ND	0.200		ND	0.721			1
Trichloroethene	ND	0.200		ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500		ND	2.05			1
Heptane	ND	0.200		ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200		ND	0.908			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
,1,2-Trichloroethane	ND	0.200		ND	1.09			1
oluene	ND	0.200	**	ND	0.754			1
,3-Dichloropropane	ND	0.200		ND	0.924			1
-Hexanone	ND	0.200		ND	0.820			1
Dibromochloromethane	ND	0.200		ND	1.70			1
,2-Dibromoethane	ND	0.200		ND	1.54			1
Butyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934			1
etrachloroethene	ND	0.200		ND	1.36			1
,1,1,2-Tetrachloroethane	ND	0.200		ND	1.37			1
Chlorobenzene	ND	0.200	***	ND	0.921			1
Ethylbenzene	ND	0.200	**	ND	0.869			1
/m-Xylene	ND	0.400		ND	1.74			1
romoform	ND	0.200		ND	2.07			1
Styrene	ND	0.200		ND	0.852			1
,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1
o-Xylene	ND	0.200		ND	0.869			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1921894

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

A CONTRACTOR OF THE CONTRACTOR		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab								
1,2,3-Trichloropropane	ND	0.200		ND	1.21			1
Nonane	ND	0.200		ND	1.05			1
Isopropylbenzene	ND	0.200		ND	0.983	-		1
Bromobenzene	ND	0.200		ND	0.793	-		1
2-Chlorotoluene	ND	0.200		ND	1.04	-		1
n-Propylbenzene	ND	0.200	-	ND	0.983	-		1
4-Chlorotoluene	ND	0.200		ND	1.04			1
4-Ethyltoluene	ND	0.200	-	ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200	-	ND	0.983	-		1
tert-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200		ND	0.983			1
Decane	ND	0.200	-	ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.200		ND	1.20			1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200		ND	1.10			1
p-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200		ND	1.10			1
,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93			1
Undecane	ND	0.200	***	ND	1.28			1
Dodecane	ND	0.200		ND	1.39			1
,2,4-Trichlorobenzene	ND	0.200		ND	1.48			1
Naphthalene	ND	0.200	-	ND	1.05			1
,2,3-Trichlorobenzene	ND	0.200	-	ND	1.48	-		1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921894

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Date Collected:

05/23/19 09:00

Sample Location:

Date Received:

MDL

05/23/19

Field Prep:

Not Specified

Sample Depth:

Parameter Results RL

ug/m3

RL

Qualifier

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

MDL

Units

Results

RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria	
1,4-Difluorobenzene	93		60-140	
Bromochloromethane	94		60-140	
chlorobenzene-d5	94		60-140	

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1921894

Project Number: CANISTER QC BAT

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15-SIM 05/23/19 18:34

Analytical Date: Analyst:

TS

Parameter		Vdqq		ug/m3			Dilution	
	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab			4				
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.050	-	ND	0.349			1
Vinyl chloride	ND	0.020		ND	0.051			1
1,3-Butadiene	ND	0.020		ND	0.044			1
Bromomethane	ND	0.020		ND	0.078			1
Chloroethane	ND	0.100		ND	0.264	100		1
Acetone	ND	1.00		ND	2.38			1
Trichlorofluoromethane	ND	0.050		ND	0.281			1
Acrylonitrile	ND	0.500		ND	1.09			1
1,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500		ND	1.74			1
Freon-113	ND	0.050		ND	0.383	-		1
trans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47			1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020		ND	0.098	-		1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
1,1,1-Trichloroethane	ND	0.020		ND	0.109	-		1
Benzene	ND	0.100		ND	0.319			1
Carbon tetrachloride	ND	0.020		ND	0.126	-		1
1,2-Dichloropropane	ND	0.020		ND	0.092			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1921894

Project Number: CANISTER QC BAT

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Sample Location:

Date Collected:

05/23/19 09:00

Date Received:

05/23/19

Field Prep:

Not Specified

Sample Depth:

Sample Depth:		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM -	- Mansfield Lab							
Bromodichloromethane	ND	0.020		ND	0.134			1
,4-Dioxane	ND	0.100		ND	0.360			1
Frichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.020		ND	0.091			1
,1,2-Trichloroethane	ND	0.020	-	ND	0.109			1
Toluene	ND	0.050	-	ND	0.188	-		1
Dibromochloromethane	ND	0.020	-	ND	0.170			1
,2-Dibromoethane	ND	0.020		ND	0.154	-		1
etrachloroethene	ND	0.020		ИD	0.136	-		1
,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137	-		1
Chlorobenzene	ND	0.100		ND	0.461			1
Ethylbenzene	ND	0.020		ND	0.087			1
o/m-Xylene	ND	0.040	-	ND	0.174			1
Bromoform	ND	0.020		ND	0.207			1
Styrene	ND	0.020		ND	0.085			1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137			1
o-Xylene	ND	0.020		ND	0.087			1
sopropylbenzene	ND	0.200		ND	0.983	-		1
4-Ethyltoluene	ND	0.020	-	ND	0.098			1
1,3,5-Trimethybenzene	ND	0.020		ND	0.098	-		1
1,2,4-Trimethylbenzene	ND	0.020	-	ND	0.098			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.020	-	ND	0.120	-		1
1,4-Dichlorobenzene	ND	0.020	-	ND	0.120			1
sec-Butylbenzene	ND	0.200		ND	1.10			1



BATCH CANISTER CERTIFICATION Project Name: CANISTER QC BAT

Lab Number: L1921894

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921894-03

Client ID:

CAN 1943 SELF 39

Date Collected: Date Received: 05/23/19 09:00

05/23/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	/ - Mansfield Lab							
p-Isopropyltoluene	ND	0.200	22	ND	1.10	-		1
1,2-Dichlorobenzene	ND	0.020		ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050		ND	0.371			1
Naphthalene	ND	0.050		ND	0.262			1
1,2,3-Trichlorobenzene	ND	0.050	(44)	ND	0.371			1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	103		60-140



Serial_No:06181916:40 Lab Number: L1924748

Report Date: 06/18/19

Project Name: 1246 DOTHAN RD.
Project Number: Not Specified

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler Custody Seal
N/A Present/Intact

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pΗ	pН		Pres	Seal	Date/Time	Analysis(*)
L1924748-01A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-02A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-03A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-04A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-05A	Canister - 6 Liter	N/A	NA			Υ	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-06A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30),TO15-SIM(30)
L1924748-07A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		CLEAN-FEE()
L1924748-08A	Canister - 6 Liter	N/A	NA			Y	Present/Intact		CLEAN-FEE()
L1924748-09A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		CLEAN-FEE()



1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

GLOSSARY

Acronyms

DL

Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when
those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments
from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDI.

Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC

Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an
analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case
estimate of the concentration.

EPA

- Environmental Protection Agency.

LCS

 Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD

· Laboratory Control Sample Duplicate: Refer to LCS.

LFB

 Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD

 Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ

 Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL

Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated
values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any
adjustments from dilutions, concentrations or moisture content, where applicable.

MS

Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD

- Matrix Spike Sample Duplicate: Refer to MS.

NA

Not Applicable.

NC

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI

Not Ignitable.

NP

- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL

Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM

 Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

of o figuration

- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF

- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO

 Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC

 Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



1246 DOTHAN RD.

Lab Number:

L1924748

Project Number:

Not Specified

Report Date:

06/18/19

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to "Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the reporting limit (RL) for the sample.
- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- The RPD between the results for the two columns exceeds the method-specified criteria.
- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.

Report Format: Data Usability Report



1246 DOTHAN RD.

Project Number: Not Specified

Lab Number:

L1924748

Report Date:

06/18/19

REFERENCES

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 12

Published Date: 10/9/2018 4:58:19 PM

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colliert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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ARM ENVIRONMENTAL SERVICES

For Play Pals site, 1246 Dothan Road, Columbia, SC

*Please limit reporting to the following list:

- Methyl Tert Butyl Ether
- e 1,2-Dichloroethane
- Benzene
- Toluene
- Ethylbenzene
- o p/m Xylene
- o-Xylene
- Naphthalene

LIMIT TO THESE



ANALYTICAL REPORT

Lab Number:

L1924733

Client:

ARM Environmental Services, Inc.

1210 First Street South Ext.

Columbia, SC 29209

ATTN:

Richard Ciccolella

Phone:

(803) 783-3314

Project Name:

1246 DOTHAN RD.

Project Number:

12-414.2-18

Report Date:

06/18/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806 508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: 1246 DOTHAN RD.
Project Number: 12-414.2-18

Lab Number: L1924733

Report Date: 06/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1924733-01	SG-1	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 11:00	06/10/19
L1924733-02	SG-2	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 11:42	06/10/19
L1924733-03	SG-3	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 12:10	06/10/19
L1924733-04	SG-4	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 12:40	06/10/19
L1924733-05	SG-5	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 12:59	06/10/19
L1924733-06	SG-6	SOIL_VAPOR	1246 DOTHAN RD.	06/03/19 13:24	06/10/19

1246 DOTHAN RD.

Project Number: 12-414.2-18

Lab Number:

L1924733

Report Date:

06/18/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



Project Name: Project Number: 1246 DOTHAN RD.

12-414.2-18

Lab Number:

L1924733

Report Date:

06/18/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on May 29, 2019. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Christopher J. Anderson

Authorized Signature:

Title: Technical Director/Representative

Date: 06/18/19



AIR



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number:

12-414.2-18

Report Date: 06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-01

Client ID:

Sample Location:

SG-1

1246 DOTHAN RD.

Date Collected:

06/03/19 11:00

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/17/19 23:00

Analyst:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Ma	nsfield Lab	100						
Methyl tert butyl ether	ND	0.200		ND	0.721	2.5		1
1,2-Dichloroethane	ND	0.200		ND	0.809	-		1
Benzene	ND	0.200		ND	0.639			1
Toluene	1.51	0.200	-	5.69	0.754			1
Ethylbenzene	0.243	0.200		1.06	0.869			1
p/m-Xylene	0.822	0.400		3.57	1.74			1
o-Xylene	0.286	0.200	**	1.24	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Diffuorobenzene	92		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number: 12-414.2-18

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-02

Client ID:

SG-2

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/03/19 11:42

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/17/19 23:39

Analyst:

		Vdqq				ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor		
Volatile Organics in Air - Ma	nsfield Lab					Trage.	College A College	Mag In		
Methyl tert butyl ether	ND	0.200		ND	0.721			1		
1,2-Dichloroethane	ND	0.200		ND	0.809			1		
Benzene	ND	0.200		ND	0.639			1		
Toluene	1.89	0.200		7.12	0.754			1		
Ethylbenzene	0.331	0.200		1.44	0.869			1		
p/m-Xylene	1.15	0.400		5.00	1.74			1		
o-Xylene	0.396	0.200		1.72	0.869			1		
Naphthalene	ND	0.200		ND	1.05	-		1		

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number: 12-414.2-18

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-03

Client ID:

SG-3

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/03/19 12:10

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/18/19 00:18

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Ma	nsfield Lab		1 2	11 100	p.pl	- 201		
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200	_	ND	0.809			1
Benzene	ND	0.200	-	ND	0.639			1
Toluene	1.15	0.200		4.33	0.754			1
Ethylbenzene	0.212	0.200	••	0.921	0.869			1
p/m-Xylene	0.715	0.400		3.11	1.74			1
o-Xylene	0.259	0.200		1.12	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	97		60-140



Project Name: 1246 DOTHAN RD.

Project Number: 12-414.2-18

Lab Number:

L1924733

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-04

Client ID:

SG-4

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/03/19 12:40

Date Received: Field Prep: 06/10/19 Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/18/19 00:56

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mai	nsfield Lab			Wilder Land		1 367		
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639			1
Toluene	1.84	0.200		6.93	0.754			1
Ethylbenzene	0.379	0.200	-	1.65	0.869			1
p/m-Xylene	1.35	0.400	-	5.86	1.74			1
o-Xylene	0.482	0.200		2.09	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number:

12-414.2-18

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-05

Client ID:

SG-5

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/03/19 12:59

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/18/19 01:35

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Man	sfield Lab							
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	0.692	0.200		2.21	0.639			1
Toluene	1.53	0.200		5.77	0.754			1
Ethylbenzene	0.414	0.200		1.80	0.869			1
p/m-Xylene	1.18	0.400		5.13	1.74			1
o-Xylene	0.397	0.200		1.72	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number: 12-414.2-18

Report Date:

06/18/19

SAMPLE RESULTS

Lab ID:

L1924733-06

Client ID:

SG-6

Sample Location:

1246 DOTHAN RD.

Date Collected:

06/03/19 13:24

Date Received:

06/10/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

06/18/19 02:14

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Ma	nsfield Lab					The second	- 487 K.17	e a a c
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639			1
Toluene	1.22	0.200		4.60	0.754	**		1
Ethylbenzene	0.291	0.200		1.26	0.869			1
p/m-Xylene	0.943	0.400	-	4.10	1.74			1
o-Xylene	0.363	0.200		1.58	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	96		60-140

Project Name:

1246 DOTHAN RD.

Lab Number:

L1924733

Project Number: 12-414.2-18

Report Date:

06/18/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date:

06/17/19 15:09

	-	ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfie	ld Lab for samp	ole(s): 01-	06 Batch:	WG12495	556-4	p. Herri		are of
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639			1
Toluene	ND	0.200		ND	0.754			1
Ethylbenzene	ND	0.200		ND	0.869			1
p/m-Xylene	ND	0.400		ND	1.74	_		1
o-Xylene	ND	0.200		ND	0.869			1
Naphthalene	ND	0.200	-	ND	1.05			1

Lab Control Sample Analysis Batch Quality Control

Project Name:

1246 DOTHAN RD.

Project Number: 12-414.2-18

Lab Number:

L1924733

Report Date:

06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	01-06	Batch: WG124955	56-3					
Methyl tert butyl ether	82		27		70-130				
1,2-Dichloroethane	103		-		70-130	2			
Benzene	97				70-130	20			
Toluene	96				70-130				
Ethylbenzene	100		1.5		70-130				
p/m-Xylene	104				70-130				
o-Xylene	109		744		70-130				
Naphthalene	83				70-130				

Lab Number: L1924733

Report Date: 06/18/19

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.2-18

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPC
1924733-01	SG-1	01228	SV200	05/29/19	292924		2	2)	8	Pass	221	194	13
L1924733-01	SG-1	2999	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0				
1924733-02	SG-2	01195	SV200	05/29/19	292924			-		Pass	220	196	12
1924733-02	SG-2	3002	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0			*	
1924733-03	SG-3	01182	SV200	05/29/19	292924			•		Pass	221	198	11
.1924733-03	SG-3	2994	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0				
1924733-04	SG-4	01050	SV200	05/29/19	292924					Pass	220	188	16
.1924733-04	SG-4	217	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0	-			12
.1924733-05	SG-5	01198	SV200	05/29/19	292924		18			Pass	218	194	12
.1924733-05	\$G-5	2420	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0			. –	
.1924733-06	SG-6	0604	SV200	05/29/19	292924					Pass	218	193	12
.1924733-06	SG-6	2991	2.7L Can	05/29/19	292924	L1921628-01	Pass	-29.1	0.0	U .	2		

Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1921628

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Date Received: Field Prep:

05/22/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15 05/22/19 20:03

Analyst:

EW

		Vdqq			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab		į.						
Chlorodifluoromethane	ND	0.200		ND	0.707	-		1
Propylene	ND	0.500		ND	0.861			1
Propane	ND	0.500		ND	0.902			1
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00	-	ND	6.55			1
Vinyl chloride	ND	0.200		ND	0.511			1
1,3-Butadiene	ND	0.200		ND	0.442			1
Butane	ND	0.200		ND	0.475	1750		1
Bromomethane	ND	0.200	22	ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200	-	ND	0.842			1
/inyl bromide	ND	0.200		ND	0.874			1
Acrolein	ND	0.500		ND	1.15			1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200	-	ND	0.336			1
Frichlorofluoromethane	ND	0.200		ND	1.12			1
sopropanol	ND	0.500		ND	1.23			1
Acrylonitrile	ND	0.500		ND	1.09			1
Pentane	ND	0.200		ND	0.590			1
1,1-Dichloroethene	ND	0.200	-	ND	0.793			1
Tertiary butyl Alcohol	ND	0.500		ND	1.52			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Sample Location:

Date Collected:

Lab Number:

05/22/19 09:00

Date Received:

05/22/19

L1921628

Field Prep:

Not Specified

Sample Depth:

	ppbV			1900	ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500		ND	1.74			1
-Chloropropene	ND	0.200		ND	0.626	-		1
arbon disulfide	ND	0.200		ND	0.623			1
reon-113	ND	0.200	.77	ND	1.53			1
ans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
,1-Dichloroethane	ND	0.200		ND	0.809			1
lethyl tert butyl ether	ND	0.200		ND	0.721			1
inyl acetate	ND	1.00		ND	3.52			1
-Butanone	ND	0.500	-	ND	1.47			1
ylenes, total	ND	0.600		ND	0.869			1
s-1,2-Dichloroethene	ND	0.200		ND	0.793			1
thyl Acetate	ND	0.500	-	ND	1.80			1
hloroform	ND	0.200		ND	0.977			1
etrahydrofuran	ND	0.500		ND	1.47			1
,2-Dichloropropane	ND	0.200		ND	0.924			1
,2-Dichloroethane	ND	0.200		ND	0.809	-		1
-Hexane	ND	0.200		ND	0.705			1
iisopropyl ether	ND	0.200		ND	0.836			1
ert-Butyl Ethyl Ether	ND	0.200		ND	0.836			ĩ
,2-Dichloroethene (total)	ND	1.00		ND	1.00			1
1,1-Trichloroethane	ND	0.200		ND	1.09			1
,1-Dichloropropene	ND	0.200		ND	0.908			1
enzene	ND	0.200		ND	0.639			1
arbon tetrachloride	ND	0.200		ND	1.26			1
yclohexane	ND	0.200	**	ND	0.688			1
ert-Amyl Methyl Ether	ND	0.200		ND	0.836			1
Dibromomethane	ND	0.200		ND	1.42			1



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1921628

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected: Date Received: 05/22/19 09:00

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

	15	ppbV		· .	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield Lab						17/83		
1,2-Dichloropropane	ND	0.200		ND	0.924			1
Bromodichloromethane	ND	0.200		ND	1.34	***		1
1,4-Dioxane	ND	0.200		ND	0.721			1
Frichloroethene	ND	0.200		ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500		ND	2.05			1
Heptane	ND	0.200	70	ND	0.820	-		1
sis-1,3-Dichloropropene	ND	0.200		ND	0.908			1
-Methyl-2-pentanone	ND	0.500		ND	2.05	- 22		1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
,1,2-Trichloroethane	ND	0.200		ND	1.09			1
oluene	ND	0.200	-	ND	0.754			1
,3-Dichloropropane	ND	0.200		ND	0.924	100		1
-Hexanone	ND	0.200		ND	0.820			1
bibromochloromethane	ND	0.200	22	ND	1.70			1
,2-Dibromoethane	ND	0.200		ND	1.54	1		1
dutyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934			1
etrachloroethene	ND	0.200		ND	1.36			1
,1,1,2-Tetrachloroethane	ND	0.200	••	ND	1.37			1
Chlorobenzene	ND	0.200	-	ND	0.921	-		1
thylbenzene	ND	0.200		ND	0.869	**		1
/m-Xylene	ND	0.400	**	ND	1.74			1
romoform	ND	0.200		ND	2.07			1
tyrene	ND	0.200	**	ND	0.852			1
,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1
-Xylene	ND	0.200		ND	0.869			1



Project Name: BATCH CANISTER CERTIFICATION Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected: Date Received: 05/22/19 09:00

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

STEP OF CONTROL OF CON	ppbV			89.	ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield L	ab							
1,2,3-Trichloropropane	ND	0.200		ND	1.21	+		1
Nonane	ND	0.200		ND	1.05	1.55		1
Isopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200		ND	1.04			1
n-Propylbenzene	ND	0.200		ND	0.983			1
4-Chlorotoluene	ND	0.200	-	ND	1.04			1
4-Ethyltoluene	ND	0.200		ND	0.983	-		1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983			1
ert-Butylbenzene	ND	0.200	-	ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200		ND	0.983	**		1
Decane	ND	0.200		ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.200		ND	1.20			1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200	-	ND	1.10	620		1
o-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200		ND	1.10	-77		1
1,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93			1
Undecane	ND	0.200		ND	1.28			1
Dodecane	ND	0.200	-	ND	1.39	**		1
1,2,4-Trichlorobenzene	ND	0.200		ND	1.48			1
Naphthalene	ND	0.200		ND	1.05			1
1,2,3-Trichlorobenzene	ND	0.200	=	ND	1.48	-		1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name:

BATCH CANISTER CERTIFICATION

Lab Number: L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Sample Location:

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Parameter Results RL

)

MDL

Results

ug/m3 RL

MDL Qualifier

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

Units RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	101		60-140
chlorobenzene-d5	99		60-140

Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

1 130 SHELF 3

Date Received: Field Prep:

05/22/19 Not Specified

Sample Depth:

Sample Location:

Matrix:

Air

Anaytical Method:

48,TO-15-SIM

Analytical Date:

05/22/19 20:03

Analyst:

EW

	1	ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab							
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.050		ND	0.349			1
Vinyl chloride	ND	0.020		ND	0.051			1
1,3-Butadiene	ND	0.020		ND	0.044			1
Bromomethane	ND	0.020	-	ND	0.078			1
Chloroethane	ND	0.100		ND	0.264			1
Acetone	ND	1.00		ND	2.38			1
Trichlorofluoromethane	ND	0.050		ND	0.281			1
Acrylonitrile	ND	0.500		ND	1.09			1
1,1-Dichloroethene	ND	0.020	**	ND	0.079			1
Methylene chloride	ND	0.500		ND	1.74			1
Freon-113	ND	0.050		ND	0.383			1
trans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47			1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020	***	ND	0.098			1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
1,1,1-Trichloroethane	ND	0.020		ND	0.109	-		1
Benzene	ND	0.100		ND	0.319			1
Carbon tetrachloride	ND	0.020		ND	0.126			1
1,2-Dichloropropane	ND	0.020	(122)	ND	0.092			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1921628

Project Number: CANISTER QC BAT

Report Date: 06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Sample Location:

Date Collected:

05/22/19 09:00

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Cumpic Dopain		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM -	Mansfield Lab							
Bromodichloromethane	ND	0.020		ND	0.134			1
1,4-Dioxane	ND	0.100		ND	0.360	-		1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
trans-1,3-Dichloropropene	ND	0.020		ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109	-		1
Taluene	ND	0.050		ND	0.188			1
Dibromochloromethane	ND	0.020	-	ND	0.170			1
1,2-Dibromoethane	ND	0.020	-	ND	0.154			1
Tetrachloroethene	ND	0.020	=	ИD	0.136			1
1,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137			1
Chlorobenzene	ND	0.100		ND	0.461			1
Ethylbenzene	ND	0.020		ND	0.087			1
p/m-Xylene	ND	0.040		ND	0.174			1
Bromoform	ND	0.020		ND	0.207			1
Styrene	ND	0.020		ND	0.085			1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137	~~		1
a-Xylene	ND	0.020		ND	0.087			1
Isopropylbenzene	ND	0.200		ND	0.983			1
4-Ethyltoluene	ND	0.020		ND	0.098			1
1,3,5-Trimethybenzene	ND	0.020		ND	0.098	-		1
1,2,4-Trimethylbenzene	ND	0.020	-	ND	0.098	-		1
Benzyl chloride	ND	0.200	-	ND	1.04	-		1
1,3-Dichlorobenzene	ND	0.020		ND	0.120	***		1
1,4-Dichlorobenzene	ND	0.020	- 1	ND	0.120			1
sec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1921628

Project Number:

CANISTER QC BAT

Report Date:

06/18/19

Air Canister Certification Results

Lab ID:

L1921628-01

Client ID:

CAN 156 SHELF 3

Date Collected:

05/22/19 09:00

Date Received:

05/22/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

5 15		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM - M	lansfield Lab							
p-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.020		ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050		ND	0.371			1
Naphthalene	ND	0.050	-	ND	0.262			1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371	••		1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	99		60-140



Serial_No:06181916:29 Lab Number: L1924733

Report Date: 06/18/19

Project Name: 1246 DOTHAN RD.
Project Number: 12-414.2-18

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler Custody Seal
N/A Present/Intact

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1924733-01A	Canister - 2.7 Liter	N/A	NA			Υ	Present/Intact		TO15-LL(30)
L1924733-02A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30)
L1924733-03A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30)
L1924733-04A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30)
L1924733-05A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30)
L1924733-06A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		TO15-LL(30)



1246 DOTHAN RD.

Lab Number:

L1924733

Project Number:

12-414.2-18

Report Date:

06/18/19

GLOSSARY

Acronyms

DL

 Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL

Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC

Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

FPA LCS

Environmental Protection Agency

- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD

Laboratory Control Sample Duplicate: Refer to LCS.

- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes

LOD

· Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOO

· Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL

 Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS

 Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD

Matrix Spike Sample Duplicate: Refer to MS.

NA

- Not Applicable

NC

- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI

- Not Ignitable

- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL

· Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP

Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF

Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO

· Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC

· Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

ALPHA

 Project Name:
 1246 DOTHAN RD.
 Lab Number:
 L1924733

 Project Number:
 12-414.2-18
 Report Date:
 06/18/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a "Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to "Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the reporting limit (RL) for the sample.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Number:

1246 DOTHAN RD.

12-414.2-18

Lab Number:

L1924733

Report Date:

06/18/19

REFERENCES

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873** Revision 12

Published Date: 10/9/2018 4:58:19 PM

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Collert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E,

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colllert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg.

EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

TEL: 508-822-936	Mansfield, MA 02048 00 FAX: 508-822-3288	Project	Name: /2	ation	THAN R	1	-	Rec'd in i	1.4	(d)0		ables		Billing	Informati		733 R.CKO
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Other Project S	RELLA PARMENV-COAN ve been previously analyzed by A specific Requirements/C Target Compound List	omments:		IM IT	Time:	TIRES "	70 TH	X E ATTA	c ACH E	0 41	17	//		AS COMMENT	VOLYSIS		
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-05	56-5	6/4/19	1244	259	29.05	0.10		RC		1	01198	x	H	+	11-	4	S R
106	5G-6	6/3/19	1308	1324	29.66	0	sv	RC			0604	¥				SEE 7	ATTACHED
*SAMPLE	MATRIX CODES	AA = Ambient SV = Soil Vapo Other = Please	or/Landfill (Oatdoor)				T co	ontainer	Туре					Pleas	e print clearly	hadibor and
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ARM ENVIRONMENTAL SERVICES

For Play Pals site, 1246 Dothan Road, Columbia, SC

"Please limit reporting to the following fit.

- Methyl Tert Butyl Ether
- o 1,2-Dichloroethane
- Benzene
- Toluene
- Ethylbenzene
- p/m Xylene
- o–Xylene
- Naphthalene

LIMIT TO THESE

11944

T	NON-HAZARDOUS	1. Generator ID Number	2. Page 1 of	3. Emergency Respo	onse Phone	4 Waste	Tracking Hu	-		_
1	WASTE MANIFEST		2.4010		- India				_	_
1	5. Generator's Name and Mail	ng Address		Generator's Site Add	iress (if different t	han mailing add	iress)		WW	٠,٠
	Generator's Phone: 6. Transporter 1 Company Nar	C T S I ENVIRONA 7130 BROAD RIVE IRMO, SC	MENTAL ER RD		RIVER AMO OAD RIVER IA, SC		Number		18	di
ı		T K TANK SERVICES,	NC.			1		/	Ck	=1
t	7. Transporter 2 Company Nar					U.S. EPA IC	Number		1	-
L										
	Designated Facility Name as Facility's Phone: 803-418-6	T K TANK SER 425 BOULEVA SUMTER, SC				U.S. EPA K) Number			
ľ	9. Waste Shipping Nam			10. C	ontainers	11. Total	12. Unit			
Ļ				No.	Туре	Quantity	Wt./Vol.			
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	13. Special Handling Instruction	ns and Additional Information						1 6d		1
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	14. GENERATOR'S/OFFEROR	R'S CERTIFICATION: I hereby declare	e that the contents of this consignment a	are fully and accurately	described above	by the proper s	hipping nam	e, and are classifi	ed, packag	ed,
	Generator's Offeror's Printed/Ty		condition for transport according to applications of the second se	rature	-1	ental regulation	6.	Month	Day 23	Year
	15. International Shipments	Import to U.S.	Export from	U.S. Port of	entry/exit				62	-
	Transporter Signature (for expo		0-7.10 #711 (0.00)		leaving U.S.:					
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÷	Transporter 2 Printed/Typed No	5/11:007		Public produce	0	prio	9	Month Month	Day Day	Year Year
	17. Discrepancy									
-	17a. Discrepancy Indication Sp	Quantity	Туре	Residue	171	Partial R	ejection		Full Reject	ion
	17b. Alternate Facility (or Gene	rator)		Manifest Relaren	ce Number:	U.S. EPA ID	Number 1		_	
1	Facility's Phone:					1				
	17c. Signature of Alternate Fac	tility (or Generator)						Month	Day	Year
						35.60		200		4
-	18. Designated Facility Owner of	or Operator: Certification of receipt of a	materials covered by the manifest excep	t as noted in item 17a						
	Printed/Typed Name	-		phature				Morth	Day	Year
L					Y			1		



AUG 2 0 2019

MR FREDERICK N CECCHINI 429 PRESS LINDLER ROAD COLUMBIA SC 29212-8322

Re: Air Quality Vapor Sampling and Receptor Survey Directive

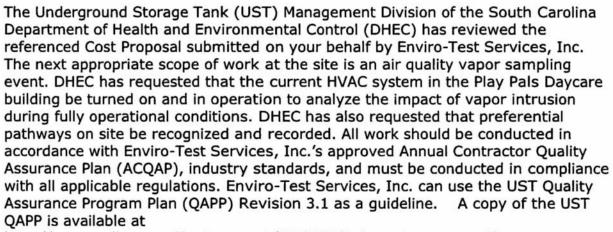
Broad River Amoco, 4335 Broad River Road, Columbia, SC

UST# 11946; CA# 60146

Release reported January 4, 2011

Richland County

Dear Mr. Cecchini:



http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/.

Air quality vapor sampling and receptor survey activities at the site should begin immediately upon receipt of this letter. Cost agreement #60146 has been approved for the amount shown on the enclosed cost agreement form for conducting the sampling associated with the referenced release. Air quality samples should be collected and analyzed for BTEX, naphthalene, MTBE, 1, 2-DCA after electricity to the Play Pals Daycare HVAC has been restored. The receptor survey should be for preferential pathways in which the contaminants may be moving.

In accordance with Enviro-Test Services, Inc.'s ACQAP, a weekly status report of the project should be provided via e-mail. If any quality assurance problems arise, you must contact the project manager within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in Enviro-Test Services, Inc.'s ACQAP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Enviro-Test Services, Inc. can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved.

Please note that applicable South Carolina certification requirements regarding laboratory services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from DHEC is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by DHEC for the cost to be paid. DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note if unnecessary dilutions are completed resulting in reporting limits of individual chemicals of concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

DHEC grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the Enviro-Test Services, Inc.'s ACQAP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit #11946. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by email at baldwiba@dhec.sc.gov.

Sincerely,

Bradly Baldwin, Hydrogeologist

Corrective Action & Quality Assurance Section Underground Storage Tank Management Division Bureau of Land and Waste Management

Enc: Approved Cost Agreement

Cc: Terry Teate, Enviro-Test Services, Inc., PO Box 2237, Irmo, SC 29063

(w/enc)

Michael Faris, ARM Environmental Services, Inc., 1210 First Street South,

Columbia, SC 29209 (w/ enc)

Technical File (w/ enc)

Approved Cost Agreement

60146

Facility: 11946 BROAD RIVER AMOCO

BALDWIBA

PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
02 RECEPTOR SURVEY				
	A1 RECEPTOR SURVEY	1.0000	\$551.000	551.00
04 MOB/DEMOB				
	B1 PERSONNEL	3.0000	\$423.000	1,269.00
18 MISCELLANEOUS				
	12 CANNISTERS AND DELIVERY	1.0000	\$1,150.000	1,150.00
	LAB ANALYSIS FOR INDOOR, OUTDOOR, AND SUBL	12.0000	\$275.000	3,300.00
	PERSONNEL: SCIENTIST AND TECH	1.0000	\$3,497.000	3,497.00
19 RPT/PROJECT MNGT & COORDINATIO				- 11
	PRT REPORT PREPARATION	0.1200	\$9,767.000	1,172.04

Total Amount 10,939.04

•.

August 20, 2019



ENVIRO-TEST SERVICES



Mr. Bradly Baldwin, Hydrogeologist Corrective Action & Quality Assurance Section UST Program Bureau of Land and Waste management

RE: July 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco and Play Pals Day Care Permit # 11946; CA # 60099 4335 Broad River Rd Columbia, SC Richland County

which was an increase of 16 gallons more of Free Product than last month.



Dear Mr. Baldwin

Enviro-Test Services is continuing the removal of Free Product and petroleum contaminated water at the Play Pals Day Care.

A total of (8) Free Product Vacuum Recovery Events were performed through out the month of July. They began on July 1st and then on July 8th, July 10th, and July 11th, July 22nd, July 24th, July 26th, and July 28th 2019. There was an increase in Free Product Recovery events performed due to the increase amount of rain fall in July. The groundwater level is between 2.75 ft. and 4.03 in Recovery Trench A. The free product stays constant at 0.10 to 0.15 ft. where as Trench B pit groundwater level is 1.64 ft to 1.83 ft and for the first time has no free product or sheen on top of the recovery well. Trench E and the over fill pit, Trench C and Trench D also have no sheen on top of the water. There is also no sign of Free Product or a sheen on top of any water under the Play Pals Day Care.

These Events produced 7,376 gallons of contaminated petroleum water and 24 gallons of free product. See Disposal Manifest Attachment A:

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care. There was also maintenance of the open pits and barrier nets for safety protection. On July 11th the grass was mowed in order to get to the effected areas.

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. The other Absorbent Booms are located in the ditch at the rear of the Day Care which leads to the storm drain that has one in it and there is another one in the ditch by the apartments. See Site Map: Figure 1

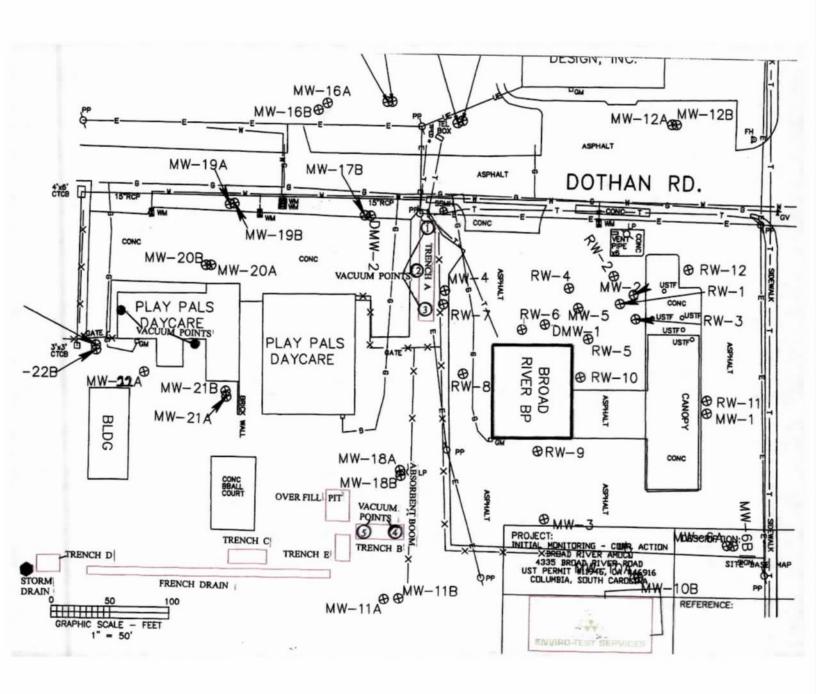
Enviro-Test will continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed.

Thank You, for Recognizing our commitment to continue working on this site.

Terry L. Teate Project Manager

Enviro-Test Services Inc.

Site Map



ATTACHMENT A

	ä	NON-HAZARDOUS NON-HAZARDOUS	pitch) typewriter) 1. Generator's US EPA ID	N-2				
		WASTE MANIFEST 3. Generator's Name and Mailing Address	1. Generators US EPA ID	No.		Manifest Document N	° 2436	2. Page 1 of
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CERTIFICATE OF DISPOSAL

T K TANK SERVICES, INC.

Certifies to all that

2,285 GALLONS

Of Nonhazardous, Petroleum Contaminated Water / Product

Have been disposed of in accordance with EPA regulations on petroleum contaminated water.

This product was generated at

BROAD RIVER BP/FRED CUCCHINI

07/31/2019

DATE

Copy Hade Newman

SIGNATURE

CERTIFICATE OF DISPOSAL

T K TANK SERVICES, INC.

Certifies to all that

2,158 GALLONS

Of Nonhazardous, Petroleum Contaminated Water / Product

Have been disposed of in accordance with EPA regulations on petroleum contaminated water.

This product was generated at

BROAD RIVER BP / FRED CUCCHINI

7/18/2019	Casaly Hade Nowman
DATE	SIGNATURE

September 15, 2019





ENVIRO-TEST SERVICES

Mr. Bradly Baldwin, Hydrogeologist Corrective Action & Quality Assurance Section UST Program Bureau of Land and Waste management

RE: August 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco and Play Pals Day Care Permit # 11946; CA # 60283 4335 Broad River Rd Columbia, SC Richland County



Dear Mr. Baldwin

Enviro-Test Services is continuing the removal of Free Product and petroleum contaminated water at the Play Pals Day Care.

A total of (5) Free Product Vacuum Recovery Events were performed through out the month of August. They began on August 5th and then on August 11th, August 20th, August 23rd and August 30th. There was a decrease in Free Product Recovery events performed due to the decrease amount of rain fall in August. The groundwater level has dropped 2 ft. to a GWL of 5.27 ft. in Recovery Trench A. The free product stays constant at 0.10 to 0.15 ft. where as Trench B pit groundwater level has dropped 1.53 ft. to GWL of 4.45 ft. and still has no free product or sheen on top of the recovery well. Trench E and the over fill pit, Trench C and Trench D also have no sheen on top of the water. There is also no sign of Free Product or a sheen on top of any water under the Play Pals Day Care.

There was a total of 1,366 gallons of contact water recovered and 7 gallons of free product recovered which was a decrease of 17 gallons less of Free Product than last month.

These Events produced 1,366 gallons of contaminated petroleum water and 7 gallons of free product. See Disposal Manifest Attachment A:

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care. There was no maintenance of the open pits and barrier nets for safety protection this month

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. The other Absorbent Booms are located in the ditch at the rear of the Day Care which leads to the storm drain that has one in it and there is another one in the ditch by the apartments. There was no replacement of absorbent booms this month. The electric power to the day care is scheduled to be reconnected in order to perform Soil Vapor & Air Sampling event inside the day care with the air condition running. See Site Map: Figure 1

Enviro-Test will continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed.

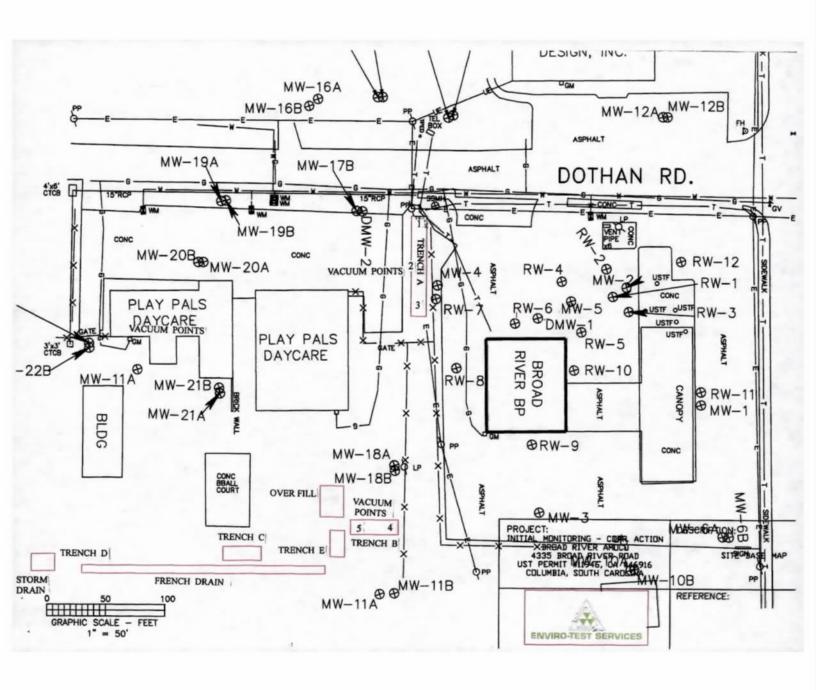
Thank You, for Recognizing our commitment to continue working on this site.

Terry L. Teate

Project Manager

Enviro-Test Services Inc.

Site Map Figure 1



ATTACHMENT A

NON-HAZARDOUS WASTE

WASTE MANIFEST	Generator's US EPA ID No.	1-1-	1	Manifest Document No.	2443	2 Page 1 of
3. Generator's Name and Mailing Address By 433	oad River BP	lifred Cu	ech	in 19-	414.2-	18
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ARM				B. Transporter 1	Phone	
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CERTIFIED AUTOMATED TRUCK SCALE

AT SCALE COMPANY ALCOTT IA 52773 (63) 284-6263 w.catscale.com

14-08

63475579

THE CAT SCALE GUARANTEE

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

WEIGH WHAT WE SAY OR WE PAY®

If you get an overweight fine from the state AFTER one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

(1) Reimburse you for the cost of the overweight fine if our scale is wrong, OR

(2) A representative of CAT Scale Company will appear in court <u>WITH</u> the driver as an expert witness if we

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

- Post bond and request a court date.

 Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com
- IMMEDIATELY send a copy of the citation, CAT Scale Ticket, your name, company, address, and phone number to CAT Scale Company Attn; Guarantee Department.

*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 9-30-19

SCALE: 1 RAE LOCATION: DETRO STEER AXLE

DRIVE AXLE

30540

TRAILER AXLE

COLUMBIA

77 EXIT 5

GROSS WEIGHT 41560 1b

IMPRINT SEAL HERE (IF APPLICABLE)

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facia evidence of the accuracy of the weight shown as prescribed by law.

LIVESTOCK, PRODUCE. PROPERTY, COMMODITY, OR ARTICLE WEIGHED

PREIGHT ALL KINDS

ARM PNV

TRALER !

TICKET # OF

© CAT Scale® Ring 3067 7/18

5579

WEIGH NUMBER

October 10, 2019





ENVIRO-TEST SERVICES

Mr. Bradly Baldwin, Hydrogeologist Corrective Action & Quality Assurance Section UST Program Bureau of Land and Waste management



RE: August 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco and Play Pals Day Care Permit # 11946; CA # 60368 4335 Broad River Rd Columbia, SC Richland County

Dear Mr. Baldwin

Enviro-Test Services is continuing the removal of Free Product and petroleum contaminated water at the Play Pals Day Care.

A total of (5) Free Product Vacuum Recovery Events were performed through out the month of August. They began on September 3rd and then September 10th, September 17th, September 21st and September 30th. The Free Product Recovery events performed remained the same as in August. There was only one good rain storm at the end of September and the site is very dry. The groundwater level continues to drop to a GWL of 5.68 ft. in Recovery Trench A. The free product has decreased to 0.10 ft. where as Trench B pit groundwater level has dropped to a GWL of 4.63 ft. and still has no free product or sheen on top of the recovery well. Trench E and the over fill pit, Trench C and Trench D also have no sheen on top of the water. There is also no standing water in the sumps under the Play Pals Day Care.

There was a total of 2,791 gallons of contact water recovered and 26 gallons of free product recovered which was an increase of 1,425 gallons of contact water and 19 gallons more of Free Product than last month.

These Events produced 2,791 gallons of contaminated petroleum water and 26 gallons of thick very dark brown-black free product.

See Disposal Manifest Attachment A:

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care. There was one hour of maintenance of the open pits and barrier nets for safety protection this month

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. The other Absorbent Booms are located in the ditch at the rear of the Day Care which leads to the storm drain that has one in it and there is another one in the ditch by the apartments. There was no replacement of absorbent booms this month. The electric power to the day care has been reconnected and the air condition running.

See Site Map: Figure 1

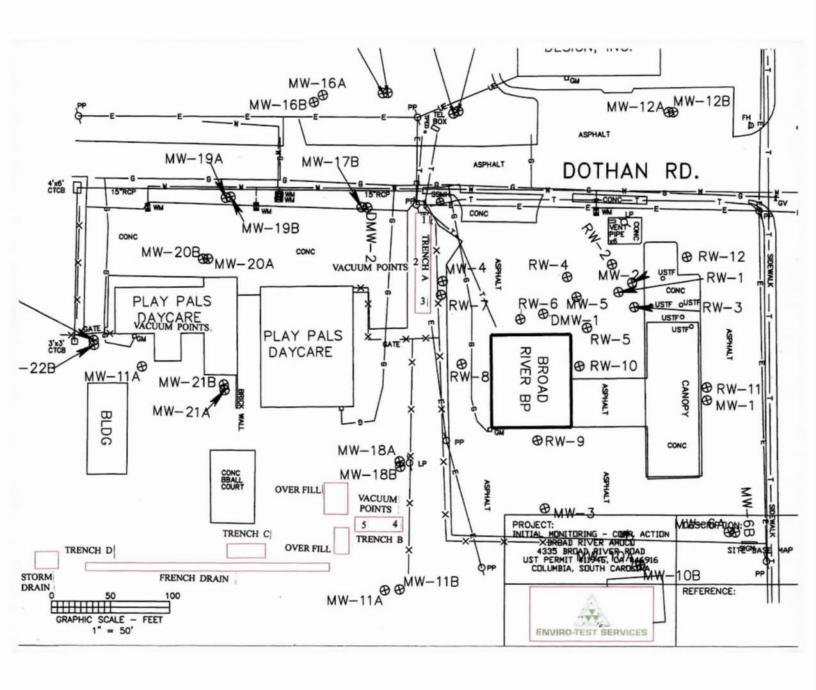
Enviro-Test will continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed.

Thank You, for Recognizing our commitment to continue working on this site.

Terry L. Teate Project Manager

Enviro-Test Services Inc.

FIGURE 1 Site Map



ATTACHMENT A Disposal Manifest

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ż		P.O. BOX 50285							
9	7	COLUMBIA, SC 29250							
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CERTIFICATE OF DISPOSAL

T K TANK SERVICES, INC.

Certifies to all that

2,791 GALLONS

Of Nonhazardous, Petroleum Contaminated Water / Product

Have been disposed of in accordance with EPA regulations on petroleum contaminated water.

This product was generated at

BROAD RIVER BP / FRED CUCCHINI

10/4/2019	Cooley Hall Pourman
DATE	SIGNATURE



ASSESSMENT & REMEDIAL SERVICES

armenv.com

October 23, 2019

Brad Baldwin, Hydrogeologist
UST Management Division
Bureau of Land and Waste Management
South Carolina Department of Health & Environmental Control
2600 Bull Street
Columbia. South Carolina 29201



Re: Soil Vapor and Air Quality Assessment

Broad River Amoco (BP) 4335 Broad River Rd., Columbia Richland County, South Carolina UST Permit #11946; CA #60146

ARM Project #12-414.4-19

Dear Mr. Baldwin:

ARM Environmental Services, Inc. (ARM) has conducted additional sub-slab soil vapor and indoor and outdoor air sampling at the Broad River Amoco (BP) site on behalf of Enviro-Test Services, Inc. (Enviro-Test). The site is located along Broad River Rd. at the intersection of Dothan Rd. in Columbia, Richland County, South Carolina.

A summary of the services provided and data collected during this sampling event is documented in the following report and attached figures, tables, and appendices. Additionally, an updated receptor's survey was also conducted and is detailed in this report.

If you have any questions or comments regarding this report, please do not hesitate to contact us.

Sincerely,

ARM Environmental Services, Inc.

Michael L. Faris, P.G.

Senior Geologist / Principal

Andrew M. Wilson, P.G.

Sr. Project Manager / Principal

Andrew M. Unlson

cc: Terry Teate, Enviro-Test Services, Inc.

ASSESSMENT & REMEDIAL SERVICES

armenv.com

TABLE OF CONTENTS

Broad River Amoco (BP) Soil Vapor and Air Quality Assessment

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3.0	CONCLUSIO	SNC	÷	9		٠		Ř			5
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Figure	es: Figure 1 Figure 2 Figure 3	Site E	Base M	ap ·	(Topog Sketcl	1877 - 6		Sample	Locati	ons	
Apper	ndices: Appendix A Appendix B				Sampl		gs				

1.0 Assessment Activities

Prior to this assessment, the electricity was restored to the Play Pals structure. Once the electricity was restored, the HVAC system was turned back on and allowed to run normally for approximately one to two weeks prior to sample collection. The HVAC system was in normal operation during the indoor and outdoor sampling activities. In order to further evaluate the air quality and sub-slab soil vapor at the Play Pals property, the following assessment activities were completed:

1.1 Sub-Slab Soil Vapor Sampling:

Six (6) sub-slab soil vapor points (Vapor Pins), designated SG-1 through SG-6, were previously installed in the concrete slab inside the Play Pals structure closest to the subject site. The vapor pin sub-slab vapor monitoring points were installed in December 2018 in order to facilitate the collection of soil gas from beneath the concrete slab portion of the building. 5/8-inch diameter holes were drilled through the concrete slab at six locations and the vapor pins were securely placed within these holes by advancement with a dead blow hammer. The vapor pins included a silicone sleeve that compressed against the hole in the concrete slab, sealing the hole around the Vapor Pin. Subsequent to sample collection in 2018, each of the vapor pins were capped and left in place for potential future sampling events. The same six vapor pins were utilized during a sampling event in June 2019 and during this assessment for sample collection. The six sub-slab soil vapor points are indicated on Figure 3, the Play Pals Site Sketch. The site sketch consists of a photograph of the Play Pals Day Care building evacuation plan with sample locations indicated.

ARM mobilized to the site on September 13, 2019 and reconnected the vapor pins with tubing to 2.7L stainless steel Summa Canisters. The flow rate of soil vapor to the Summa Canisters was controlled with a flow controller set at the laboratory to continuously draw soil vapor at a rate of approximately 200 milliliters per minute (ml/min). Soil vapor sampling at less than or equal to 200 ml/min is recommended in order to minimize the potential for drawing ambient or other air / vapor into the sample (short circuiting).

The sample train tubing connections were pressure tested with a shut in test to insure no leakage within the sample train. The valve closest to the vapor pin was closed and a vacuum equivalent to 15 inches of mercury was placed on the sample train with the integrated syringe. A pressure gauge was used to monitor any vacuum loss within the train. A sample train with a vacuum loss of less than 0.5 inches of mercury over a 1 minute period was considered tight.

A leak test, using the water dam method, was also used to test the integrity of the tubing connection to the Vapor Pin and the silicone seal against the concrete hole. A two-inch PVC pipe couple was placed over the Vapor Pin and was sealed against the concrete floor with VOC free Play-Doh. When all tubing connections had been made and the "shut-in" test had been completed, distilled water was placed into the PVC pipe couple to a level above the tubing connection to the Vapor Pin. The sample point was then purged by removing approximately 3 to 5 tubing volumes of air with the syringe.

A sudden drop in water level, or the appearance of water in the tubing would indicate leakage. The connection to the syringe was then closed and the valve to the Summa Canister was opened to begin sampling. The water level in the pipe couple was monitored throughout the approximate 13 to 15 minute sampling period at each location to insure no leakage occurred during sample collection. The water level within the PVC water dam remained constant throughout sampling and no water was observed in the tubing at each location during this sampling event.

The sub-slab soil vapor samples (Summa canisters) were shipped overnight to a certified laboratory for analysis. Each sample was analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene, methyl tertiary-butyl ether (MTBE), and 1,2-dichloroethane (1,2-DCA) by EPA analytical method TO-15. The results are tabulated along with Vapor Intrusion Screening Levels (VISL) in Table 1. The commercial and residential VISLs are indicated on Tables 1A and 1B, respectively. A historical summary of all sub-slab soil vapor data is included on Table 3. Vapor sampling field data logs for each sample are included in Appendix A. The complete laboratory analytical data is included in Appendix B. The locations of each of the soil vapor samples are indicated on Figure 3.

1.2 Indoor Air, Outdoor Air, Crawlspace Vapor Sampling:

A total of six (6) indoor air, outdoor air, and crawlspace vapor samples, designated A-1, and A-3 through A-6, were collected at the Play Pals Daycare property and from the residence located adjacent to and downgradient (southwest) of the Play Pals property. The address of the adjacent residence is 1235 Dothan Rd.

ARM utilized 6 liter (L) stainless steel Summa canisters with flow controllers set by the laboratory for 8 hours. One canister was deployed outside the Play Pals building between the building and the Broad River BP location (A-1), one canister was deployed inside the portion of the Play Pals building that is over a slab (A-3), one canister was deployed inside the portion of the Play Pals building that is over a crawlspace (A-4), two canisters were deployed in the crawlspace of the Play Pals building (one above the polyethylene moisture barrier [A-5] and one below the polyethylene moisture barrier[A-6]), and one canister was deployed in the crawlspace of the residence located at 1238 Dothan Road (A-7).

The air samples (Summa canisters) were shipped overnight to a certified laboratory and analyzed for BTEX, naphthalene, MTBE, and 1,2-DCA via EPA analytical method TO-15. The results are tabulated along with Vapor Intrusion Screening Levels (VISL) in Table 2. The commercial and residential VISLs are indicated on Tables 2A and 2B, respectively. A historical summary of all indoor air, outdoor air, and crawlspace vapor data is included on Table 4. Vapor sampling field data logs for each sample are included in Appendix A. The complete laboratory analytical data is included in Appendix B. The locations of each of the air sample locations are indicated on Figure 3.

2.0 Potential Receptor Survey:

During this assessment, ARM personnel conducted an updated receptor survey.

Receptor Survey Questions	No	Yes*
Is there a drinking water supply well (public or private) or surface water supply intake within 1,000 feet of the UST?	X	
Are irrigation or other non-drinking water wells located within 1,000 feet of the UST?	X	
Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST?		X

^{*} If "yes" provide additional information:

2.1 Subsurface Utilities / Surface Water:

Based on the location of the known contaminant plume, and previous assessment data, it is apparent that the sanitary sewer system along Dothan Road has been previously impacted by the contamination. It is understood that the sewer system owner made repairs to the sewer line near the western corner of the Broad River BP site. Based on information provided by DHEC representatives it appears that no additional detections of elevated petroleum vapors have been identified in the sanitary sewer system since the repair. The sanitary sewer system remains a potential receptor of the contamination.

A series of storm drains are located downgradient of the subject property. One of the storm drains located in the southwestern corner of the Play Pals property was identified as a point of exposure during the emergency response effort. The local utility that maintains the storm water system was contacted and assisted in evaluating the flow to and from the drain. The storm drain collects surface water from the Play Pals property, as well as properties along Dothan Rd. from Broad River Rd. toward the southwest. Surface water then flows in a large diameter black corrugated pipe through the woods, and discharges into a wet-weather drainage ditch located behind the Rolling Pines community along Rolling Pines Way to the southwest of the Play Pals property.

The drainage ditch eventually flows into Stoop Creek several thousand feet southwest of the subject site.

Free-phase product was found flowing into the referenced storm drain system and drainage ditch during the emergency response effort. Petroleum absorbent booms were installed in the storm drain, at the discharge end of the black corrugated pipe, and at several locations along the aforementioned drainage ditch behind the Rolling Pines community. Product was observed flowing out of a subsurface french drain system on the Play Pals property into the storm drain. The french drain was capped on the Play Pals property along the southern property boundary in order to stop the flow of product into the storm drain. Product was vacuumed as often as observed in order to keep it out of the storm water system as much as possible. Petroleum absorbent booms were removed and replaced several times during the emergency response. Product and contaminated groundwater has been observed in the trenches connected to the remaining french drain system since the emergency response. Enviro-Test has continued to remove all free product and contaminated groundwater that may enter the storm water system since the emergency response.

The storm water system on the Play Pals property, including the french drain system and storm water draining piping and catch basins, remain a preferential pathway for the contamination.

A potential former septic tank system was identified on the southern side of the Play Pals property during a geophysical survey of the site during the emergency response. Based on the subsurface features identified, it is possible that the former septic tank and associated lines may act as a preferential pathway for the contaminants to flow beneath the portion of the Play Pals structure build on a crawlspace, particularly during a sudden rise in water levels.

2.2 Air Quality

Because of the high water table, wetter weather periods have likely been a driver for pushing contaminants and/or contaminant vapors into the sub-slab environment, which is likely a porous sand base beneath the concrete slab. Although recent indoor air quality results have been mostly below screening levels, it is important to recognize that the air sampling conducted in 2019 is merely a snapshot of conditions. Furthermore the conditions during the June and September 2019 air sampling were very dry. Should the water table quickly rise and more contaminants get transported downhill from the Broad River BP site toward the Play Pals property, outdoor and indoor air quality may once again degrade. At least a portion of the petroleum source still remains upgradient on the Broad River BP property. Therefore, the breathing zone of occupants of the Play Pals property is considered a potential receptor of the contamination.

2.3 Contaminated Soils & Excavations:

During the emergency response, free-phase product was observed flowing across the Play Pals property, particularly along the unpaved area south of the facility structure, and in the playground area of the property. The contaminated soils may be a potential receptor for dermal contact and potential ingestion.

It should be noted that several open excavations, primarily trenches and pits, remain open in the yard of the Play Pals property. The open excavations represent a potential exposure pathway to the dissolved and free-phase product, and potentially contaminated soils. The excavations also represent a potential safety hazard. It is recommended that all open excavations on the Play Pals property should be filled in and compacted to grade. Immediately prior to the closure of open excavations, any contaminated groundwater and free product present should be vacuumed up, and transported and disposed of at an approved disposal facility.

3.0 Conclusions

Sample results were compared to EPA VISLs indicative of a 10-6 cancer risk or a hazard quotient of 0.1 for non-carcinogens (default VISLs).

None of the sub-slab results exceeded the VISLs, indicating that vapor intrusion from the subsurface was not occurring at the time of sample collection. The weather pattern around this time had been very dry (no rain for an extended period of time). Because of the high water table, wetter weather periods have likely been a driver for pushing contaminants and/or contaminant vapors into the sub-slab environment, which is likely a porous sand base beneath the concrete slab. Therefore these recent results may be a snapshot of conditions in a favorable (dry) environment. Additionally, in this case, the HVAC system was operational, which may cause a periodic positive pressure in the building, helping to slow potential vapor intrusion.

Benzene was detected in the indoor air space in the crawlspace portion of the Play Pals building at a concentration exceeding the residential VISL. However, benzene was also detected in the exterior air sample and in the crawlspace portion of the Play Pals building, which may indicate that the source of the indoor benzene detection is from exterior and/or crawlspace air.

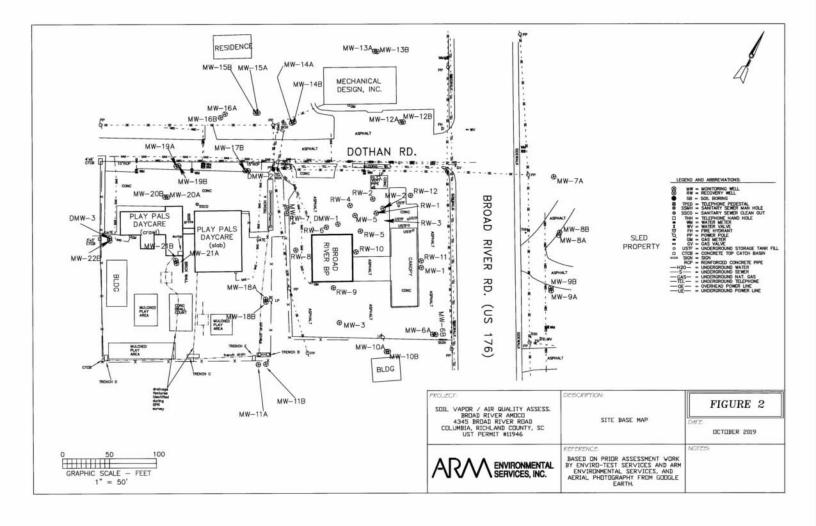
A significant concentration of naphthalene was detected in the crawlspace of the residence at 1238 Dothan Road. This concentration is, however, less than the naphthalene detected in this crawlspace during the June 2019 investigation.

The sub-slab results do not suggest active vapor intrusion from the subsurface into that portion of the Play Pals building. This seems to suggest that the detected CoCs in indoor air are resulting from communication with outdoor air. It should be noted that the results are "snapshots" of conditions at a point in time and that the outdoor environment may change more dynamically than the indoor or crawlspace environments, where vapors may linger or there may be a lag effect.

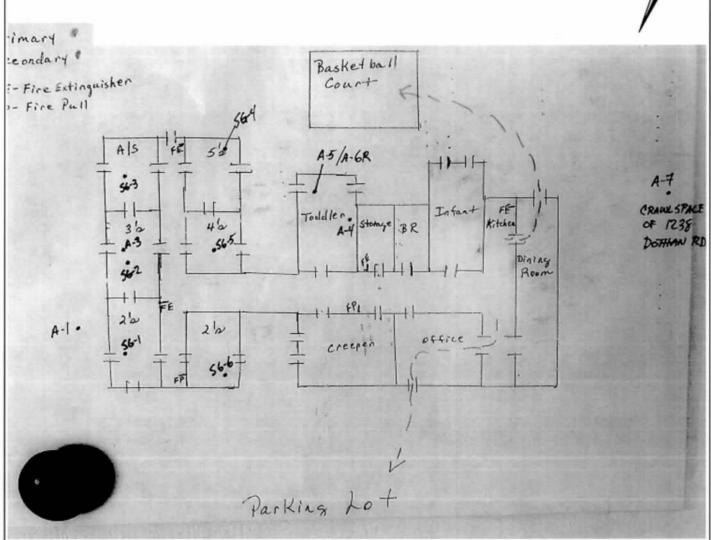
FIGURES

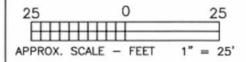
- FIG. 1 SITE LOCATION MAP (Topo.)
- FIG. 2 SITE BASE MAP
- FIG. 3 PLAY PALS STRUCTURE SKETCH with VAPOR SAMPLING LOCATIONS











PROJECT:

SDIL VAPOR / AIR QUALITY ASSESS.

BROAD RIVER AMOCO
4345 BROAD RIVER ROAD
COLUMBIA, RICHLAND COUNTY, SC
UST PERMIT #11946

ENVIRONMENTAL SERVICES, INC.

DESCRIPTION:

PLAY PALS STRUCTURE SKETCH WITH AIR / VAPOR SAMPLE LOCATIONS

REFERENCE:

SITE SKETCH IS THE BUILDING LAYOUT AND EVACUATION PLAN FROM PLAY PALS DAYCARE FIGURE 3

DATE:

DCTDBER 2019

LEGEND:

TABLES

- **Table 1** Sub-Slab Soil Vapor Results Sept. 2019
- **Table 2** Indoor Air, Outdoor Air, Crawlspace Vapor Results – Sept. 2019
- **Table 3** Sub-Slab Soil Vapor Results (Historical Summary)
- **Table 4** Indoor Air, Outdoor Air, Crawlspace Vapor Results – (Historical Summary)

Table 1A - Commercial Vapor Intrusion Screening Levels (VISL) Subslab Soll Gas Play Pals - 1246 Dothan Rd. 9/13/2019

Chemical	Target Sub-Slab and Near-source Soil Gas Concentration (TCR=1E-06 or THQ=0.1) C ₈₉ ,Target (µg/m³)	SG-1 (Classroom 1, Slab Building) (µg/m3)	SG-2 (Classroom 2, Slab Building) (µg/m3)	SG-3 (Classroom 3, Slab Building) (µg/m3)	SG-4 (Classroom 4, Slab Building) (µg/m3)	SG-5 (Classroom 5, Slab Building) (µg/m3)	SG-6 (Classroom 6, Slab Building) (µg/m3)
Benzene	52.4	ND (0.639)					
Toluene	73000	3.00	3.84	4.18	3.13	1.86	2.59
Ethylbenzene	164	0.947	1.12	1.19	ND (0.869)	ND (0.869)	ND (0.869)
Xylenes	1460	4.28	5.08	5.39	3.81	2.01	3.71
Naphthalene	12	ND (1.05)					
Methyl tert-Butyl Ether (MTBE)	1570	ND (0.721)					
Dichloroethane, 1,2-	15.7	ND (0.809)					

Table 1B - Residential Vapor Intrusion Screening Levels (VISL) Subslab Soil Gas Play Pals - 1246 Dothan Rd. 9/13/2019

Chemical	Target Sub-Slab and Near-source Soil Gas Concentration (TCR=1E-06 or THQ=0.1) Csg. Target (µg/m³)	SG-1 (Classroom 1, Slab Building) (µg/m3)	SG-2 (Classroom 2, Slab Building) (µg/m3)	SG-3 (Classroom 3, Slab Building) (µg/m3)	SG-4 (Classroom 4, Slab Building) (µg/m3)	SG-5 (Classroom 5, Slab Building) (µg/m3)	SG-6 (Classroom 6, Slab Building) (µg/m3)
Benzene	12	ND (0.639)					
Toluene	17400	3.00	3.84	4.18	3.13	1.86	2.59
Ethylbenzene	37.4	0.947	1.12	1.19	ND (0.869)	ND (0.869)	ND (0.869)
Xylenes	348	4.28	5.08	5.39	3.81	2.01	3.71
Naphthalene	2.75	ND (1.05)					
Methyl tert-Butyl Ether (MTBE)	360	ND (0.721)					
Dichloroethane, 1,2-	3.6	ND (0.809)					

Table 2A - Commercial Vapor Intrusion Screening Levels (VISL) Air Samples

1246 Dothan Rd. (Play Pals) and 1238 Dothan Rd. (Residence)

9/12/2019

Chemical	Target Indoor Air Concentration (TCR=1E-06 or THQ=0.1) MIN(C _{ia,c} , C _{ia,nc}) (µg/m³)	A-1 (Exterior Air) (µg/m3)	A-3 (Interior of Slab Building - 1246 Dothan) (µg/m3)	A-4 (Interior of Crawlspace Bullding - 1246 Dothan) (µg/m3)	A-5 (Crawispace Air - Above Poly Liner - 1246 Dothan) (µg/m3)	A-6R (Crawispace Air - Below Poly Liner - 1246 Dothan) (µg/m3)	A-7 (Crawispace Air - 1238 Dothan) (µg/m3)
Benzene	1.57	0.639	ND (0.319)	0.45	0.329	0.319	ND (0.466)
Toluene	2190	2.69	1.72	0.897	0.648	0.92	1.72
Ethylbenzene	4.91	0.404	0.339	0.152	0.109	1.15	0.304
Xylenes	43.8	2.899	1.473	0.656	0.539	0.642	1.244
Naphthalene	0.361	ND (0.262)	ND (0.262)	ND (0.262)	ND (0.262)	ND (0.262)	5.82
Methyl tert-Butyl Ether (MTBE)	47.2	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (1.05)
Dichloroethane, 1,2-	0.472	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.118)

Table 2B - Residential Vapor Intrusion Screening Levels (VISL) Air Samples

1246 Dothan Rd. (Play Pals) and 1238 Dothan Rd. (Residence)

9/12/2019

Chemical	Target Indoor Air Concentration (TCR=1E-06 or THQ=0.1) MIN(C _{ia,c} , C _{ia,nc}) (µg/m³)	A-1 (Exterior Air) (ug/m3)	A-3 (Interior of Slab Building - 1246 Dothan) (µg/m3)	A-4 (Interior of Crawfspace Building - 1246 Dothan) (µg/m3)	A-5 (Crawispace Air - Above Poly Liner - 1246 Dothan) (µg/m3)	A-6R (Crawlspace Air - Below Poly Liner - 1246 Dothan) (µg/m3)	A-7 (Crawispace Air - 1238 Dothan) (µg/m3)
Benzene	0.36	0.639	ND (0.319)	0.45	0.329	0.319	ND (0.466)
Toluene	521	2.69	1.72	0.897	0.648	0.92	1.72
Ethylbenzene	1.12	0.404	0.339	0.152	0.109	1.15	0.304
Xylenes	10.4	2.899	1.473	0.656	0.539	0.642	1.244
Naphthalene	0.0826	ND (0.262)	ND (0.262)	ND (0.262)	ND (0.262)	ND (0.262)	5.82
Methyl tert-Butyl Ether (MTBE)	10.8	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (1.05)
Dichloroethane, 1.2-	0.108	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.118)

Table 3 - Vapor Intrusion Screening Levels (VISLs) Subslab Soil Gas - Historical Summary Play Pals - 1246 Dothan Rd.

Chemical	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	MTBE	1,2- Dichloroethane
Commercial Vapor Intrusion Screening Level		52.4	73,000	164	1,460	12	1,570	15.7
Residential Vapor Intrusion Screening Level		12	17,400	37.4	348	2.75	360	3.6
SG-1 - Classroom 1	12/6/2018	28.6	23.5	ND (23.6)	ND (47.3)	ND (28.5)	ND (19.6)	ND (22.0)
	6/3/2019	ND (0.639)	5.69	1.06	4.81	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	3.00	0.947	4.28	ND (1.05)	ND (0.721)	ND (0.809)
SG-2 - Classroom 2	12/6/2018	ND (6.39)	30.4	ND (8.69)	47.1	ND (10.5)	ND (7.21)	ND (8.09)
	6/3/2019	ND (0.639)	7.12	1.44	6.72	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	3.84	1.12	5.08	ND (1.05)	ND (0.721)	ND (0.809)
SG-3 - Classroom 3	12/6/2018	5.69	43.3	11.2	64.5	2.69	ND (0.721)	ND (0.809)
	6/3/2019	ND (0.639)	4.33	0.921	4.23	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	4.18	1.19	5.39	ND (1.05)	ND (0.721)	ND (0.809)
SG-4 - Classroom 4	12/6/2018	3.45	32.8	9.16	55.6	1.64	ND (0.721)	ND (0.809)
	6/3/2019	ND (0.639)	6.93	1.65	7.95	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	3.13	ND (0.869)	3.81	ND (1.05)	ND (0.721)	ND (0.809)
SG-5 - Classroom 5	12/6/2018	4.54	40.3	12.2	73.9	2.63	ND (0.721)	ND (0.809)
	6/3/2019	2.21	5.77	1.80	6.85	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	1.86	ND (0.869)	2.01	ND (1.05)	ND (0.721)	ND (0.809)
SG-6 - Classroom 6	12/6/2018	22.8	52.4	12.6	73.8	ND (10.5)	ND (0.721)	ND (8.09)
	6/3/2019	ND (0.639)	4.60	1.26	5.68	ND (1.05)	ND (0.721)	ND (0.809)
	9/13/2019	ND (0.639)	2.59	ND (0.869)	3.71	ND (1.05)	ND (0.721)	ND (0.809)

Note:

All units expressed in µg/m3 (PPB)

ND - Not Detected at or above Limit of Quantitation (LOQ)

Bold - Greater than Residential VISL

Highlighted - Greater than Residential & Commercial VISL

Table 4 - Vapor Intrusion Screening Levels (VISLs) Indoor Air, Outdoor Air & Crawlspace Vapor - Historical Summary Play Pals - 1246 Dothan Rd.

Chemical	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	МТВЕ	1,2- Dichloroethane
Commercial Vapor Intrusion Screening Level		1.57	2,190	4.91	43.8	0.361	47.2	0.472
Residential Vapor Intrusion Screening Level		0.36	521	1.12	10.4	0.083	10.8	0.108
A-1 (Exterior Air)	12/5/2019	2.6	9.91	2.03	10.36	ND (1.05)	ND (0.721)	ND (0.809)
	6/4/2019	0.677	2.82	0.304	3.27	ND (1.05)	ND (0.721)	0.117
	9/12/2019	0.639	2.69	0.404	2.90	ND (0.262)	ND (0.721)	ND (0.081)
A-3 (Interior of Slab Building)	12/5/2019	183	1,790	530	2,956	12.9	ND (0.721)	ND (0.809)
1246 Dothan Rd.	6/4/2019	1.03	5.28	4.06	13.24	1.32	ND (0.721)	0.36
The state of the s	9/12/2019	ND (0.319)	1.72	0.339	1.47	ND (0.262)	ND (0.721)	ND (0.081)
A-4 (Interior of Crawlspc. Bldg.)	12/5/2019	19.0	120	29.4	199	2.43	ND (0.721)	ND (0.809)
1246 Dothan Rd.	6/4/2019	2.2	2.59	0.604	2.933	ND (1.05)	ND (0.721)	0.295
See State September 18 18 18 18 18 18 18 18 18 18 18 18 18	9/12/2019	0.45	0.897	0.152	0.656	ND (0.262)	ND (0.721)	ND (0.081)
A-5 (Crawlspc. Air - above poly)	12/7/2018	15.3	81.4	15.4	110.3	3.2	ND (0.721)	ND (0.809)
1246 Dothan Rd.	6/4/2019	1.02	6.82	0.5	3.8	ND (1.05)	ND (0.721)	0.105
	9/12/2019	0.329	0.648	0.109	0.539	ND (0.262)	ND (0.721)	ND (0.081)
A-6 (Crawlspc. Air - below poly)	12/7/2018	57.5	347	66	496	36.4	ND (0.721)	ND (0.809)
1246 Dothan Rd.	6/4/2019	0.393	1.09	0.161	0.573	ND (1.05)	ND (0.721)	ND (0.081)
	9/12/2019	0.319	0.92	1.15	0.642	ND (0.262)	ND (0.721)	ND (0.081)
A-7 (Crawlspace Air)	12/7/2018	2.34	5.54	ND (0.869)	2.14	ND (1.05)	ND (0.721)	ND (0.809)
1238 Dothan Rd.	6/4/2019	0.361	2.69	0.208	1.107	21.1	ND (0.721)	0.17
	9/12/2019	ND (0.466)	1.72	0.304	1.244	5.82	ND (1.05)	ND (0.118)

Note:

All units expressed in µg/m3 (PPB)

ND - Not Detected at or above Limit of Quantitation (LOQ)

Bold - Greater than Residential VISL

Highlighted - Greater than Residential & Commercial VISL

APPENDICES

- A. FIELD DATA VAPOR SAMPLING LOGS
- **B.** LABORATORY ANALYTICAL REPORTS

APPENDIX A

FIELD DATA – VAPOR SAMPLING LOGS

DO NOT FORGET TO LABEL EACH CANISTER TAG

The two big blue boxes are the air cans. There are two extras. Both are set up for tubing.

- Set outdoor air canister = A-1
- Set crawlspace canister beneath Play Pals above poly = A-5
- Set crawlspace canister beneath Play Pals beneath poly with tubing = A-6
- Set crawlspace canister beneath house next door = A-7
- Set indoor air canister in slab building Classroom 2 = A-3
- Set indoor air canister in crawlspace building Classroom 1 = A-4

Set canisters in the morning and pick up in the afternoon before the gauges read 0. Try to check each canister at least 30 minutes before the full 8 hours.

Day 2

- · Label canister on the tag
- For each Pin place PVC and Playdo, connect sample train, and connect Multi Meter to tubing to check organic vapor concentration
- · For each pin, record the VOC reading
- Connect summa canister
- Pressure test you want 15 on the gauge and watch the needle for 1 minute
- Fill PVC couple with water. Watch.
- Purge sample train. <u>Purge out half of a syringe (30 ml)</u>. Watch water.
- Start sampling and watch water. Make sure all valves are in the right position so air is flowing correctly.
- Make sure data sheet is filled out correctly.

Leave Vapor Pins in place and put a cone at each location with a sign.

Make sure each Vapor Pin is covered

Vapor Pin Case	e
Sample Trains	
Syringe / Gaug	ge Assembly
Gloves	
Tubing	
Silicone / Tygo	on Tubing
Scissors	i i
DI Water	
Water Dam P\	/C Couples
Play-Do / Clay	
Summa Canist	ers and Flow Controllers
Data Sheets	
Wrenches	
Syringe for suc	cking out water dam

ΔDΛ	↑ ENVIRONMENTAL	Sample Collection Log			
/-VV \	NVIRONMENTAL SERVICES, INC.	Sample ID	56-1		
Client	SC DHEC	Date of Collection	9-13-19		
Project	PLAY PALS	SUMMA Canister Size	2.7 L		
Location	1246 DOTHAN RA	Canister ID	1162		
Project #	12-414.4-19	Flow Controller ID	01/96		
Personnel	AD	Outdoor			
Sample Location	CLASS 1. SLAB BLAG	Sample Intake Height	Ground Levely Sub		
Sampling Depth	VAPOR PIN	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab)	. •	Time On / Off	0868		
Indoor, etc.)			4913		
PID Reading	7.3	Time of Collection	16 min.		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 ml/syring e		
		Barometric Pressure (Start)	30.15		
		Canister Pressure (Start)	29.61		
		Temperature (Start)	79.		
		Barometric Pressure (End)	30.15		
		Canister Pressure (End)	0-06		
		Temperature (End)	79"		

VACUUM TEST: 15" HIS FOR I MIN WATER DAM TEST:

ARAM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log		
/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V \SERVICES, INC.	Sample ID	SG-2	
Client	SC DHEC	Date of Collection	9-13-19	
Project	PLAY PALS	SUMMA Canister Size	2.7L	
Location	1246 DOTHAN RA	Canister ID	2867	
Project #	12-414.4-19	Flow Controller ID	0535	
Personnel	AD	Outdoor/Indoor		
Sample Location	CLASS 2 , SLAB BLOG	Sample Intake Height	Ground Level / Sub Slab	
Sampling Depth	VAPOR PIN	Misc. Equipment	/	
Sample Type (Soil Gas, Sub-Slab Indoor, etc.)	. *	Time On / Off	0926	
PID Reading	5.3	Time of Collection	16 min.	
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 ml / Syringe	
		Barometric Pressure (Start)	30.15	
		Canister Pressure (Start)	19.56	
		Temperature (Start)	71"	
2-29/2002/14 10 10/2 10/2002		Barometric Pressure (End)	30.15	
	2	Canister Pressure (End)	0.00	
		Temperature (End)	79.	

VALUAM TEST: 15" HIS FOR | MIN WATER DAM TEST:

ENVIRONMENTAL SERVICES, INC.		Sample Collection Log		
/JVV	SERVICES, INC.	Sample ID	54-3	
Client	SC DHEC	Date of Collection	9-13-17	
Project	PLAY PALS	SUMMA Canister Size	2.71	
Location	1246 DOTHAN RA.	Canister ID	444 ::	
Project#	12-414-4-19	Flow Controller ID	0540	
Personnel	AD	Outdoor/Andoor		
Sample Location	CLASS 3 , SCAB BLAG	Sample Intake Height	Ground Level / Sub State	
Sampling Depth	VAPOR PIN	Misc. Equipment	/	
Sample Type (Soil Gas, Sub-Slab Indoor, etc.)	•	Time On / Off	0956	
PID Reading	3.0	Time of Collection	lle min.	
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 ml	
	1	Barometric Pressure (Start)	30.15	
		Canister Pressure (Start)	29.62	
		Temperature (Start)	79'	
		Barometric Pressure (End)	30.16	
	,	Canister Pressure (End)	0 60	
		Temperature (End)	81°	

VALUAM TEST: 15" Hg FOR | MIN WATER DAM TEST:

		Sample Collection Log		
Als/	ENVIRONMENTAL SERVICES, INC.	Sample ID	5G-4	
Client	SC DHEC	Date of Collection	9-13-19	
Project	PLAY PALS	SUMMA Canister Size	2.7 L	
Location	1246 DOTHAN RA.	Canister ID	12(3 :::	
Project #	12-414.4-19	Flow Controller ID	01187_	
Personnel	AD	Outdoor/mdoor		
Sample Location	CLASS 4 , SCAB BLAG	Sample Intake Height	Ground Level / Sub Slab	
Sampling Depth	CLASS 4, SCAB BLAG VAPON PIN	Misc. Equipment	/	
Sample Type (Soil Gas, Sub-Slab)		Time On / Off	1023	
Indoor, etc.)	•	Time on you	1037	
PID Reading	6.5	Time of Collection	(6 min.	
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 al/syringe	
		Barometric Pressure (Start)	30.16	
		Canister Pressure (Start)	19.50	
		Temperature (Start)	82.	
		Barometric Pressure (End)	30.16	
		Canister Pressure (End)	0.00	
		Temperature (End)	82°	

VALUAM TEST: 15" HIG FOR | MIN WATER DAM TEST:

A D A	A	Sample Collection Log		
ENVIRONMENTAL SERVICES, INC.		Sample ID	86-5	
Client	SC DHEC	Date of Collection	9-13-19	
Project	Play Pals	SUMMA Canister Size	2.7 L	
Location	1246 Dotnan Rd.	Canister ID	450	
Project #	12.414,4-17	Flow Controller ID	0995	
Personnel	AD	Outdoor/Indoor		
Sample Location	Class 5 / Slab Building	Sample Intake Height	Ground Loval / Sub Stab	
Sampling Depth	Vapor Pin	Misc. Equipment	/	
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)		Time On / Off	£0)/	
PID Reading	3.3	Time of Collection	17 min	
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 al /syring s	
		Barometric Pressure (Start)	36.16	
		Canister Pressure (Start)	30.03	
		Temperature (Start)	870	
		Barometric Pressure (End)	30.14	
		Canister Pressure (End)	0.10	
		Temperature (End)	81.	

ARA ENVIRONMENTAL SERVICES, INC.		Sample Collection Log			
/-VV	SERVICES, INC.	Sample ID	56-6		
Client	SC DHEC	Date of Collection	9-13-19		
Project	PLAY PALS	SUMMA Canister Size	2.7L		
Location	1246 DOTHAN A.A.	Canister ID	535		
Project #	12-414.4-19	Flow Controller ID	01052		
Personnel	AD	Outdoo Indoor			
Sample Location	CLASS 6, SLAB BLOG	Sample Intake Height	Ground level / Sub . Lab		
Sampling Depth	CLASS 6, SLAB BLOG VAPON PIN	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab Indoor, etc.)		Time On / Off	1130		
PID Reading	1.2	Time of Collection	,		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	30 ml/syringe		
		Barometric Pressure (Start)	30.16		
		Canister Pressure (Start)	19.70		
	730770	Temperature (Start)	87.		
		Barometric Pressure (End)	30.16		
		Canister Pressure (End)			
		Temperature (End)	870		

VALUAM TEST: 15" HIS FOR I MIN WATER DAM TEST:

ENVIRONMENTAL SERVICES, INC.		Sample Collection Log			
/VV \	SERVICES, INC.	Sample ID	A-1		
Client	SC DHEC	Date of Collection	9-12-19		
Project	PLAY PALS	SUMMA Canister Size	6L		
Location	1246 DOTHAN RA	Canister ID	1404		
Project #	12-414.4-19	Flow Controller ID	0758		
Personnel	AD	Outdoor/Indoor	Outdeer		
Simple Location	EXT, E SIDE, FENCE	Sample Intake Height	3 '		
Sampling Depth	_	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	OUTDOOK AMBIENT	Time On / Off	0956		
PID Reading	0.0	Time of Collection	g hr.		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	/		
		Barometric Pressure (Start)	30.15		
		Canister Pressure (Start)	29.90		
		Temperature (Start)	780		
		Barometric Pressure (End)	70.03		
		Canister Pressure (End)	6.41		
		Temperature (End)	94 •		

۸۵۸	↑ ENVIRONMENTAL	Sample Collection Log			
/-UV \	NUIRONMENTAL SERVICES, INC.	Sample ID	A-3		
Client	SC DHEC	Date of Collection	9-12-19		
Project	PLAY PALS	SUMMA Canister Size	64		
Location	1246 DOTHAN RA	Canister ID	2715 (2715)		
Project #	12-414.4-19	Flow Controller ID	6446		
Personnel	AD	Outdoor/Indoor	Indoer		
Sample Location	CLASS 2 , SLAB BLAG	Sample Intake Height	2.5 ' - 3 0 '		
Sampling Depth		Misc. Equipment	/		
Sample Type (Soil Gas. Sub-Slab,		Time On / Off	1804		
Indoor) etc.) PID Reading	0.0	Time of Collection	8 hr		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	/		
		Barometric Pressure (Start)	30.15		
		Canister Pressure (Start)	29.98		
		Temperature (Start)	78°		
		Barometric Pressure (End)	30.03		
	18.	Canister Pressure (End)	5.44		
		Temperature (End)	94' (nurside)		

ADA A FANCIDONIA/FAITAI		Sample Collection Log			
\-/\{\\	ENVIRONMENTAL SERVICES, INC.	Sample ID	A-4		
Client	SC DHEC	Date of Collection	9-12-19		
Project	PLAY PALS	SUMMA Canister Size	64		
Location	1246 DOTHAN RA	Canister ID	1786		
Project #	12-414.4-19	Flow Controller ID	0038		
Personnel	AD	Outdoor Indoor	Indoc.		
Sample Location	CLASS CRAWLEPACE	Sample Intake Height	3.01		
Sampling Depth	_	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab,		Time On / Off	1010		
(ndoor)etc.)			1810		
PID Reading	0.0	Time of Collection	8 hr.		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	/		
4800 0000 0000		Barometric Pressure (Start)	30.15		
-8		Canister Pressure (Start)	29.89		
		Temperature (Start)	79 °		
		Barometric Pressure (End)	30.03		
		Canister Pressure (End)	5. 66		
		Temperature (End)	94. (ontside)		

A 15 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
۸۵۸	A ENVIRONMENTAL	Sample Collection Log			
\J\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ENVIRONMENTAL SERVICES, INC.	Sample ID	A-5		
Client	SC DHEC	Date of Collection	9-12-19		
Project	PLAY PALS	SUMMA Canister Size	62		
Location	1246 DOTHAN RA	Canister ID	2326		
Project #	12-414-4-19	Flow Controller ID	0018		
Personnel	AD	Outdoor/Indoor	Outdeer / Crawispair		
Sample Location	CRANKSPACE ABOVE PALY	Sample Intake Height	Grand Level		
Sampling Depth	~	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRAWSPACE	Time On / Off	1818		
PID Reading	0.0	Time of Collection	8 hrs		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	/		
		Barometric Pressure (Start)	30.16		
		Canister Pressure (Start)	30.06		
		Temperature (Start)	80°		
		Barometric Pressure (End)	\$0.0E		
		Canister Pressure (End)	6.14		
		Temperature (End)	94.		

ARAM ENVIRONMENTAL SERVICES, INC.		Sample Collection Log			
/-VV	SERVICES, INC.	Sample ID	A-6		
Client	SC DHEC	Date of Collection	9-12-19		
Project	PLAY PALS	SUMMA Canister Size	GL		
Location	1246 DOTHAN RA	Canister ID	1710		
Project #	12-414-4-19	Flow Controller ID	0076		
Personnel	AD	Outdoor	Outdoor / Crawispace		
Sample Location	MAKE SPACE BELOW	Sample Intake Height	Ground Level		
Sampling Depth	_	Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab, Indoor, etc.)	CRANK SPACE	Time On / Off	1826		
PID Reading	6.1	Time of Collection	8 61.		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	/		
		Barometric Pressure (Start)	30.16		
		Canister Pressure (Start)	30.03		
		Temperature (Start)	82°		
		Barometric Pressure (End)	30.03		
		Canister Pressure (End)	4.50		
		Temperature (End)	94 •		

ENVIRONMENTAL SERVICES, INC.		Sample Collection Log			
\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	SERVICES, INC.	Sample ID	A-7		
Client	SC DHEC	Date of Collection	9-12-17		
Project	PLAY PALS	SUMMA Canister Size	64		
Location	1246 DOTHAN RA	Canister ID	1667		
Project #	12-414.4-19	Flow Controller ID	0010		
Personnel	AD	Outdoor/indoor	Outdoor / Crowlapace		
Sample Location	CRAME SPACE WANER	Sample Intake Height	Ground Level		
Sampling Depth		Misc. Equipment	/		
Sample Type (Soil Gas, Sub-Slab,	An and Chart	Time On / Off	1035		
Gas, Sub-Slab, Indoor, etc.)	MAWLSPACE	Time on / on	1735		
PID Reading	0.0	Time of Collection	8 hr.		
	3/16" ID Tubing = 5.43 ml/ft Hand pump = 15 ml/stroke	Approximate Purge Volume & Method	1		
		Barometric Pressure (Start)	30.16		
		Canister Pressure (Start)	29.46		
		Temperature (Start)	820		
		Barometric Pressure (End)	30.04		
<i>y</i>		Canister Pressure (End)	15.66		
		Temperature (End)	92°		

APPENDIX B

LABORATORY ANALYTICAL REPORTS



ANALYTICAL REPORT

Lab Number:

L1942598

Client:

ARM Environmental Services, Inc.

1210 First Street South Ext.

Columbia, SC 29209

ATTN:

Richard Ciccolella

Phone:

(803) 783-3314

Project Name:

1246 DOTHAN RD.

Project Number:

12-414.4-19

Report Date:

09/24/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806 508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Serial_No:09241916:14

Project Name: 1246 DOTHAN RD.
Project Number: 12-414.4-19

Lab Number: L1942598 **Report Date:** 09/24/19

Alpha	S200000 1180000		Sample	Collection	B
Sample ID	Client ID	Matrix	Location	Date/Time	Receive Date
L1942598-01	A-1	AIR	1246 DOTHAN RD.	09/12/19 17:56	09/17/19
L1942598-02	A-3	AIR	1246 DOTHAN RD.	09/12/19 18:04	09/17/19
L1942598-03	A-4	AIR	1246 DOTHAN RD.	09/12/19 18:10	09/17/19
L1942598-04	A-5	AIR	1246 DOTHAN RD.	09/12/19 18:18	09/17/19
L1942598-05	A-6	AIR	1246 DOTHAN RD.	09/12/19 18:26	09/17/19
L1942598-06	A-7	AIR	1246 DOTHAN RD.	09/12/19 18:35	09/17/19
L1942598-07	SG-1	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 09:13	09/17/19
L1942598-08	SG-2	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 09:42	09/17/19
L1942598-09	SG-3	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 10:12	09/17/19
L1942598-10	SG-4	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 10:39	09/17/19
L1942598-11	SG-5	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 11:19	09/17/19
L1942598-12	SG-6	SOIL_VAPOR	1246 DOTHAN RD.	09/13/19 11:45	09/17/19
L1942598-13	UNUSED CAN #1850	SOIL_VAPOR	1246 DOTHAN RD.		09/17/19
L1942598-14	UNUSED CAN #1863	SOIL_VAPOR	1246 DOTHAN RD.		09/17/19
L1942598-15	UNUSED CAN #2866	SOIL_VAPOR	1246 DOTHAN RD.		09/17/19



 Project Name:
 1246 DOTHAN RD.
 Lab Number:
 L1942598

 Project Number:
 12-414.4-19
 Report Date:
 09/24/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

•	

Please contact Project Management at 800-624-9220 with any questions.



Serial_No:09241916:14

Project Name:

1246 DOTHAN RD.

Lab Number:

L1942598

Project Number:

12-414.4-19

Report Date:

09/24/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on September 4, 2019. The canister certification results are provided as an addendum.

L1942598-06: The canister vacuum measured on receipt at the laboratory was > 15 in. Hg. Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to facilitate the transfer of sample to the Gas Chromatograph. The addition of Nitrogen resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

The WG1286753-3 LCS recovery for 1,2,4-trichlorobenzene (132%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Christopher J. Anderson

Authorized Signature:

Title: Technical Director/Representative

Date: 09/24/19



AIR



Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19 Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-01

Client ID:

A-1

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/12/19 17:56

Date Received:

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 09/20/19 20:58

Analyst:

TS

		ppbV		ug/		ug/m3		Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	SIM - Mansfield Lab							
Methyl tert butyl ether	ND	0 200		ND	0.721			1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
Benzene	0.200	0 100		0.639	0.319			1
Toluene	0.713	0 050		2.69	0.188			1
Ethylbenzene	0.093	0 020		0.404	0.087			1
o/m-Xylene	0.467	0 040		2.03	0.174	-		1
o-Xylene	0 200	0.020		0.869	0.087			1
Naphthalene	ND	0.050		ND	0 262			1

Internal Standard	% Recovery	Qualifier	Acceptance Criterla
1,4-difluorobenzene	96		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	98		60-140

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19 Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-02

Client ID:

A-3

Sample Location:

1246 DOTHAN RD.

Date Collected: Date Received: 09/12/19 18:04

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 09/20/19 21:38

Analyst:

TS

		ppbV	1.00	ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	IM - Mansfield Lab							
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.020		ND	0.081	-		1
Benzene	ND	0 100		ND	0.319			1
Toluene	0.456	0.050		1.72	0.188			1
Ethylbenzene	0.078	0 020		0 339	0.087	-		1
p/m-Xylene	0.237	0.040		1.03	0.174			1
o-Xylene	0.102	0.020	-	0 443	0.087			1
Naphthalene	ND	0 050		ND	0.262			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	98		60-140

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-03

Client ID:

A-4

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/12/19 18:10

Date Received: Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 09/20/19 22:58

Analyst:

		ppbV	2.	132	ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	SIM - Mansfield Lab							
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.020		ND	0.081	***		1
Benzene	0.141	0.100	2.2	0.450	0.319			1
Toluene	0.238	0.050		0.897	0.188			1
Ethylbenzene	0.035	0.020		0.152	0.087			1
p/m-Xylene	0.105	0.040		0.456	0.174			1
o-Xylene	0.046	0.020		0.200	0.087			1
Naphthalene	ND	0.050		ND	0.262			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	96		60-140

Project Name:

1246 DOTHAN RD.

Lab Number:

L1942598

Project Number: 12-414.4-19 Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-04

Client ID:

A-5

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/12/19 18:18

Date Received:

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method:

48,TO-15-SIM 09/20/19 23:37

Analytical Date: Analyst:

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	SIM - Mansfield Lab	ESITE.			19 19 19	1388	4000	
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
Benzene	0.103	0.100	-	0.329	0.319			1
Toluene	0.172	0.050	-	0.648	0.188			1
Ethylbenzene	0.025	0.020		0.109	0.087			1
p/m-Xylene	0.084	0.040		0.365	0.174			1
o-Xylene	0.040	0.020	**	0.174	0.087			1
Naphthalene	ND	0.050		ND	0.262			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	96		60-140

Project Name:

Project Number:

1246 DOTHAN RD.

12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-05

Client ID:

A-6

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/12/19 18:26

Date Received: Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 09/21/19 00:17

Analyst:

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SI	IM - Mansfield Lab	PER I		THE PARTY	3 7 P. Sa.	100	0.000	
Methyl tert butyl ether	ND	0.200		ND	0.721	-		1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
Benzene	0.100	0.100		0.319	0.319			1
Toluene	0.244	0.050		0.920	0.188	-		1
Ethylbenzene	0.265	0.020		1.15	0.087			1
p/m-Xylene	0.103	0.040		0.447	0.174			1
o-Xylene	0.045	0.020		0.195	0.087			1
Naphthalene	ND	0.050		ND	0.262			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	98		60-140



Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19 Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-06 D

Client ID:

Sample Location:

A-7

1246 DOTHAN RD.

Date Collected: Date Received: 09/12/19 18:35

Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15-SIM 09/21/19 00:57

Analyst:

post training and the		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by S	SIM - Mansfield Lab	-	STEEL ST.	TO POST	3 -2 5 1	1000	B 1995	
Methyl tert butyl ether	ND	0.291		ND	1.05			1.456
1,2-Dichloroethane	0.045	0.029		0.183	0.118			1.456
Benzene	ND	0.146		ND	0.466	**		1.456
Toluene	0.456	0.073		1.72	0.274			1.456
Ethylbenzene	0.070	0.029		0.304	0.126	**		1.456
p/m-Xylene	0.208	0.058		0.903	0.253			1.456
o-Xylene	0.079	0.029	-	0.341	0.126	-		1.456
Naphthalene	1.11	0.073		5.82	0.382			1.456

% Recovery	Qualifier	Acceptance Criteria
92		60-140
94		60-140
92		60-140
	92 94	92 94



Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-07

Client ID:

SG-1

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/13/19 09:13

Date Received:

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Analyst:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

09/21/19 01:37

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	sfield Lab	STORY !	1.00		Marie Co.			11.20
Methyl tert butyl ether	ND	0.200	-	ND	0.721	-		1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639			1
Toluene	0.795	0.200		3.00	0.754			1
Ethylbenzene	0.218	0.200		0.947	0.869			1
p/m-Xylene	0.717	0.400	-	3.11	1.74	-		1
o-Xylene	0.269	0.200	-	1.17	0.869			1
Naphthalene	ND	0.200		ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-08

Client ID:

SG-2

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/13/19 09:42

Date Received: Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

09/21/19 02:56

Analyst:

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - M	ansfield Lab	17 11 11	17.30		180	17/2	1900 190	13000
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639			1
Toluene	1.02	0.200	-	3.84	0.754			1
Ethylbenzene	0.259	0.200	-	1.12	0.869			1
p/m-Xylene	0.862	0.400		3.74	1.74			1
o-Xylene	0.309	0.200	-	1.34	0.869	-		1
Naphthalene	ND	0.200		ND	1.05	-		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140



Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19 Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-09

Client ID:

SG-3

Sample Location:

1246 DOTHAN RD.

Date Collected: Date Received: 09/13/19 10:12

Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date: Analyst:

09/21/19 03:36

MD		RL	MDL	Qualifier	Factor
00	ND		2500	15 5 5	150165
00	ND				
	ND	0.721			1
00	ND	0.809			1
00	ND	0.639			1
00	4.18	0.754	-		1
00	1.19	0.869	-		1
00	3.97	1.74			1
00	1.42	0.869	-		1
00	ND	1.05			1
	000 000 000 000	00 ND 00 ND 00 4.18 00 1.19 00 3.97	00 ND 0.809 00 ND 0.639 00 4.18 0.754 00 1.19 0.869 00 3.97 1.74	ND 0.809 ND 0.639 ND 0.869 ND 0.869 ND 0.869	00 ND 0.809 00 ND 0.639 00 4.18 0.754 00 1.19 0.869 00 3.97 1.74 00 1.42 0.869

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	101		60-140

Project Name:

1246 DOTHAN RD.

12-414.4-19

Lab Number:

L1942598

Report Date:

Date Collected:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-10

Client ID:

SG-4

Sample Location:

Project Number:

1246 DOTHAN RD.

09/13/19 10:39

Date Received:

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

09/21/19 04:16

Analyst:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Ma	nsfield Lab	13.46	35726	236	100	188		1
Methyl tert butyl ether	ND	0.200		ND	0.721	-		1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639	-		1
Toluene	0.831	0.200		3.13	0.754	-		1
Ethylbenzene	ND	0.200		ND	0.869	-		1
p/m-Xylene	0.659	0.400		2.86	1.74	-		1
o-Xylene	0.218	0.200	-	0.947	0.869			1
Naphthalene	ND	0.200	-	ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	100		60-140



Project Name: 1246 DOTHAN RD.

10 11 1 10

Lab Number:

L1942598

Project Number: 12-414.4-19

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-11

Client ID:

SG-5

Sample Location:

1246 DOTHAN RD.

Date Collected: Date Received: 09/13/19 11:19

Field Prep:

09/17/19 Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

48,10-15 09/21/19 04:56

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Ma	ansfield Lab	957	CHIL		1975	2/3/2		
Methyl tert butyl ether	ND	0.200		ND	0.721	**		1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200	-	ND	0.639	-		1
Toluene	0.493	0.200		1.86	0.754	-		1
Ethylbenzene	ND	0.200		ND	0.869	-		1
p/m-Xylene	0.463	0.400		2.01	1.74			1
o-Xylene	ND	0.200		ND	0.869			1
Naphthalene	ND	0.200	-	ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	99		60-140

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

SAMPLE RESULTS

Lab ID:

L1942598-12

Client ID:

SG-6

Sample Location:

1246 DOTHAN RD.

Date Collected:

09/13/19 11:45

Date Received:

09/17/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil_Vapor 48,TO-15

Anaytical Method: Analytical Date:

48,10-15 09/21/19 05:36

Analyst:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Man	sfield Lab		F 1 1 2 2	RIE	19/25		17 990	53 703
Methyl tert butyl ether	ND	0.200		ND	0.721			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
Benzene	ND	0.200		ND	0.639	**		1
Toluene	0.686	0.200		2.59	0.754			1
Ethylbenzene	ND	0.200		ND	0.869			1
p/m-Xylene	0.627	0.400		2.72	1.74	-		1
o-Xylene	0.228	0.200		0.990	0.869	-		1
Naphthalene	ND	0.200	**	ND	1.05			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	96		60-140



Project Name: 1246 DOTHAN RD. Lab Number:

L1942598

Project Number: 12-414.4-19

Report Date: 09/24/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15 Analytical Date: 09/20/19 15:21

		ppbV				ug/m3			
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor	
Volatile Organics in Air - Ma	nsfield Lab for samp	ole(s): 07-	12 Batch	n: WG12867	51-4	9.00	77 1000	100	
Methyl tert butyl ether	ND	0.200	-	ND	0.721			1	
1,2-Dichloroethane	ND	0.200	-	ND	0.809	-		1	
Benzene	ND	0.200		ND	0.639			1	
Toluene	ND	0.200	-	ND	0.754			1	
Ethylbenzene	ND	0.200		ND	0.869	-		1	
p/m-Xylene	ND	0.400	**	ND	1.74	-		1	
o-Xylene	ND	0.200		ND	0.869	-		1	
Naphthalene	ND	0.200		ND	1.05			1	



Project Name: 1246 DOTHAN RD.

Lab Number:

L1942598

Project Number: 12-414.4-19

Report Date:

09/24/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM Analytical Date: 09/20/19 16:00

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SI	M - Mansfield Lab f	or sample	(s): 01-06	Batch: W	G128675	3-4		
Methyl tert butyl ether	ND	0.200		ND	0.721	***		1
1,2-Dichloroethane	ND	0.020	-	ND	0.081			1
Benzene	ND	0.100	-	ND	0.319			1
Toluene	ND	0.050	-	ND	0.188	-		1
Ethylbenzene	ND	0.020	-	ND	0.087			1
p/m-Xylene	ND	0.040	-	ND	0.174			1
o-Xylene	ND	0.020		ND	0.087	-		1
Naphthalene	ND	0.050	-	ND	0.262	-		1



Lab Control Sample Analysis Batch Quality Control

Project Name:

1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Number:

L1942598

Report Date:

09/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s):	07-12	Batch: WG128675	51-3				
Methyl tert butyl ether	92				70-130			
1,2-Dichloroethane	103				70-130			
Benzene	75				70-130			
Toluene	92				70-130			
Ethylbenzene	92				70-130			
p/m-Xylene	91				70-130	*		
o-Xylene	92				70-130			
Naphthalene	107				70-130	-		



Lab Control Sample Analysis Batch Quality Control

Lab Number: 1246 DOTHAN RD. L1942598 Report Date: 12-414.4-19 09/24/19

Parameter	LCS %Recovery Qual		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics in Air by SIM - Mansfield Lab	Associated sample(s):	01-06	Batch: WG	1286753-3					
Methyl tert butyl ether	95				70-130			25	
1,2-Dichloroethane	99		-		70-130			25	
Benzene	74		-		70-130			25	
Toluene	91				70-130			25	
Ethylbenzene	92				70-130			25	
p/m-Xylene	86				70-130			25	
o-Xylene	90		*		70-130			25	
Nanhthalene	104				70-130			25	



Project Name:

Project Number:

Project Name:

1246 DOTHAN RD.

Project Number: 12-414.4-19

Lab Duplicate Analysis
Batch Quality Control

Lab Number:

L1942598

Report Date:

09/24/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Qual Limits
Volatile Organics in Air - Mansfield Lab	Associated sample(s): 07-12	QC Batch ID: WG1286751	1-5 QC Sa	mple: L1942598-0	7 Client ID: SG-1
Methyl tert butyl ether	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
Benzene	ND	ND	ppbV	NC	25
Toluene	0.795	0.818	ppbV	3	25
Ethylbenzene	0.218	0.212	ppbV	3	25
p/m-Xylene	0.717	0.712	ppbV	1	25
o-Xylene	0.269	0.264	ppbV	2	25
Naphthalene	ND	ND	ppbV	NC	25
olatile Organics in Air by SIM - Mansfie	eld Lab Associated sample(s):	01-06 QC Batch ID: WG	1286753-5	QC Sample: L194	2598-02 Client ID: A-3
Methyl tert butyl ether	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
Benzene	ND	0.102	ppbV	NC	25
Toluene	0.456	0.472	ppbV	3	25
Ethylbenzene	0.078	0.081	ppbV	4	25
p/m-Xylene	0.237	0.243	ppbV	3	25
o-Xylene	0.102	0.103	ppbV	1	25
Naphthalene	ND	ND	ppbV	NC	25

Serial_No:09241916:14 **Lab Number:** L1942598

Report Date: 09/24/19

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Lea Check	Initial k Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPI
1942598-01	A-1	0758	Flow 3	09/04/19	301014		15	ň sysyn	•	Pass	10.0	9.4	6
L1942598-01	A-1	1904	6.0L Can	09/04/19	301014	L1938543-03	Pass	-29.6	-7.5		•	+	
1942598-02	A-3	0490	Flow 3	09/04/19	301014				•	Pass	10.0	9.3	7
L1942598-02	A-3	2715	6.0L Can	09/04/19	301014	L1938543-04	Pass	-29.1	-5.8	0.61			-
L1942598-03	A-4	0038	Flow 4	09/04/19	301014		1.4			Pass	10.0	8.3	19
L1942598-03	A-4	2286	6.0L Can	09/04/19	301014	L1938543-03	Pass	-29.2	-5.8		12	2	27
L1942598-04	A-5	0018	Flow 4	09/04/19	301014		2			Pass	10.0	9.9	1
L1942598-04	A-5	2326	6 0L Can	09/04/19	301014	L1938543-03	Pass	-2.96	-6.3	(4)	-	-	
L1942598-05	A-6	0076	Flow 3	09/04/19	301014					Pass	10.0	12.3	21
L1942598-05	A-6	1710	6.0L Can	09/04/19	301014	L1938543-03	Pass	-29.6	-4.9).T.	Ģ	-	
L1942598-06	A-7	0010	Flow 4	09/04/19	301014			Ē.		Pass	10.0	11.1	10
L1942598-06	A-7	1667	6.0L Can	09/04/19	301014	L1938543-03	Pass	-29.6	-15.6		<u>:</u>	5	
L1942598-07	SG-1	01196	SV200	09/04/19	301014			•		Pass	217	190	13
L1942598-07	SG-1	2362	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0	(e)			
1942598-08	SG-2	0535	SV200	09/04/19	301014		-			Pass	216	193	11





Lab Number: L1942598

Report Date: 09/24/19

Project Name: 1246 DOTHAN RD.

Project Number: 12-414.4-19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1942598-08	\$G-2	2867	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0	23	¥.	u .	:
L1942598-09	SG-3	0540	SV200	09/04/19	301014		(4)	2	Z1	Pass	216	194	11
L1942598-09	SG-3	474	2 7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0				٠
L1942598-10	SG-4	01182	SV200	09/04/19	301014		(7)	ā :	•	Pass	214	195	9
L1942598-10	SG-4	2213	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0	5	-		
L1942598-11	SG-5	0995	SV200	09/04/19	301014	-	120		*	Pass	215	188	13
L1942598-11	SG-5	450	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0				
L1942598-12	SG-6	01052	SV200	09/04/19	301014		*	4		Pass	215	190	12
L1942598-12	SG-6	535	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	0.0	į.			
L1942598-13	UNUSED CAN #1850	01029	Flow 4	09/04/19	301014		4.		-	Pass	10.0	11.5	14
L1942598-13	UNUSED CAN #1850	1850	6.0L Can	09/04/19	301014	L1938543-05	Pass	-28.6	-29.4				٥
L1942598-14	UNUSED CAN #1863	0733	Flow 4	09/04/19	301014				•	Pass	10.0	11.8	17
L1942598-14	UNUSED CAN #1863	1863	6 0L Can	09/04/19	301014	L1938543-03	Pass	-29.5	-29.4	-	•		
L1942598-15	UNUSED CAN #2866	01194	SV200	09/04/19	301014			•	•	Pass	219	196	11
L1942598-15	UNUSED CAN #2866	2866	2.7L Can	09/04/19	301014	L1938709-01	Pass	-29.6	-11.6		*		





Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

Sample Location:

48,TO-15 08/26/19 18:45

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab	200		13 M A. P.	- 513	100		
Chlorodifluoromethane	ND	0.200		ND	0.707	-		1
Propylene	ND	0.500		ND	0.861	-		1
Propane	ND	0.500		ND	0.902			1
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00		ND	6.55			1
Vinyl chloride	ND	0.200		ND	0.511			1
1,3-Butadiene	ND	0.200		ND	0.442	-		1
Butane	ND	0.200		ND	0.475			1
Bromomethane	ND	0.200		ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200		ND	0.842			1
Vinyl bromide	ND	0.200		ND	0.874			1
Acrolein	ND	0.500		ND	1.15			1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200	-	ND	0.336			1
Trichlorofluoromethane	ND	0.200		ND	1.12			1
sopropanol	ND	0.500	-	ND	1.23			1
Acrylonitrile	ND	0.500		ND	1.09			1
Pentane	ND	0.200		ND	0.590	-		1
Ethyl ether	ND	0.200		ND	0.606			1
,1-Dichloroethene	ND	0.200		ND	0.793			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Sample Location:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansf	ield Lab	-	SEE SE	C.P.S.	44-17	-	FEBRUS.	100
Tertiary butyl Alcohol	ND	0.500		ND	1.52	-		1
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200	-	ND	0.626			1
Carbon disulfide	ND	0.200		ND	0.623	-		1
Freon-113	ND	0.200		ND	1.53			1
trans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
1,1-Dichloroethane	ND	0.200		ND	0.809	-		1
Methyl tert butyl ether	ND	0.200	-	ND	0.721	-		1
Vinyl acetate	ND	1.00	-	ND	3.52	-		1
2-Butanone	ND	0.500		ND	1.47	-		1
Kylenes, total	ND	0.600		ND	0.869	-		1
cis-1,2-Dichloroethene	ND	0.200		ND	0.793	-		1
Ethyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977			1
Tetrahydrofuran	ND	0.500		ND	1.47			1
2,2-Dichloropropane	ND	0.200		ND	0.924			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
n-Hexane	ND	0.200		ND	0.705	-		1
Diisopropyl ether	ND	0.200		ND	0.836	-		1
ert-Butyl Ethyl Ether	ND	0.200	-	ND	0.836			1
1,2-Dichloroethene (total)	ND	1.00		ND	1.00	-		1
1,1,1-Trichloroethane	ND	0.200		ND	1.09			1
,1-Dichloropropene	ND	0.200		ND	0.908	-		1
Benzene	ND	0.200		ND	0.639	-		1
Carbon tetrachloride	ND	0.200		ND	1.26	**		1
Cyclohexane	ND	0.200		ND	0.688	-		1
ert-Amyl Methyl Ether	ND	0.200	-	ND	0.836	-		1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Date Collected: Date Received:

08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Sample Depth:		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfi	ield Lab	The state of	316	1 195-195	100 F	130	1 1 1 1 1	SPI
Dibromomethane	ND	0.200		ND	1.42			1
1,2-Dichloropropane	ND	0.200	-	ND	0.924			1
Bromodichloromethane	ND	0.200	_	ND	1.34			1
1,4-Dioxane	ND	0.200	-	ND	0.721			1
Trichloroethene	ND	0.200	-	ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500		ND	2.05			1
Heptane	ND	0.200		ND	0.820	**		. 1
cis-1,3-Dichloropropene	ND	0.200		ND	0.908			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908			1
1,1,2-Trichloroethane	ND	0.200	-	ND	1.09	-		1
Toluene	ND	0.200		ND	0.754			1
1,3-Dichloropropane	ND	0.200		ND	0.924	-		1
2-Hexanone	ND	0.200	-	ND	0.820	-		1
Dibromochloromethane	ND	0.200		ND	1.70			1
1,2-Dibromoethane	ND	0.200		ND	1.54	**		1
Butyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934			1
Tetrachloroethene	ND	0.200	-	ND	1.36	-		1
1,1,1,2-Tetrachloroethane	ND	0.200	J	ND	1.37	-		1
Chlorobenzene	ND	0.200		ND	0.921			1
Ethylbenzene	ND	0.200	-	ND	0.869			1
o/m-Xylene	ND	0.400	-	ND	1.74	-		1
Bromoform	ND	0.200	-	ND	2.07			1
Styrene	ND	0.200	-	ND	0.852	-		1
1,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Sample Location:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

	·	ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfie	ld Lab	SHEET	ENE	2000		1980		E BUIL
o-Xylene	ND	0.200		ND	0.869			1
1,2,3-Trichloropropane	ND	0.200		ND	1.21			1
Nonane	ND	0.200		ND	1.05			1
Isopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200	-	ND	1.04			1
n-Propylbenzene	ND	0.200		ND	0.983	-		1
4-Chlorotoluene	ND	0.200		ND	1.04	_		1
4-Ethyltoluene	ND	0.200		ND	0.983	-		1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983	-		1
ert-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200	-	ND	0.983	-		1
Decane	ND	0.200	-	ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.200		ND	1.20			1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200		ND	1.10			1
o-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200		ND	1.10	-		1
,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93	***		1
Undecane	ND	0.200	**	ND	1.28			1
Dodecane	ND	0.200		ND	1.39			1
,2,4-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Naphthalene	ND	0.200	L	ND	1.05			1
1,2,3-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION Lab Number:

L1938543

Project Number:

CANISTER QC BAT

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Date Collected: Date Received: 08/24/19 12:00

Sample Location:

08/26/19

Field Prep:

Not Specified

Sample Depth:

ppbV Parameter Results RL

Results MDL

ug/m3 MDL RL Qualifier

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

Units

RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	88		60-140



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Sample Location:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Analytical Method: Analytical Date: 48,TO-15-SIM 08/26/19 18:45

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab	A STATE OF	250	N. S. S. S. S.	1950	FOR	I P Bloom	
Dichlorodifluoromethane	ND	0.200	-	ND	0.989	-		1
Chloromethane	ND	0.200		ND	0.413	-		1
Freon-114	ND	0.050	-	ND	0.349	-		1
Vinyl chloride	ND	0.020		ND	0.051	-		1
1,3-Butadiene	ND	0.020		ND	0.044	-		1
Bromomethane	ND	0.020		ND	0.078	-		1
Chloroethane	ND	0.100		ND	0.264	-		1
Acetone	ND	1.00		ND	2.38			1
Trichlorofluoromethane	ND	0.050	-	ND	0.281			1
Acrylonitrile	ND	0.500		ND	1.09			1
1,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500	-	ND	1.74			1
Freon-113	ND	0.050		ND	0.383			1
rans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47	-		1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020		ND	0.098			1
1,2-Dichloroethane	ND	0.020		ND	0.081			- 1
1,1,1-Trichloroethane	ND	0.020		ND	0.109			1
Benzene	ND	0.100		ND	0.319			1
Carbon tetrachloride	ND	0.020		ND	0.126			1
1,2-Dichloropropane	ND	0.020		ND	0.092			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Date Received:

08/24/19 12:00

Date Collected:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab	3676	5 1350	CHARLES	1 61	1000	9754	10000
Bromodichloromethane	ND	0.020		ND	0.134			1
1,4-Dioxane	ND	0.100		ND	0.360	-		1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500	-	ND	2.05	-		1
trans-1,3-Dichloropropene	ND	0.020	-	ND	0.091			1
1,1,2-Trichloroethane	ND	0.020	-	ND	0.109	-		1
Toluene	ND	0.050		ND	0.188	-		1
Dibromochloromethane	ND	0.020		ND	0.170			1
1,2-Dibromoethane	ND	0.020		ND	0.154	-		1
Tetrachloroethene	ND	0.020		ND	0.136	**		1
1,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137	-		1
Chlorobenzene	ND	0.100	-	ND	0.461			1
Ethylbenzene	ND	0.020		ND	0.087			1
o/m-Xylene	ND	0.040		ND	0.174			1
Bromoform	ND	0.020		ND	0.207	-		1
Styrene	ND	0.020		ND	0.085			1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137			1
o-Xylene	ND	0.020		ND	0.087			1
sopropylbenzene	ND	0.200		ND	0.983			1
4-Ethyltoluene	ND	0.020		ND	0.098			1
1,3,5-Trimethybenzene	ND	0.020		ND	0.098			1
,2,4-Trimethylbenzene	ND	0.020	**	ND	0.098			1
Benzyl chloride	ND	0.200		ND	1.04			1
,3-Dichlorobenzene	ND	0.020		ND	0.120			1
1,4-Dichlorobenzene	ND	0.020		ND	0.120			1
sec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: BATCH CANISTER CERTIFICATION

L1938543

Project Number: CANISTER QC BAT Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-03

Client ID:

CAN 983 SHELF 37

Date Collected: Date Received:

Lab Number:

08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	M - Mansfield Lab	-		2300		55 150		100
p-Isopropyltoluene	ND	0.200	-	ND	1.10	-		1
1,2-Dichlorobenzene	ND	0.020	**	ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050		ND	0.371			1
Naphthalene	ND	0.050		ND	0.262			1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371	-		1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140



Project Name: BATCH CANISTER CERTIFICATION

Lab Number:

L1938543

Project Number: CANISTER QC BAT Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Sample Location:

Date Collected:

08/24/19 12:00

Date Received: Field Prep:

08/26/19

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15 08/26/19 19:24

Analyst:

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Manst	field Lab		28.30	100000	18/1/20	188	ESTATE OF	N. ST.
Chlorodifluoromethane	ND	0.200		ND	0.707	-		1
Propylene	ND	0.500	-	ND	0.861			1
Propane	ND	0.500		ND	0.902			1
Dichlorodifluoromethane	ND	0.200		ND	0.989	-		1
Chloromethane	ND	0.200	-	ND	0.413			1
Freon-114	ND	0.200	-	ND	1.40	-		1
Methanol	ND	5.00		ND	6.55			1
Vinyl chloride	ND	0.200		ND	0.511			1
1,3-Butadiene	ND	0.200		ND	0.442			1
Butane	ND	0.200		ND	0.475	**		1
Bromomethane	ND	0.200	-	ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200		ND	0.842			1
Vinyl bromide	ND	0.200		ND	0.874			1
Acrolein	ND	0.500		ND	1.15	**		1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200		ND	0.336			1
Trichlorofluoromethane	ND	0.200		ND	1.12			1
Isopropanol	ND	0.500		ND	1.23	-		1
Acrylonitrile	ND	0.500		ND	1.09			1
Pentane	ND	0.200		ND	0.590			1
Ethyl ether	ND	0.200		ND	0.606			1
1,1-Dichloroethene	ND	0.200		ND	0.793			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID: Sample Location: CAN 694 SHELF 38

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

	ppbV				ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfiel	ld Lab	NEW YORK		CHECK TO	1050		SEE ST	19 15 10
Tertiary butyl Alcohol	ND	0.500		ND	1.52	-		1
Methylene chloride	ND	0.500		ND	1.74	-		1
3-Chloropropene	ND	0.200		ND	0.626	-		1
Carbon disulfide	ND	0.200	-	ND	0.623	-		1
Freon-113	ND	0.200		ND	1.53	-		1
trans-1,2-Dichloroethene	ND	0.200		ND	0.793	-		1
1,1-Dichloroethane	ND	0.200	**	ND	0.809			1
Methyl tert butyl ether	ND	0.200	**	ND	0.721	**		1
Vinyl acetate	ND	1.00	-	ND	3.52			1
2-Butanone	ND	0.500		ND	1.47	-		1
Kylenes, total	ND	0.600		ND	0.869			1
cis-1,2-Dichloroethene	ND	0.200	-	ND	0.793			1
Ethyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977			1
Tetrahydrofuran	ND	0.500		ND	1.47	-		1
2,2-Dichloropropane	ND	0.200		ND	0.924			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
n-Hexane	ND	0.200		ND	0.705			1
Diisopropyl ether	ND	0.200		ND	0.836			1
tert-Butyl Ethyl Ether	ND	0.200		ND	0.836			1
1,2-Dichloroethene (total)	ND	1.00		ND	1.00	-		1
1,1,1-Trichloroethane	ND	0.200	**	ND	1.09			1
1,1-Dichloropropene	ND	0.200	-	ND	0.908			1
Benzene	ND	0.200	-	ND	0.639	-		1
Carbon tetrachloride	ND	0.200		ND	1.26			1
Cyclohexane	ND	0.200	-	ND	0.688			1
tert-Amyl Methyl Ether	ND	0.200		ND	0.836			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID: Sample Location: CAN 694 SHELF 38

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

	ppbV				ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfield La	ib	1867	3779	S. B. B.	F-12 E 13	280	10000	1000
Dibromomethane	ND	0.200		ND	1.42	-		1
1,2-Dichloropropane	ND	0.200	-	ND	0.924			1
Bromodichloromethane	ND	0.200		ND	1.34			1
1,4-Dioxane	ND	0.200	-	ND	0.721			1
Trichloroethene	ND	0.200		ND	1.07	-		1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500	-	ND	2.05	-		1
Heptane	ND	0.200	-	ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200		ND	0.908			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908	**		1
1,1,2-Trichloroethane	ND	0.200		ND	1.09			1
Toluene	ND	0.200		ND	0.754	-		1
1,3-Dichloropropane	ND	0.200	-	ND	0.924			1
2-Hexanone	ND	0.200		ND	0.820			1
Dibromochloromethane	ND	0.200		ND	1.70			1
1,2-Dibromoethane	ND	0.200		ND	1.54			1
Butyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934			1
Tetrachloroethene	ND	0.200		ND	1.36			1
1,1,1,2-Tetrachloroethane	ND	0.200		ND	1.37			1
Chlorobenzene	ND	0.200		ND	0.921			1
Ethylbenzene	ND	0.200		ND	0.869			1
o/m-Xylene	ND	0.400	-	ND	1.74	-		1
Bromoform	ND	0.200		ND	2.07	-		1
Styrene	ND	0.200	-	ND	0.852			1
1,1,2,2-Tetrachloroethane	ND	0.200	-	ND	1.37			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Date Collected: Date Received: 08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Sample Deptil.		ppbV	16.14		ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfie	ld Lab		286		3 5 5	5999	19 (5)	10.00
o-Xylene	ND	0.200	-	ND	0.869	-		1
1,2,3-Trichloropropane	ND	0.200		ND	1.21	-		1
Nonane	ND	0.200	-	ND	1.05	-		1
Isopropylbenzene	ND	0.200	-	ND	0.983	-		1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200		ND	1.04	1		1
n-Propylbenzene	ND	0.200	-	ND	0.983	-		1
4-Chlorotoluene	ND	0.200	-	ND	1.04	-		1
4-Ethyltoluene	ND	0.200	-	ND	0.983	-		1
1,3,5-Trimethylbenzene	ND	0.200		ND	0.983			1
ert-Butylbenzene	ND	0.200	-	ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200	-	ND	0.983			1
Decane	ND	0.200		ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.200		ND	1.20			1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200	-	ND	1.10			1
o-Isopropyltoluene	ND	0.200		ND	1.10			1
1,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2-Dibromo-3-chloropropane	ND	0.200		ND	1.93			1
Undecane	ND	0.200		ND	1.28	**		1
Dodecane	ND	0.200	-	ND	1.39			1
1,2,4-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Naphthalene	ND	0.200		ND	1.05			1
1,2,3-Trichlorobenzene	ND	0.200	-	ND	1.48	-		1
Hexachlorobutadiene	ND	0.200	-	ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Date Collected:

08/24/19 12:00

Date Received:

MDL

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

Parameter Results RL

MDL

ug/m3 RL

Qualifier F

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

Units

Results

RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	87		60-140



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Sample Location:

Project Number:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 08/26/19 19:24

Analyst:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	I - Mansfield Lab	499	309	10 mm	N. R.	3,80	19870	2000
Dichlorodifluoromethane	ND	0.200	-	ND	0.989	-		1
Chloromethane	ND	0.200	-	ND	0.413			1
Freon-114	ND	0.050	-	ND	0.349			1
Vinyl chloride	ND	0.020	-	ND	0.051			1
1,3-Butadiene	ND	0.020		ND	0.044			1
Bromomethane	ND	0.020		ND	0.078			1
Chloroethane	ND	0.100	-	ND	0.264			1
Acetone	ND	1.00		ND	2.38			1
Trichlorofluoromethane	ND	0.050		ND	0.281			1
Acrylonitrile	ND	0.500		ND	1.09			1
1,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500	-	ND	1.74			1
Freon-113	ND	0.050		ND	0.383			1
trans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081	-		1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47	-		1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020	-	ND	0.098			1
1,2-Dichloroethane	ND	0.020	-	ND	0.081			1
1,1,1-Trichloroethane	ND	0.020		ND	0.109			1
Benzene	ND	0.100		ND	0.319			1
Carbon tetrachloride	ND	0.020	-	ND	0.126	-		1
1,2-Dichloropropane	ND	0.020		ND	0.092			1



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Date Collected: Date Received: 08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

		ppbV			ug/m3			Dilution Factor
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	
Volatile Organics in Air by SIM	- Mansfield Lab	20100	1 7 7 9 5	1500 1000	19995	1	CO STEP	
Bromodichloromethane	ND	0.020		ND	0.134			1
1,4-Dioxane	ND	0.100		ND	0.360			1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
trans-1,3-Dichloropropene	ND	0.020		ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109			1
Toluene	ND	0.050		ND	0.188			1
Dibromochloromethane	ND	0.020		ND	0.170			1
1,2-Dibromoethane	ND	0.020	**	ND	0.154	-		1
Tetrachloroethene	ND	0.020	-	ND	0.136			1
1,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137	-		1
Chlorobenzene	ND	0.100		ND	0.461	-		1
Ethylbenzene	ND	0.020		ND	0.087	-		1
o/m-Xylene	ND	0.040		ND	0.174	-		1
Bromoform	ND	0.020	**	ND	0.207	**		1
Styrene	ND	0.020		ND	0.085	-		1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137	-		1
o-Xylene	ND	0.020		ND	0.087			1
Isopropylbenzene	ND	0.200	-	ND	0.983			1
4-Ethyltoluene	ND	0.020		ND	0.098	-		1
1,3,5-Trimethybenzene	ND	0.020	**	ND	0.098			1
1,2,4-Trimethylbenzene	ND	0.020		ND	0.098	**		1
Benzyl chloride	ND	0.200		ND	1.04	-		1
1,3-Dichlorobenzene	ND	0.020		ND	0.120	-		1
1,4-Dichlorobenzene	ND	0.020	-	ND	0.120	-		1
sec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date: 09/2

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-04

Client ID:

CAN 694 SHELF 38

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

	** *** <u>*** ***</u>	ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	I - Mansfield Lab		-	SE 1-526	-	350	D. British	200
p-Isopropyltoluene	ND	0.200	-	ND	1.10			1
1,2-Dichlorobenzene	ND	0.020		ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050	-	ND	0.371	-		1
Naphthalene	ND	0.050		ND	0.262	**		1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371			1
Hexachlorobutadiene	ND	0.050		ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Date Collected: Date Received: 08/24/19 12:00

Sample Location:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date:

48,TO-15 08/26/19 20:04

Analyst:

		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab				36360	198	100	98.39
Chlorodifluoromethane	ND	0.200		ND	0.707	-		1
Propylene	ND	0.500	-	ND	0.861			1
Propane	ND	0.500	-	ND	0.902			1
Dichlorodifluoromethane	ND	0.200	-	ND	0.989	-		1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200	-	ND	1.40			1
Methanol	ND	5.00		ND	6.55	-		1
Vinyl chloride	ND	0.200		ND	0.511			1
1,3-Butadiene	ND	0.200	-	ND	0.442	-		1
Butane	ND	0.200	-	ND	0.475			1
Bromomethane	ND	0.200	-	ND	0.777			1
Chloroethane	ND	0.200		ND	0.528			1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200		ND	0.842			1
Vinyl bromide	ND	0.200	-	ND	0.874			1
Acrolein	ND	0.500	-	ND	1.15			1
Acetone	ND	1.00		ND	2.38			1
Acetonitrile	ND	0.200	-	ND	0.336			1
Trichlorofluoromethane	ND	0.200		ND	1.12	-		1
sopropanol	ND	0.500	-	ND	1.23			1
Acrylonitrile	ND	0.500	-	ND	1.09	-		1
Pentane	ND	0.200	-	ND	0.590	-		1
Ethyl ether	ND	0.200		ND	0.606			1
1,1-Dichloroethene	ND	0.200		ND	0.793			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

		ppbV			ug/m3			Dilution Factor
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	
Volatile Organics in Air - Mansf	field Lab	750	100000		321-633	1000	0.53	
Tertiary butyl Alcohol	ND	0.500		ND	1.52			1
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200		ND	0.626			1
Carbon disulfide	ND	0.200		ND	0.623	-		1
Freon-113	ND	0.200		ND	1.53	-		1
trans-1,2-Dichloroethene	ND	0.200	-	ND	0.793			1
1,1-Dichloroethane	ND	0.200	-	ND	0.809			1
Methyl tert butyl ether	ND	0.200		ND	0.721	-		1
Vinyl acetate	ND	1.00	-	ND	3.52	2		1
2-Butanone	ND	0.500		ND	1.47			1
Kylenes, total	ND	0.600	-	ND	0.869			1
cis-1,2-Dichloroethene	ND	0.200		ND	0.793			1
Ethyl Acetate	ND	0.500		ND	1.80	-		1
Chloroform	ND	0.200		ND	0.977	**		1
Tetrahydrofuran	ND	0.500		ND	1.47			1
2,2-Dichloropropane	ND	0.200		ND	0.924			1
1,2-Dichloroethane	ND	0.200		ND	0.809			1
n-Hexane	ND	0.200		ND	0.705	-		- 1
Diisopropyl ether	ND	0.200		ND	0.836	-		1
ert-Butyl Ethyl Ether	ND	0.200		ND	0.836			1
1,2-Dichloroethene (total)	ND	1.00		ND	1.00			1
1,1,1-Trichloroethane	ND	0.200		ND	1.09			1
,1-Dichloropropene	ND	0.200		ND	0.908	-		1
Benzene	ND	0.200		ND	0.639	-		1
Carbon tetrachloride	ND	0.200	**	ND	1.26			1
Cyclohexane	ND	0.200	-	ND	0.688			1
ert-Amyl Methyl Ether	ND	0.200	-	ND	0.836			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number: L1938543

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Sample Location:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfi	eld Lab	4250	200	NAME OF BRIDE	19 19 19 19		To the second	
Dibromomethane	ND	0.200	-	ND	1.42	-		1
1,2-Dichloropropane	ND	0.200		ND	0.924	-		1
Bromodichloromethane	ND	0.200		ND	1.34			1
1,4-Dioxane	ND	0.200	-	ND	0.721	-		1
Trichloroethene	ND	0.200		ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934	-		1
Methyl Methacrylate	ND	0.500		ND	2.05	-		1
Heptane	ND	0.200		ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200	-	ND	0.908	-		1
4-Methyl-2-pentanone	ND	0.500	-	ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200		ND	0.908	-		1
1,1,2-Trichloroethane	ND	0.200		ND	1.09	-		1
Toluene	ND	0.200		ND	0.754			1
1,3-Dichloropropane	ND	0.200		ND	0.924			1
2-Hexanone	ND	0.200		ND	0.820			1
Dibromochloromethane	ND	0.200		ND	1.70			1
1,2-Dibromoethane	ND	0.200		ND	1.54	-		1
Butyl acetate	ND	0.500		ND	2.38			1
Octane	ND	0.200		ND	0.934			1
Tetrachloroethene	ND	0.200		ND	1.36	-		1
1,1,1,2-Tetrachloroethane	ND	0.200	-	ND	1.37			1
Chlorobenzene	ND	0.200		ND	0.921			. 1
Ethylbenzene	ND	0.200	-	ND	0.869			1
o/m-Xylene	ND	0.400	-	ND	1.74			1
Bromoform	ND	0.200		ND	2.07	**		1
Styrene	ND	0.200		ND	0.852			1
1,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Date Collected: Date Received: 08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

Sample Depth:		ppbV		ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfie	ld Lab		193 TE	10000	1000	1999	15.65	200
o-Xylene	ND	0.200		ND	0.869	-		1
1,2,3-Trichloropropane	ND	0.200	-	ND	1.21			1
Nonane	ND	0.200		ND	1.05			1
sopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200		ND	0.793			1
2-Chlorotoluene	ND	0.200	-	ND	1.04			1
n-Propylbenzene	ND	0.200		ND	0.983			1
4-Chlorotoluene	ND	0.200		ND	1.04	**		1
4-Ethyltoluene	ND	0.200	-	ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200	-	ND	0.983			1
ert-Butylbenzene	ND	0.200	-	ND	1.10			1
1,2,4-Trimethylbenzene	ND	0.200		ND	0.983	-		1
Decane	ND	0.200		ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
,3-Dichlorobenzene	ND	0.200		ND	1.20			1
1,4-Dichlorobenzene	ND	0.200		ND	1.20			1
sec-Butylbenzene	ND	0.200		ND	1.10			1
o-Isopropyltoluene	ND	0.200	-	ND	1.10			1
,2-Dichlorobenzene	ND	0.200		ND	1.20			1
n-Butylbenzene	ND	0.200	-	ND	1.10			1
,2-Dibromo-3-chloropropane	ND	0.200	-	ND	1.93	-		1
Indecane	ND	0.200		ND	1.28			1
Oodecane	ND	0.200	-	ND	1.39	-		1
,2,4-Trichlorobenzene	ND	0.200	-	ND	1.48	-		1
Naphthalene	ND	0.200	**	ND	1.05	**		1
1,2,3-Trichlorobenzene	ND	0.200	-	ND	1.48			1
Hexachlorobutadiene	ND	0.200	-	ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date: 0

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

____p

ppbV

ug/m3

g/m3

Dilution

Parameter

Results RL

MDL

Results

RL MDL Qualifier

Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

Units

RDL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Sample Location:

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 08/26/19 20:04

Analyst:

TS

	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab	100		MAR PA	35.00	100	2-40	0
Dichlorodifluoromethane	ND	0.200	-	ND	0.989			1
Chloromethane	ND	0.200		ND	0.413	-		1
Freon-114	ND	0.050	-	ND	0.349	-		1
Vinyl chloride	ND	0.020		ND	0.051	-		1
1,3-Butadiene	ND	0.020		ND	0.044	-		1
Bromomethane	ND	0.020		ND	0.078			1
Chloroethane	ND	0.100		ND	0.264			1
Acetone	ND	1.00		ND	2.38			1
Trichlorofluoromethane	ND	0.050	-	ND	0.281	-		1
Acrylonitrile	ND	0.500		ND	1.09			1
1,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500		ND	1.74			1
Freon-113	ND	0.050		ND	0.383	**		1
trans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47	-		1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020	**	ND	0.098	**		1
1,2-Dichloroethane	ND	0.020		ND	0.081	-		1
1,1,1-Trichloroethane	ND	0.020		ND	0.109			1
Benzene	ND	0.100		ND	0.319			1
Carbon tetrachloride	ND	0.020	-	ND	0.126			1
1,2-Dichloropropane	ND	0.020		ND	0.092	**		1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID: Sample Location: **CAN 1809 SHELF 39**

Date Collected: Date Received: 08/24/19 12:00

08/26/19

Field Prep:

Not Specified

Sample Depth:

Sample Depth:	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	- Mansfield Lab	76.5	1	A PERSON	3.8959	1800		1819
Bromodichloromethane	ND	0.020	-	ND	0.134			1
1,4-Dioxane	ND	0.100	-	ND	0.360			1
Trichloroethene	ND	0.020		ND	0.107			1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500	-	ND	2.05			1
trans-1,3-Dichloropropene	ND	0.020		ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109			1
Toluene	ND	0.050		ND	0.188			1
Dibromochloromethane	ND	0.020		ND	0.170			1
1,2-Dibromoethane	ND	0.020		ND	0.154	-		1
Tetrachloroethene	ND	0.020		ND	0.136			1
1,1,1,2-Tetrachloroethane	ND	0.020		ND	0.137	_		1
Chlorobenzene	ND	0.100		ND	0.461			1
Ethylbenzene	ND	0.020		ND	0.087	-		1
o/m-Xylene	ND	0.040		ND	0.174	-		1
Bromoform	ND	0.020	-	ND	0.207			1
Styrene	ND	0.020		ND	0.085	-		1
1,1,2,2-Tetrachloroethane	ND	0.020	-	ND	0.137			1
o-Xylene	ND	0.020		ND	0.087	-		1
sopropylbenzene	ND	0.200	-	ND	0.983	-		1
4-Ethyltoluene	ND	0.020	-	ND	0.098	-		1
1,3,5-Trimethybenzene	ND	0.020		ND	0.098	-		1
1,2,4-Trimethylbenzene	ND	0.020		ND	0.098	-		1
Benzyl chloride	ND	0.200	-	ND	1.04	-		1
1,3-Dichlorobenzene	ND	0.020		ND	0.120			1
1,4-Dichlorobenzene	ND	0.020	-	ND	0.120	-		1
sec-Butylbenzene	ND	0.200		ND	1.10			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938543

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938543-05

Client ID:

CAN 1809 SHELF 39

Date Collected:

08/24/19 12:00

Date Received:

08/26/19

Field Prep:

Not Specified

Sample Depth:

		ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM	I - Mansfield Lab		FERRE	NAME OF STREET	50 St.		5-312	B 300
p-Isopropyltoluene	ND	0.200		ND	1.10	-		1
1,2-Dichlorobenzene	ND	0.020		ND	0.120			1
n-Butylbenzene	ND	0.200		ND	1.10			1
1,2,4-Trichlorobenzene	ND	0.050	-	ND	0.371			1
Naphthalene	ND	0.050		ND	0.262			1
1,2,3-Trichlorobenzene	ND	0.050		ND	0.371			1
Hexachlorobutadiene	ND	0.050	-	ND	0.533			1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	90		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	92		60-140



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938709

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Received:

08/26/19 16:00

Sample Location:

Date Collected:

08/27/19

Field Prep:

Not Specified

Sample Depth:

Matrix:

Anaytical Method: Analytical Date:

48,TO-15 08/27/19 07:59

Analyst:

TS

		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mans	field Lab	1	1000	250693	100	13.00	BRIDE S	128.0
Chlorodifluoromethane	ND	0.200	-	ND	0.707	-		1
Propylene	ND	0.500	-	ND	0.861			1
Propane	ND	0.500	-	ND	0.902	-		1
Dichlorodifluoromethane	ND	0.200	-	ND	0.989	-		1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.200		ND	1.40			1
Methanol	ND	5.00		ND	6.55	-		1
Vinyl chloride	ND	0.200		ND	0.511	-		1
1,3-Butadiene	ND	0.200		ND	0.442	-		1
Butane	ND	0.200		ND	0.475	-		1
Bromomethane	ND	0.200	-	ND	0.777			1
Chloroethane	ND	0.200	-	ND	0.528	-		1
Ethanol	ND	5.00		ND	9.42			1
Dichlorofluoromethane	ND	0.200		ND	0.842			1
Vinyl bromide	ND	0.200		ND	0.874	-		1
Acrolein	ND	0.500		ND	1.15			1
Acetone	ND	1.00		ND	2.38	-		1
Acetonitrile	ND	0.200		ND	0.336			1
Trichlorofluoromethane	ND	0.200	-	ND	1.12			1
sopropanol	ND	0.500		ND	1.23	-		1
Acrylonitrile	ND	0.500		ND	1.09			1
Pentane	ND	0.200		ND	0.590	-		1
Ethyl ether	ND	0.200		ND	0.606	-		1
1,1-Dichloroethene	ND	0.200		ND	0.793			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938709

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected: Date Received: 08/26/19 16:00

08/27/19

Field Prep:

Not Specified

Sample Depth:

	100	ppbV			ug/m3		Dilution	
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansi	field Lab		B () ()	FEBRUAR .	19 11	ARE	4.38	
Tertiary butyl Alcohol	ND	0.500		ND	1.52			1
Methylene chloride	ND	0.500		ND	1.74			1
3-Chloropropene	ND	0.200	-	ND	0.626			1
Carbon disulfide	ND	0.200	-	ND	0.623			1
Freon-113	ND	0.200		ND	1.53			1
trans-1,2-Dichloroethene	ND	0.200		ND	0.793			1
1,1-Dichloroethane	ND	0.200		ND	0.809			1
Methyl tert butyl ether	ND	0.200	-	ND	0.721			1
Vinyl acetate	ND	1.00	-	ND	3.52			1
Xylenes, total	ND	0.600		ND	0.869			1
2-Butanone	ND	0.500	-	ND	1.47	-		1
cis-1,2-Dichloroethene	ND	0.200		ND	0.793			1
Ethyl Acetate	ND	0.500		ND	1.80			1
Chloroform	ND	0.200		ND	0.977			.1
Tetrahydrofuran	ND	0.500		ND	1.47	-		-1
2,2-Dichloropropane	ND	0.200		ND	0.924			1
1,2-Dichloroethane	ND	0.200		ND	0.809	-		1
n-Hexane	ND	0.200		ND	0.705	-		1
Diisopropyl ether	ND	0.200		ND	0.836			1
tert-Butyl Ethyl Ether	ND	0.200		ND	0.836	-		1
1,2-Dichloroethene (total)	ND	1.00	**	ND	1.00			1
1,1,1-Trichloroethane	ND	0.200		ND	1.09	-		1
1,1-Dichloropropene	ND	0.200	-	ND	0.908	-		1
Benzene	ND	0.200		ND	0.639	-		1
Carbon tetrachloride	ND	0.200		ND	1.26			1
Cyclohexane	ND	0.200	-	ND	0.688	-		1
tert-Amyl Methyl Ether	ND	0.200		ND	0.836			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938709

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected: Date Received: 08/26/19 16:00

08/27/19

Field Prep:

Not Specified

Sample Depth:

Запре Бериі.		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfi	ield Lab	THE REAL PROPERTY.		-		1000		
Dibromomethane	ND	0.200		ND	1.42			1
1,2-Dichloropropane	ND	0.200		ND	0.924			1
Bromodichloromethane	ND	0.200		ND	1.34			1
1,4-Dioxane	ND	0.200		ND	0.721			1
Trichloroethene	ND	0.200		ND	1.07			1
2,2,4-Trimethylpentane	ND	0.200		ND	0.934			1
Methyl Methacrylate	ND	0.500		ND	2.05	-		1
Heptane	ND	0.200		ND	0.820			1
cis-1,3-Dichloropropene	ND	0.200	-	ND	0.908	_		1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
rans-1,3-Dichloropropene	ND	0.200	**	ND	0.908			1
1,1,2-Trichloroethane	ND	0.200		ND	1.09			1
Toluene	ND	0.200		ND	0.754			1
1,3-Dichloropropane	ND	0.200		ND	0.924			1
2-Hexanone	ND	0.200		ND	0.820			1
Dibromochloromethane	ND	0.200	-	ND	1.70			1
1,2-Dibromoethane	ND	0.200	-	ND	1.54			1
Butyl acetate	ND	0.500	-	ND	2.38			1
Octane	ND	0.200	-	ND	0.934			1
Tetrachloroethene	ND	0.200	-	ND	1.36	-		1
1,1,1,2-Tetrachloroethane	ND	0.200	-	ND	1.37	-		1
Chlorobenzene	ND	0.200		ND	0.921			1
Ethylbenzene	ND	0.200	-	ND	0.869	-		1
o/m-Xylene	ND	0.400	-	ND	1.74			1
Bromoform	ND	0.200		ND	2.07	-		1
Styrene	ND	0.200	-	ND	0.852	-		1
1,1,2,2-Tetrachloroethane	ND	0.200		ND	1.37			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938709

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected:

08/26/19 16:00

Date Received:

08/27/19

Field Prep:

Not Specified

Sample Depth:

Sample Depth.	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air - Mansfi	eld Lab	The State of the S	196399	WH 90	900		47	1868
o-Xylene	ND	0.200		ND	0.869	-		1
1,2,3-Trichloropropane	ND	0.200		ND	1.21			1
Nonane	ND	0.200		ND	1.05			1
sopropylbenzene	ND	0.200		ND	0.983			1
Bromobenzene	ND	0.200	-	ND	0.793	-		1
2-Chlorotoluene	ND	0.200	-	ND	1.04			1
n-Propylbenzene	ND	0.200		ND	0.983			1
4-Chlorotoluene	ND	0.200	-	ND	1.04			1
4-Ethyltoluene	ND	0.200	-	ND	0.983			1
1,3,5-Trimethylbenzene	ND	0.200	-	ND	0.983			1
ert-Butylbenzene	ND	0.200		ND	1.10	-		1
1,2,4-Trimethylbenzene	ND	0.200	-	ND	0.983			1
Decane	ND	0.200	-	ND	1.16			1
Benzyl chloride	ND	0.200		ND	1.04			1
,3-Dichlorobenzene	ND	0.200		ND	1.20	-		1
,4-Dichlorobenzene	ND	0.200	-	ND	1.20	**		1
sec-Butylbenzene	ND	0.200		ND	1.10			1
o-Isopropyltoluene	ND	0.200		ND	1.10	-		1
1,2-Dichlorobenzene	ND	0.200		ND	1.20	-		1
n-Butylbenzene	ND	0.200		ND	1.10	_		1
,2-Dibromo-3-chloropropane	ND	0.200	-	ND	1.93			1
Undecane	ND	0.200		ND	1.28			1
Oodecane	ND	0.200		ND	1.39	-		1
,2,4-Trichlorobenzene	ND	0.200		ND	1.48	-		1
Naphthalene	ND	0.200		ND	1.05	**		1
1,2,3-Trichlorobenzene	ND	0.200		ND	1.48			1
Hexachlorobutadiene	ND	0.200		ND	2.13			1



Project Name: BATCH CANISTER CERTIFICATION

CANISTER QC BAT

Lab Number:

L1938709

Report Date:

09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected:

MDL

08/26/19 16:00

Date Received:

08/27/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

Project Number:

ppbV RL Parameter Results

ug/m3

Results

Qualifier

Dilution Factor

Volatile Organics in Air - Mansfield Lab

Results

Qualifier

MDL

Units

RDL

RL

Dilution Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	81		60-140

Project Name: BATCH CANISTER CERTIFICATION

NISTER CERTIFICATION Lab Number:

Project Number: CANISTER QC BAT Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Sample Location:

Date Collected:

08/26/19 16:00

Date Received:

08/27/19

L1938709

Field Prep:

Not Specified

Sample Depth:

Matrix:

Air

Anaytical Method: Analytical Date: 48,TO-15-SIM 08/27/19 07:59

Analyst:

TS

	ppbV			ug/m3				Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM - I	Mansfield Lab	1		PRINCE NAMED IN	1986			-
Dichlorodifluoromethane	ND	0.200		ND	0.989			1
Chloromethane	ND	0.200		ND	0.413			1
Freon-114	ND	0.050		ND	0.349			1
Vinyl chloride	ND	0.020		ND	0.051			1
1,3-Butadiene	ND	0.020	-	ND	0.044			1
Bromomethane	ND	0.020	-	ND	0.078	-		1
Chloroethane	ND	0.100		ND	0.264			1
Acetone	ND	1.00		ND	2.38	-		1
Trichlorofluoromethane	ND	0.050		ND	0.281			1
1,1-Dichloroethene	ND	0.020		ND	0.079			1
Methylene chloride	ND	0.500		ND	1.74			1
Freon-113	ND	0.050		ND	0.383			1
trans-1,2-Dichloroethene	ND	0.020		ND	0.079			1
1,1-Dichloroethane	ND	0.020		ND	0.081			1
Methyl tert butyl ether	ND	0.200		ND	0.721			1
2-Butanone	ND	0.500		ND	1.47			1
cis-1,2-Dichloroethene	ND	0.020		ND	0.079			1
Chloroform	ND	0.020		ND	0.098			1
1,2-Dichloroethane	ND	0.020		ND	0.081			1
1,1,1-Trichloroethane	ND	0.020	**	ND	0.109	-		1
Benzene	ND	0.100		ND	0.319	-		1
Carbon tetrachloride	ND	0.020	-	ND	0.126	-		1
1,2-Dichloropropane	ND	0.020	-	ND	0.092	-		1
Bromodichloromethane	ND	0.020		ND	0.134			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT

Lab Number:

L1938709

Report Date: 09/24/19

Air Canister Certification Results

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected:

08/26/19 16:00

Sample Location:

Date Received:

08/27/19

Field Prep:

Not Specified

Sample Depth:

Sample Deptil.		ppbV			ug/m3			Dilution
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Factor
Volatile Organics in Air by SIM -	Mansfield Lab	7-(50)	EFE.	7938	100100			19.55
1,4-Dioxane	ND	0.100		ND	0.360			1.
Trichloroethene	ND	0.020	-	ND	0.107			- 1
cis-1,3-Dichloropropene	ND	0.020		ND	0.091			1
4-Methyl-2-pentanone	ND	0.500		ND	2.05			1
trans-1,3-Dichloropropene	ND	0.020	-	ND	0.091			1
1,1,2-Trichloroethane	ND	0.020		ND	0.109			1
Toluene	ND	0.050		ND	0.188			1
Dibromochloromethane	ND	0.020		ND	0.170	-		1
1,2-Dibromoethane	ND	0.020		ND	0.154			1
Tetrachloroethene	ND	0.020	-	ND	0.136			1
Chlorobenzene	ND	0.100		ND	0.461			1
Ethylbenzene	ND	0.020	-	ND	0.087			1
o/m-Xylene	ND	0.040		ND	0.174			1
Bromoform	ND	0.020	-	ND	0.207			1
Styrene	ND	0.020		ND	0.085	-		1
1,1,2,2-Tetrachloroethane	ND	0.020		ND	0.137			1
o-Xylene	ND	0.020	-	ND	0.087			1
4-Ethyltoluene	ND	0.020	-	ND	0.098			1
1,3,5-Trimethybenzene	ND	0.020	-	ND	0.098			1
1,2,4-Trimethylbenzene	ND	0.020		ND	0.098			1
Benzyl chloride	ND	0.200		ND	1.04			1
1,3-Dichlorobenzene	ND	0.020	-	ND	0.120	-		1
1,4-Dichlorobenzene	ND	0.020		ND	0.120			1
1,2-Dichlorobenzene	ND	0.020		ND	0.120	-		1
1,2,4-Trichlorobenzene	ND	0.050	4	ND	0.371			1
Naphthalene	ND	0.050		ND	0.262			1
Hexachlorobutadiene	ND	0.050	22	ND	0.533			1



Project Name: BATCH CANISTER CERTIFICATION

Project Number: CANISTER QC BAT Lab Number:

L1938709

Report Date:

09/24/19

Air Canister Certification Results

MDL

Lab ID:

L1938709-01

Client ID:

CAN 482 SHELF 7

Date Collected:

08/26/19 16:00

Date Received:

08/27/19

Field Prep:

Not Specified

Sample Depth:

Sample Location:

RL Parameter Results

ppbV

ug/m3 RL Results

Dilution Factor MDL Qualifier

Volatile Organics in Air by SIM - Mansfield Lab

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	83		60-140



Serial_No:09241916:14 Lab Number: L1942598

Report Date: 09/24/19

Project Name: 1246 DOTHAN RD.
Project Number: 12-414.4-19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler Custody Seal
NA Present/Intact

Container Inf	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1942598-01A	Canister - 6 Liter	NA	NA			Υ	Present/Intact		TO15-SIM(30)
L1942598-02A	Canister - 6 Liter	NA	NA			Y	Present/Intact		TO15-SIM(30)
L1942598-03A	Canister - 6 Liter	NA	NA			Y	Present/Intact		TO15-SIM(30)
L1942598-04A	Canister - 6 Liter	NA	NA			Υ	Present/Intact		TO15-SIM(30)
L1942598-05A	Canister - 6 Liter	NA	NA			Y	Present/Intact		TO15-SIM(30)
L1942598-06A	Canister - 6 Liter	NA	NA			Y	Present/Intact		TO15-SIM(30)
L1942598-07A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		TO15-LL(30)
L1942598-08A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		TO15-LL(30)
L1942598-09A	Canister - 2.7 Liter	NA	NA			Υ	Present/Intact		TO15-LL(30)
L1942598-10A	Canister - 2.7 Liter	NA	NA			Υ	Present/Intact		TO15-LL(30)
L1942598-11A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		TO15-LL(30)
L1942598-12A	Canister - 2.7 Liter	NA	NA			Υ	Present/Intact		TO15-LL(30)
L1942598-13A	Canister - 6 Liter	NA	NA			Y	Present/Intact		CLEAN-FEE()
L1942598-14A	Canister - 6 Liter	NA	NA			Y	Present/intact		CLEAN-FEE()
L1942598-15A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		CLEAN-FEE()

Project Name: 1246 DOTHAN RD. Lab Number: L1942598 12-414.4-19 Report Date: Project Number: 09/24/19

GLOSSARY

Acronyms

EDL.

LOD

MS

NC

DL. - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments

from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

EPA Environmental Protection Agency.

LCS · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOO - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any

adjustments from dilutions, concentrations or moisture content, where applicable.

Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD Matrix Spike Sample Duplicate: Refer to MS.

NA Not Applicable.

- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP · Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the RPD precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO · Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound

list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



 Project Name:
 1246 DOTHAN RD.
 Lab Number:
 L1942598

 Project Number:
 12-414.4-19
 Report Date:
 09/24/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a "Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to "Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the reporting limit (RL) for the sample.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name:

1246 DOTHAN RD.

Lab Number:

L1942598

Project Number:

12-414.4-19

Report Date:

09/24/19

REFERENCES

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 15

Published Date: 8/15/2019 9:53:42 AM Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-

Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology. SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology SM9223B-Colliert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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ARM ENVIRONMENTAL SERVICES

For Play Pals site, 1246 Dothan Road, Columbia, SC

"Please limit reporting to the following list:

- Methyl Tert Butyl Ether
- o 1,2-Dichloroethane
- e Benzene
- · Toluene
- Ethylbenzene
- p/m Xylene
- o o-Xylene
- Naphthalene

LIMIT TO THESE

September 2019

1246 Dothan Road Columbia, SC

Please Note: The attached chain of custody may cover samples in multiple boxes. If so, a copy of the appropriate chain of custody is included in each box.

Also returned in the boxes may be unlabeled canisters and flow controllers that were not used.

Please make sure to limit reporting to the list attached to the chain.

Thanks,

Richard Ciccolella

ARM Environmental Services, Inc.
1210 First Street South
Columbia, SC 29209
rciccolella@armenv.com

ph: 803 783-3314 fax: 803 783-2587 November 7, 2019





ENVIRO-TEST SERVICES

Mr. Bradly Baldwin, Hydrogeologist Corrective Action & Quality Assurance Section UST Program Bureau of Land and Waste management

RE: October 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco and Play Pals Day Care Permit # 11946; CA # 60595 4335 Broad River Rd Columbia, SC Richland County

Dear Mr. Baldwin

Enviro-Test Services is continuing the removal of Free Product and petroleum contaminated water at the Play Pals Day Care.

A total of (6) Free Product Vacuum Recovery Events were performed through out the month of October. They began on October 1st and then October 7th, October 11th, October 20th October 23rd and October 31st. The Free Product Recovery events performed increased by one in October. There was very little rain the first 2 weeks of the month but there were several heavy rain storms at the end of the month. The groundwater level continues to stay low at 5.90 ft. in Recovery Trench A. And GWL of 4.63 in Trench B from TOC.

On October 23, 2019 is the first time there was No measurable Free Product in Recovery Trench A since the Release last year in November ,2018, although if you shine a flash light in Vacuum point 2 you can see globs of free product go by as you vacuum from Vacuum point 3. Trench B pit groundwater level continues to stay low at 3.40 ft. and still has no free product or sheen on top of the recovery well. Trench E and the over fill pit, Trench C and Trench D also have no sheen on top of the water. There has been an increase of standing water in the sumps under the Play Pals Day Care due to the heavy rains at the end of the month.

There was a total of 2,619 gallons of contact water recovered and 2 gallons of free product recovered which was a decrease of 172 gallons of contact water and 24 gallons less of Free Product than last month.

These Events produced 2,619 gallons of contaminated petroleum water and 2 gallons of thick very dark brown-black free product.

See Disposal Manifest Attachment A:

Environmental Laboratory & Drilling

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care. There was one hour of maintenance of absorbent booms and barrier nets for safety protection this month

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. The other Absorbent Booms are located in the ditch at the rear of the Day Care which leads to the storm drain that has one in it and there is another one in the ditch by the apartments. There was no replacement of absorbent booms this month.

See Site Map: Figure 1

ARM Environmental performed an air sample event on September 13, 2019 in side and around Play Pals day care the report has been turned in to DHEC along with a Receptor Survey.

Enviro-Test will continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed.

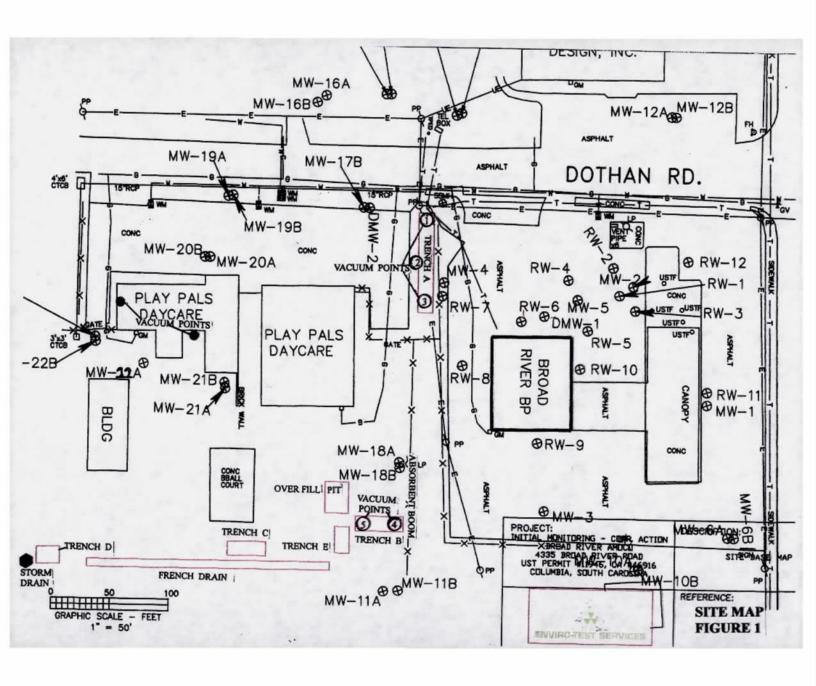
Thank You, for Recognizing our commitment to continue working on this site.

y L. Teath

Terry L. Teate Project Manager

Enviro-Test Services Inc.

FIGURE 1 Site Map



ATTACHMENT 1 DISPOSAL MANAFEST

NON-HAZARDOUS WASTE MANIFEST

2	state print or type (Form designed for use on elite (1)						
	NON-HAZARDOUS WASTE MANIFEST	1 Generator's US EPA ID No			Manifest Document No	· 3471	2. Page I
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	7 Transporter 2 Company Name	8.	US EPA ID Number		B. Transporte		
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	9. Designated Facility Name and Site Address	10.	US EPA ID Number		E State Facili		
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	Sumter, S.C				F Facility's Pt	none	
	11 WASTE DESCRIPTION			12 Co	intainers	13 Total	14. Unit
	0			No.	Туре	Quantity	Wt./Vol
6	NON-HAZARDOUS PETRO	LUEM CONTAI	MINATED SOIL				
GEZER	NON-HAZARDOUS PETRO	LUEM CONTA	MINATED WATER	l	П	ब 6ब।	Gal
ATOR	9						
	Additional Descriptions for Materials Listed Above						
	2 gallons					dea for Wastes Listed Above	
A. C. S. C.	ARM ENVIRONMENTAL S P.O. BOX 50285 COLUMBIA, SC 29250	SERVICES, INC	N St. Steers	2.0	4.2		łą.
	16 GENERATOR'S CERTIFICATION: I hereby certify in in proper condition for transport. The materials described.	iất the contents of this shipme ibed on this manifest are not a	nt are fully and accurately described an subject to loderal hazardous waste requ	nd are in al	l respects		
		. ~ .	3P				Date
V	Prinied Money Name	God Cuch"	A Signature			Month	Day Year
T	17 Transporter 1 Acknowledgement of Receipt of Mater	PIGO -	Billy Palen	ger		10]	3019
Â	Strinted Typed Name		Signature	<u> </u>	MO TO A COLUMN	Month:	Date Day Year
ş.	18. Transporter 2 Acknowledgement of Receipt of Mater		Belly Follow	261			30119
TRAZOGOR-WR	Printed Typed Name	AIS	Signature	<u>o</u>			Date
Ř						Month	Day Year
FACIL	19 Discrepancy Indication Space 20. Facility Owner or Operator Certification of receipt of	the waste meteria's covered t	by the mailest, except as noted in item	I IÁ			
+	Printed/Typed Name A M. Lond C		Signature	^	AL A		Date
Y	ase Olyman	1	Chark	JUL	MON	7 170,	36,13

NON-HAZARDOUS WASTE

CERTIFICATE OF DISPOSAL

T K TANK SERVICES, INC.

Certifies to all that

2,623 GALLONS

Of Nonhazardous, Petroleum Contaminated Water / Product

Have been disposed of in accordance with EPA regulations on petroleum contaminated water.

This product was generated at

BROAD RIVER BP

10/30/2019	· continues (when yields)
DATE	SIGNATURE



Underground Storage Tank Management Division Field Activity Request Form

Date of Request: 11/19	9/19
Type of Request (Chec	k one): Emergency (<2 Working Days) Specific (1-5 Working Days) Routine (10 Working Days)
Please specify type of	work to be completed:
Site ID #:	11946
Site Name:	Broad River Amoco
Site Address:	3445 Broad River Road, Columbia, SC
County:	Richland
Project Manager:	B. Baldwin
	Remember to Establish Cost Proposals
PACE CA#:	PACE PO#:
Field Claff Lafe was kinned	
Field Staff Information:	vity Completed:
Completed By:	O valla: +r
1/5/2 1/5/3	es Entered into EFIS: 11 21 19
Notes:	lls.

4 1				*		Site Information			The same of the sa	9134 (1) - 20	
Date:	9/19		Site ID	# 1194	6		Site Name:	Broad 1	eiver f	moc	D .
County: R	chiano	Ą	Projec	Manager: B	Baid	win	Field Personn	el: C'M	nite ~		``
						Gauging Informa	tion			. F.	
Well ID:	Total Well Depth (ft.)	Screene Interval (Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault
AU-WA	25.5	155-	25.5	_	16.58				y	2/2	7
MM-GB	38.5	285-	385		1607				Y	2/2	Ý
M- K2-9	18 2	8-11	8		16.47				Y	2/2	1
NW-RZ-16	19	9-1	9.		16.58				Y	2/2	N
MW-R2-11	18	- '	8		16.47		٠ .		Ŋ.	2/2	У
KW-9	40	10-40)		16.32		,		Cracked	2/2	4
MW-3	10,			14.69	19.80	511	: '		NIA	4	N
2-8	125		12.5		7.78			** .	4	2/2	X
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K2-12	18	-	8	10.08	10.44	0.34			Y	2/2	7.
RW-8	32	2-3			1).04				. 7	2/2	Υ.,
R1,4-7	40	10-1	10		10.94	-			Ä	12	<i>Y</i> ;
MW-4					11.01			<u> </u>	<u> </u>	4/2	7
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24 9 11 10 2	J,	•		ē.		• •	Signaturė:		with		-01-01
HEC 0424 (10/20	12)			SOUTH CARC	DLINA DEPA	RTMENT OF HE	ALTH AND EN	VIRONMENT	AL CONTROL.		

-UST Field Data Information Sheet - Monitoring Well Gauging

- -Purpose of the form is to record information gathered during a monitoring well gauging event -DHEC UST Project Managers and Field Staff -Item-by-item instructions for completing the form:

Fill in all Site Information boxes
Record Well Gauging Information for all necessary wells
Record any applicable notes Sign the form

-Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304

25					Underg	round Storag	o Tank Mana	goment D	ivialan		
N/O	hec				Field Data	Information S	heet – Moni	toring Wel	l Gauging		
	-					Site Information					
Date:	9/19	INVERSE EX	Site ID	# 1194	Ь		Site Name:	Broad	River	Amoc	0
County: R	chlan	d	Projec	t Manager: B	Bald	win	Field Personn	_	hite		
10,50.0			5.000	5		Gauging Informa	itlon				
Well ID:	Total Well Depth (ft.)	Screened Interval (72/	Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault?
R2-14	840				10.86				Y	217	7 .
R2-4	15	5-	15	9.71	9.74	003'			Ý	2/2	Y
R2-7	15	5	15	8.35	14.80	10.45'			N	2/2	΄Υ
RW-D					9.89				Crackel	-	Ý
RW-6	35	5-31	5.	+	1293				7,	1/2	7
QW-1				:	12.13				9	1/2	4
MW-14A	20	10-2		-	38				7.	1)2	7 "
MW-14B	38.5	20.5	-38-5	_	14.45				, y	1/2	*
MW-15A	17	7-1	7		1690				7	2/2	W.
MW15B	40	30-	40		1589			-	Y	2/2	2
MW-DZ	65	100-1	ø5		8.39				1	2/2	N
MW-1713	39-5	29.5.	39.5		8.64				Ý	2/2	7
MIN-19B	34	24-3	4	_	8.40	_			Non	20	4
Notes: MV	1-19B	Các	ing	04							
-	•		<u> </u>								
							Signature:				

DHEC 0424 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

** * . .

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्राम्याः,		. 1			• \	Site Information	1 E.	` .			
Date:	3-2-		Site I) #: ·	(4)		Site Name:			11122-1112	TO SECULIAR DE LA CONTRACTOR DE LA CONTR
County:	5		Projec	t Manager:			Field Personn	a:			H H
			` ,		Well	Gauging Informa	ition .				
Well ID:	Total Well Depth (ft.)	Screene Interval (Depth ; to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken?	Well Pad OK?	Bolts in Well Cover?	Water in . Well Vault
MWDOA	15	5-1	5		2.25	-			Y.	2/2	7
MW20B	35	25-	35		4.09				· ·	1/2	¥
W-3	65	100-	65		2.20				V	2/2	4
22B	35	25.	33	_	2.24	_			4	2/2	Y
22 A	8	1-	8		ICSS tha 1	4			Y	2/2	Y.
ZIA	12.	2-1	2	<u> </u>	10c				,	2/2	Y
213	35	25-	35		<i>à.23</i>				Y	2/2	Ý
[8A	13	3-1	3		090				Ą	2/2	Ý
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DHEC 0424 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

-UST Field Data Information Sheet - Monitoring Well Gauging

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Fill in all Site Information boxes
Record Well Gauging Information for all necessary wells
Record any applicable notes

Sign the form
-Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304

					ite Information					
Date:	9/19	Site	ID#: 1194	6		Site Name:	road R	giver Amo	CO	
	chland	Pro	ject Manager: B		1	Field Personn	el: C.W	hitc		
,				Well	Gauging Informa	ation				
Well ID:	Total Well Depth (ft.)	Screened Interval (ft.)	Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault
MW-98			-	16.06	-		N	Crale	Y	y
MV-9A			_	16.08	`	-	N	Creek	Y	y
MW-8B		450		15.06	_		N	y	y	N
MV-8A				15.34	_		N	y	Y	Y
MWR-2-1	4		_	17.75	_	_	N	7	4	4
MWZ-7-4		180	/	14.32		-	~	4	-1	4
MNE-2-5				14.05					4	7
RW-A			7.21	7.74	0.03'.				7	y
RU-2	1000		_	14.69	_				4	Y
RV-1	1		_	14.59					N	1
RV-3			_	15.01	~				N	y
RW-5		18-38	13,62	13.65	0.03'			Coat		
MV-8	14.52		13.02	14.18						

DHEC 0424 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

_ Signature: _

-UST Field Data Information Sheet - Monitoring Well Gauging

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-item-by-item instructions for completing the form.

Fill in all Site Information boxes
Record Well Gauging Information for all necessary wells
Record any applicable notes
Sign the form
-Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304

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Underground Storage Tank Management Division Field Data Information Sheet – Monitoring Well Gauging

				5	ite Information					
Date:	9/19	Site ID	11 1-11	0		Site Name:	Broad F	eiver Am	2000	
County: RI	chlan	Projec	t Manager: B	Baldu	in	Field Personn	7	White		
F 214				Well	Gauging Informa	ition				
Well ID:	Total Well Depth (ft.)	Screened Interval (ft.)	Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault
MUR-7-15		8-18	_	16.24	_	~	N	7	y	Y
RW-10		10-40	13.66	72.30	8.64	_	\sim	y	Y	7
RU-10			13.69	27.3/4	18.62"	~	N	Crack	y	y
RW-4		20.5-40.5	_	19.93	_	-	N	Grach	N	1
MWC2-10	25	7-17	_	13-79	_		N	4	7	7
26-12		- 19	15.94	15.98	0,02	_	~	y	y	7
MWZ-7-2		8-18	. 1	13.01	1	-	~	Y	-1	4
RU-11		10-40		16.54		1	N	7.	/	١
MWR-2-3	,	9-19		16,78			N.	4	r	٦
MW-10A	Y	7.5-125	1	4.87			1	y	Y	٤
W/W-1013		71-39		12.32		46		7	y	N
MW-7-13		1-11		9.49				Y	4	Y
MW-11A				6.13				- 7	-/	N
Mレー11 B Notes:		4-		5.83			1	1 7	-1	N
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	2		346	gre-	RTMENT OF HE	Signature:		un		

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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

-UST Field Data Information Sheet - Monitoring Well Gauging

- -Purpose of the form is to record information gathered during a monitoring well gauging event -DHEC UST Project Managers and Field Staff
- -Item-by-item instructions for completing the form:

Fill in all Site Information boxes
Record Well Gauging Information for all necessary wells
Record any applicable notes

Sign the form -Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304



Underground Storage Tank Management Division Field Data Information Sheet – Monitoring Well Gauging

				9	Site Information	1				
Date:	9/19	Site ID	#: 11944	,		Site Name:	Broad R	liver Ama	000	
County: R	ichland	Projec	t Manager:	Baldw	ih	Field Personn	el: C.W	rite		
				Well	Gauging Informa	ation				
Well ID:	Total Well Depth (ft.)	Screened Interval (ft.)	Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault?
MU-12A		10-20	1	13.76	1	1	N	y	-/	Y
ML-12B		26.8-36.5		13.00			N	7	y	y
MU -13A		12-22		18.69			~	4	У	V
mL - 13B		23,5-38,5		18.17			~	7	7	N
MU-7A				15.82			4.	Y	Y	4
				100						
48				20						
3.39										
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		- 5								
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Notes:	8.69) FP					- ne f			
	21.64	7.4 F	2	1, 4			-			
	41.07	6×1 +1				Signature:	Clu	M	97	
			COUTH CAD	OF INA DEDA	DTMENT OF HE	ATTH AND EN				

-UST Field Data Information Sheet - Monitoring Well Gauging

- -Purpose of the form is to record information gathered during a monitoring well gauging event -DHEC UST Project Managers and Field Staff -Item-by-item instructions for completing the form:

 Fill in all Site Information boxes

 Record Well Gauging Information for all necessary wells

 Record any applicable notes

 Sign the form

Sign the form

-Form is scanned and saved electronically; Record Group Number 169, Retention Schedule 10304

November 13, 2019





ENVIRO-TEST SERVICES

Mr. Bradly Baldwin, Hydrogeologist Corrective Action & Quality Assurance Section UST Program Bureau of Land and Waste management

RE: November 2019 Summary Report for Emergency Free Product Abatement Broad River Amoco and Play Pals Day Care Permit # 11946; CA # 60772 4335 Broad River Rd Columbia, SC Richland County

Dear Mr. Baldwin,

Enviro-Test Services was terminate from the Free Product Abatement project on November 21, 2019 and told to remove all equipment at the Play Pals Day Care.

A total of (6) Free Product Vacuum Recovery Events were performed through out the month of November. They began on November 1st and then November 8th, November 11th, November 15th November 19th and November 20th. The Free Product Recovery events were the same number as the month of October. There were several heavy rain storms this month. The groundwater level has increased to 3.75 ft. in Recovery Trench (A). And GWL of 1.47 ft. in Recovery Trench (B). On November there was 0.15 ft of free product in Trench A. on November 20th there was no measurable free product in trench A. Trench B pit groundwater level has risen to 1.47 ft. and still has no free product or sheen on top of the recovery well. Trench E and the over fill pit, Trench C and Trench D also have no sheen on top of the water. There has been a decrease of standing water under the Play Pals Day Care due to the automatic electric sump pumps are back on. There still need to be explosion proof electric Sump and ventilation motors installed as part of the Corrective Action.

(NOTE): ARM informed us the Air Sampling event showed there were petroleum vapors present in the family residence next to the day care.

There was a total of 2,684 gallons of contact water recovered and 100 gallons of free product recovered which was an increase of 64 gallons of contact water and 98 gallons more of Free Product than last month.

These Events produced 2,684 gallons of contaminated petroleum water and 100 gallons of thick very dark brown-black free product.

See Disposal Manifest Attachment A:

Environmental Laboratory & Drilling

These Task include vacuuming petroleum contact water from 5 Recovery wells in 2 Recovery trenches, and 2 open Pits, Storm drains and under the building of Play Pals Day Care.

The Absorbent booms are replaced when they no longer absorb the free product. They are located against the fence between the BP station and the day care where the free product flows out of the embankment. And the drainage path to the storm drain at rear of the day care.

See Site Map: Figure 1

Enviro-Test Services will not continue Emergency Free Product Abatement until the Corrective Action begins at the above facilities as directed on November 21, 2019.

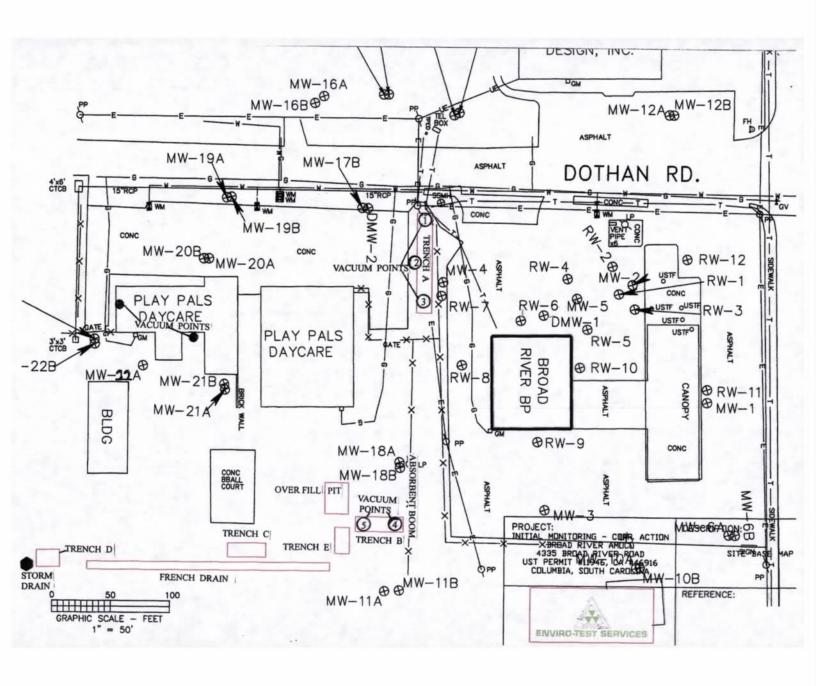
Enviro-Test Services has demobilized and removed the AFVR equipment and the tanks from the site and installed safety barriers around the open pits. The fence around the day care remains in place until the Corrective Action contractor takes over the project per the request from DHEC project manager Brad Baldwin.

Thank You, for Recognizing our commitment to work on this project.

Terry L. Teste Project Manager,

Enviro-Test Services Inc.

FIGURE 1 SITE MAP



ATTACHMENT A DISPOSAL MANAFEST

•	Plea	se print or type (Form designed for use on either	NON-HAZARD	OUS WASTE M	ANIF	EST		
		NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.			Manifest Document No	2475	2. Page 1 of
		3. Generator's Name and Mailing Address B	road River Rd 135 Broad Rive	BP Rd		12-4	114.2-18	
		4. Generator's Prione ()	lumbia S.C					
		5. Transporter 1 Company Name	6. I	US EPA ID Number		A. State Trans		
		7. Transporter 2 Company Name	8.	US EPA ID Number		B. Transporter C. State Trans		
			_			D. Transporter		
		9. Designated Facility Name and Site Address	10.	US EPA ID Number		E. State Facilit		
		125 Boolevard P	gs			F. Facility's Ph	one	
•		11. WAS DESCRIPTION I			12. C	ontainers	13	T
					No.	Туре	13. Total Quantity	14. Unit Wt./Vol.
		NON-HAZARDOUS PETF	ROLUEM CONTAIN	MINATED SOIL				
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	R	d.				-		-
STE								
≩		G. Additional Descriptions for Materials Listed About	ve			H. Handling Co	odes for Wastes Listed Above	
HAZARDOUS WASTE		(D) Xgallon	fue!					
N		15. Special Handling Instructions and Additional Inf	Installing					
NON-HA		ARM ENVIRONMENTAL P.O. BOX 50285 COLUMBIA, SC 29250						
		16. GENERATOR'S CERTIFICATION: I hereby cert	tify that the contents of this shipme	of Are fully and accurately described	and am in			
		 GENERATOR'S CERTIFICATION: I hereby cert in proper condition for transport. The materials of 	•	- 1 00	ulations.	an respects		
	3		Brand Rive	cka by				Date
		Billy Pitterner Anon!	Sor Front Curs	L'ANTO ROMA	200	~ ·	Month	
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	ñ	Printed Typed Name		Signature D.		-0	Month	Date Year
	8	18. Transporter 2 Acknowledgement of Receipt of N	la tacinta	Boly Potters	er		11	PIJOS
	8	Printed/Typed Name	dienais	Signature				Date
	Ā						Month	Day Year
	FAC	19. Discrepancy Indication Space						<u> </u>
	Ĭ	20. Facility Owner or Operator; Certification of recei	pt of the waste materials covered t	by this mailest, except as noted in ite	m 19.			
- 1	Ĭ				•			Date
- 1	V	mined Typed Name	1	Signature O DI M	10011	MALA	Month	Day Year

CERTIFICATE OF DISPOSAL

T K TANK SERVICES, INC.

Certifies to all that

2,784 GALLONS

Of Nonhazardous, Petroleum Contaminated Water / Product

Have been disposed of in accordance with EPA regulations on petroleum contaminated water.

This product was generated at

BROAD RIVER RD BP

11/20/2019	Cooling Holis i Venimo .
DATE	SIGNATURE



ASSESSMENT & REMEDIAL SERVICES

armenv.com

TRANSMITTAL COVER SHEET

TO: Arthur Shrader, Hy	drogeologist		
COMPANY / AGENCY: Management	UST Program / Bureau of	Land and Waste	A STATE OF THE STA
FROM: Michael Faris		(JUN-2	00-2012
RE: Broad River Amo QAPP Appendix I	co; UST Permit #11946 B, Revision 2	100 mg	0º26422
DATE: June 15, 2012			UST
TRANSMITTAL VIA:	_ √ _ Standard US Mail	Priority US Mail	19tech
	Overnight Courier	Hand Delivery	CHETIN
COMMENTS:			ME

Enclosed you will find the revised QAPP Appendix B Contractor Addendum text for the Assessment requested at the site. This was a Terry Teate (ETS) site that already had an approved QAPP addendum. The text has been revised to reflect ARM's personnel and QA/QC information

Please do not hesitate to give me a call if you have any questions or if further information is required.

Sincerely,

ARM Environmental Services, Inc.

Michael Faris, P.G.

Senior Geologist

Broad River Amoco (BP) Revision Number 2 UST Permit #11948 Date: June 14, 2012

Appendix B: Contractor Addendum

Section A: Project Management A1 Title and Approval Page

Quality Assurance Project Plan Addendum to the SC DHEC UST Programmatic QAPP For Broad River Amoco, UST Permit # 11946

4335 Broad River Road, Columbia, SC – Richland County

Prepared by: Michael Faris
ARM Environmental Services Inc. - SCDHEC Certified Contractor No. 4

Date: June 14, 2012

Approvals			
Arthur Shrader, Hydrogeologist SCDHEC Project Manager	Signature	_Date_	
Andrew Wilson, P.G. Contractor QA Manager	Arben hiel Signature	_Date_	6/15/12
Michael Faris, P.G.	Miland Dams	_Date_	6/15/12
Site Rehabilitation Contractor	Signature Michael A Woodum		6/15/12
Michael Woodrum Laboratory Director	Signature	Date_	A TO

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Attachment B: Standard Operating Procedures (SOP)	
Attachment C: Access Analytical Inc. – Chain of Costody	

A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Arthur Shrader, Hydrogeologist	SCDHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Michael Faris, PG	Site Rehabilitation Contractor	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	mfaris@ armenv.com
Joseph Goings, PG	Field Manager,	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	jgoings@ armenv.com
Andrew Wilson, PG	Project QA Manager	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	awilson@ armenv.com
Michael Woodrum	Laboratory Director	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803 791-9700	803 791-9111	mwoodrum@s healylab.com

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Technical Project Manager	Arthur Shrader, Hydrogeologist	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Site Rehabilitation Contractor	Michael Faris, PG	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	mfaris@ armenv.com
Field Manager	Terry Teate	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	jgoings@ armenv.com
Project QA Manager	Andrew Wilson, PG	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	awilson@ armenv.com
Analytical	Michael	Shealy Environmental	803 791-9700	803 791-9111	mwoodrum@sh

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Laboratory Director	Woodrum	Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172			ealylab.com

Table 2A Addendum Role Identification and Contact Information

Technical Project Manager: The Technical Project Manager (Art Shrader) is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites. The Technical Project Manager performs day-to-day review of plans and reports related to site rehabilitation activities on his or her assigned sites. These reviews include verification and analysis of data laboratories and recommendations for future work. The Technical Project Manager is responsible for the review of and approval of the site-specific QAPPs to ensure compliance with the UST Master QAPP. The Technical Project Manager is also responsible for validating the Project Data.

Site Rehabilitation Contractor: The role of the Contractor (ARM Environmental Services, Inc.) is to manage and coordinate field and office activities in order to complete all phases of the project. This includes, but not limited to, preparation of Quality Assurance Project Plan Contractor Addendum, property access, oversight of field activities, data analysis and interpretation, validating and verifying project data and preparation of a report. ARM is a Class I and Class II site Rehabilitation Contractor.

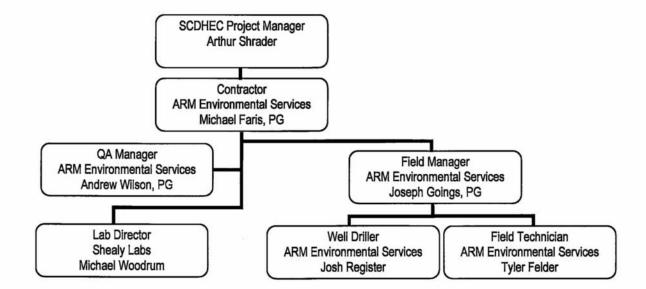
Project QA Manager: The Contractor Quality Assurance Manager is responsible for the oversight of all quality assurance activities associated with this project, including independent review of field data and laboratory analytical data. The QA Manager will resolve any issues when correctitude actions are needed to address data quality issues.

Field Manager: Responsibilities of the Field include, but are not limited to, preparation of field files detailing the project description and necessary task for the field crewman, oversight of field activities conducted by the technician, onsite data collection and decision making, verification of the collected field and laboratory analytical data and report preparation.

Field Technician: The Field Technician will collect groundwater samples for analytical qualitative and quantitative analyses.

Field Staff: The Field Staff will assist the Field Manager with field activities as necessary to complete the project.

Figure 1A: Organizational Chart



A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

From the Richland County Geographic Information System (GIS), a 1939 aerial photograph shows that the subject property was utilized for agriculture and was partially wooded. Broad River Road appears as a two-lane road. Information available through the Richland County Assessors Office indicates that property was owned by B.O. Derrick in 1955 and a 1959 aerial photograph indicates that the property had apparently been developed as a petroleum retail facility. Subsequently, the property was acquired by Associated Oils of South Carolina, Inc. in February 1988, and the previous UST system (B.O. Derrick) was properly closed, as reported to the SCDHEC in 1989. Reportedly, the closure included proper abandonment by removal of one 2,000-gallon UST and one 3,000-gallon UST. Additionally, the property redevelopment activities of 1988 and 1989 reportedly included the demolition of pre-existing structures and construction of the existing store building, dispenser islands and UST system. Subsequently, the property was acquired by Mr. Frederick N. Cecchini in June 1997, and Mr. Cecchini remains the current owner.

Reportedly, no soil samples were collected for analysis at the time of proper abandonment of the previous UST system as reported to SCDHEC in 1989. In December 2010, a Phase II Subsurface Investigation was performed by Partner Engineering and Science, Inc. of El Segundo, California. The Phase II investigation included the installation of four soil borings and a Temporary Monitoring Well Permit (Approval No. 4053) was obtained from the SCDHEC for the purpose of groundwater sample collection. Reportedly, the soil borings extended to terminal depths of 26 feet below land surface (BLS) utilizing direct push penetration technology with continuous soil sample collection. Drilling refusal was encountered in all four soil borings before groundwater was encountered; therefore, no groundwater samples were collectable for laboratory analysis. Eight soil samples (two from each soil boring) were submitted for laboratory analysis for Volatile Organic Compounds (VOC) and Polynuclear Aromatic Hydrocarbons (PAH). The laboratory analytical results indicated the detection of various VOC and PAH chemical compounds at concentrations deemed reportable to the SCDHEC.

An Initial Groundwater Assessment (IGWA) was completed by Enviro-Test Services, Inc. during January, 2011 and an IGWA report was submitted on February 4, 2011. On January 20, 2011, the soil boring for monitoring well MW-1 was installed. The soil sample from the 10 to 15 feet sampling interval yielded the highest PID reading of 1,782 ppm and accordingly was submitted for laboratory analysis for BTEX, MTBE, naphthalene, PAH and lead. Moderately elevated concentrations of toluene, ethylbenzene, xylenes and naphthalene were detected in the soil sample. Saturated sediments were encountered at the depth interval of 35 to 40 feet below grade level (BGL). As such, monitoring well MW-1 was installed to a depth of 40 feet BGL and was screened from 40 to 20 feet BGL. On January 21, 2011, a groundwater sample was collected from monitoring well MW-1 and laboratory analysis for BTEX, naphthalene, MTBE, PAH and lead was performed. The depth to groundwater in monitoring well MW-1 was measured from the top-of-casing to be 20.92 feet. The groundwater sample yielded detected COC concentrations as follows: benzene (929 ug/l), toluene (10,300 ug/l), ethylbenzene (684 ug/l), MTBE (243 ug/l) and naphthalene (922 ug/l). Following review of the IGWA report, the SCDHEC requested a Tier I Assessment in correspondence dated February 7, 2011.

Field activities for the Tier I Assessment were commenced on February 24 and 25, 2011 with the completion of soil borings SB-1 through SB-9. Laboratory analysis of soil samples for BTEX, MTBE and PAH yielded elevated concentrations of benzene and naphthalene above RBSL in soil borings SB-1 (10 ft), SB-2 (5 ft), SB-3 (8 ft) and 5 (6 ft) which were installed proximal to the existing UST basin (SB-1 and SB-2) and product pipeline/dispenser islands (SB-3 and SB-5). Monitoring wells MW-2, MW-3 and MW-4 were completed on February 25, 2011 and were subsequently sampled on March 5, 2011. Laboratory analysis of the groundwater samples yielded concentrations of

Broad River Amoco (BP) Revision Number 2 UST Permit #11946 Date: June 14, 2012

benzene as follows: MW-1 (1,760 ug/l), MW-2 (1,650 ug/l), MW-3 (9.93 ug/l) and MW-4 (1,830 ug/l). Additionally, concentrations of MTBE were also detected in wells MW-2 (3,420 ug/l) and MW-4 (3,100 ug/l). Naphthalene by EPA method 8260 was detected in wells MW-1 (4,070J ug/l), MW-2 (462J ug/l) and MW-4 (598 ug/l). Also, elevated concentrations of toluene were detected in wells MW-1 (16,400 ug/l) and MW-2 (3,230 ug/l) and ethylbenzene in wells MW-1 (1,270 ug/l) and MW-4 (1,270 ug/l). A Tier I Assessment Report was submitted to SCDHEC on April 8, 2011.

Subsequent to review of the Tier I Assessment Report, the Technical Project Manager and Section Manager, as applicable, expressed concern regarding the depth of the screened interval of each monitoring well in relation to the measured groundwater levels due to the fact that none of the monitoring wells were bracketing the water table of the site surficial aquifer. The contention of Enviro-Test Services, Inc. was that during soil boring and monitoring well installations no saturated sediments were encountered until the 35 to 40-ft depth interval of drilling at each well location; therefore, the monitoring wells were installed at depths somewhat deeper than preferable. Also, during drilling activities for installation of monitoring well MW-4, where elevated COC's were later detected in the March 5, 2011 groundwater sample, no petroleum hydrocarbon odors or elevated PID readings were noted to be present in apparent vadose soils; however, upon encountering saturated soils at approximately 35 feet, strong odors and elevated PID readings were readily apparent. Consequently, the Technical Project Manager decided that an additional monitoring well (MW-5) should be installed at a shallower, bracketing depth to determine the availability of groundwater for sample collection in what appeared to be unsaturated, vadose soils. Accordingly, on May 27, 2011 monitoring well MW-5 was installed to a depth of 20 feet, with a 10-ft screen at a location adjacent to the north corner of the existing convenience store building. The infiltration of groundwater was noted to be exceedingly slow; as such, groundwater was allowed to seep into the well casing for several days. On June 3, 2011, the depth to groundwater was measured at 13.80 feet and free product (gasoline) of a degraded appearance was measured at 13.68 feet (a free product thickness of 0.12 feet). Again, on June 20, 2011, depth to the groundwater was measured at 14.05 feet and free product at 13.75 feet (a free product thickness of 0.30 feet). These findings were submitted to the SCDHEC Technical Project Manager on June 20, 2011.

In correspondence dated July 13, 2011, the SCDHEC UST Management Division requested a Tier II Assessment Plan and Cost Agreement for the Broad River Amoco (BP). On behalf of Mr. Fredrick N. Cecchini, a Tier II Assessment Plan and Cost Agreement were submitted on July 22, 2011. Subsequently, in correspondence entitled "QAPP Contractor Addendum Directive for Tier II" (dated January 20, 2012), the SCDHEC UST Management Section requested submittal of this QAPP Contractor Addendum. In conversation with the Technical Project Manager on February 9, 2012, the Project QA Manager was informed that the July 22, 2011 Tier II Assessment Plan remains valid for the purpose of defining the horizontal and vertical extent of contaminant migration at the subject site; however, a revised Cost Agreement, compatible with the SCDHEC document entitled "SUPERB Account Allowable Costs" (dated July 1, 2012) was specifically requested. As such, the July 22, 2012 Tier II Assessment Plan is included I this QAPP Contractor Addendum as Attachment A, as is the revised Cost Agreement.

Please answer the following: Does this project fall under UST or Brownfields area?

This project falls under the UST area of SCDHEC.

A6 Project/Task Description

 Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).

Completion of a Tier II Assessment in order to delineate the horizontal and vertical extent of petroleum hydrocarbon contaminants at the Broad River Amoco (BP).

- 2. The work will begin within 14 days after cost approval and Tier II Assessment sampling should be complete within 120 days of initiation.
- 3. Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.

As indicated in the Tier II Assessment Plan included in Attachment A of this QAPP Contractor Addendum, groundwater field screening will include installation of temporary monitoring wells constructed of 1-inch diameter PVC well screen and casing. The temporary monitoring wells are to be installed in two separate stratified depth zones as follows: Zone 1: terminal depth of approximately 20 feet for field screening of interstitial groundwater, and Zone 2: terminal depth of approximately 40 feet for field screening of groundwater of saturated soils of the site surficial aquifer. The seepage of groundwater into the Zone 1 temporary monitoring wells is expected to be very slow and may require 24 to 48 hours before adequate quantities of groundwater have accumulated for sample collection.

Additionally, permission to access adjacent and/or down-gradient private or public property will most likely be required for groundwater field screening and subsequent permanent monitoring well installation. Also, various subsurface utilities, overhead electrical lines and building structures may inhibit physical access and/or maneuverability for drilling equipment.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

See attached Figures 1 and 2.

The subject site is located in northwest Richland County in Columbia, South Carolina and is situated on the southwest side of Broad River Road, a five-lane local thoroughfare. The site is comprised of approximately 0.85 acres and is currently owned and operated as a petroleum retail facility, convenience store and restaurant (Broad River BP). Currently, the property is improved with a store building of 2,000 square feet. The store building is located toward the rear (southwest) area of the property. Fronting the store building are three product dispensers covered by a canopy. An underground storage tank (UST) basin is located proximal (north) to the dispenser islands. An automobile water and vacuum servicing unit is located adjacent to the northwest property boundary, Dothan Road. The surface of the property is paved primarily with asphalt except over the area of the UST basin and proximal to the dispenser islands where concrete is present. Nearly the entire property is developed on apparent fill material. The property slopes moderately from Broad River Road southwest toward the curbed edge of the asphalt pavement behind the store building. The curbed edge directs rainfall runoff toward a drainage culvert near the west corner of the property and ultimately to a subsurface municipal storm water sewer system beneath Dothan Road. The west corner is the lowest area of the subject property. Just beyond the curbed edge of the asphalt pavement, a chain link fence is situated at the top of an earthen embankment which slopes steeply toward the southwest property line, located parallel to the foot of the embankment.

The subject property is bounded by Broad River Road to the northeast and beyond Broad River Road, a property currently occupied by the South Carolina Law Enforcement Division (SCLED). The adjacent property to the southeast is apparently commercially utilized (Nail and Beauty Salon). The adjacent property to the southwest is commercially utilized as a nursery school and day care (Play Pal Day Care). The Play Pal Day Care facility encompasses two properties fronting Dothan Road. The subject property is bounded to the northwest by Dothan Road and a commercially utilized property beyond (MDC Associates, an apparent mechanical engineering firm). The commercial usage of the subject property and adjacent properties is expected to remain the same in the future.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Lab Manager	Michael Woodrum	NA	NA	Lab Certification	SC32010
Contractor QA Manager	Andrew Wilson, PG	Professional Geologist	5/6/1991	Professional Geologist	805
Contractor	Michael Faris, PG	Professional Geologist	8/27/2004	Professional Geologist	2379
Contractor Field Mgr.	Joseph Goings, PG	Professional Geologist	8/25/2010	Professional Geologist	2530
Well Driller	Josh Register	Certified Well Driller	7/10/2007	Certified Well Driller	1921
Field Technician	Tyler Felder	OSHA 8hr. refresher	11/18/11		

Table 3A Required Training and Licenses

Christy Smith	of _	ARM Environmental Services, Inc.	is responsible to ensuring that
personnel participatir	g in this	project receive the proper training. A	All training records will be stored in the
following location:	secure	digital copy on ARM server, as well as	in personnel files located in locked file
cabinet Server and	file cabir	et are located onsite at ARM office.	- C

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory	Shealy Environmental Services, Inc.
Name of Lab Director	Michael Woodrum
SC DHEC Certification Number	32010

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will (Check all that		t current version of the QAPP Addendum via:	
_x_US Mail	Courier	_xHand delivered	
Other (please sp	pecify):		

		Produced By	Hardcopy/ Storage Location Electronic For how long?		Archival	
Instrument Laboratory Raw Data		Hardcopy Electronic	and	Hardcopy: Offsite 7years Electronic: External hard drive 10 years	Yes	
Lab Report	Labo	oratory	Electronic		External hard drive 10 years	Yes
Field Data and Assessment Report		ronmental ices, Inc.	Hardcopy Electronic	and	Hardcopy: Onsite for 5 years Electronic: Onsite and offsite for 10 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

NOTE: The Tier II Assessment will commence within 14 days of approval of the QAPP Contractor Addendum and is projected to be completed within 120 days (or 17 weeks) of commencement. The date of QAPP approval is unknown, as are the dates of implementation and completion of assessment task components. Also unknown are the assessment component tasks that will be approved or disapproved. Provided below are idealized time estimations for sequential completion of the Tier II Assessment task components based on an arbitrarily selected date of commencement (April 2, 2012). The estimations are based on the assumption that the Tier II Assessment Plan included in Attachment A will be approved as proposed.

Item	Start Date	End Date	Comments
Groundwater Field Screening - Zone 1 Week 1	April 2, 2012	April 8, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 1 Week 2	April 9, 2012	April 15, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph – Mass Spectrometer. Review of GC data. Plan formulation.

Item	Start Date	End Date	Comments
Groundwater Field Screening - Zone 1 Week 3	April 16, 2012	April 22, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph – Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 4	April 23, 2012	April 29, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 5	April 30, 2012	May 6, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph – Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 6	May 7, 2012	May 13, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph – Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening – Vertical Plume Delineation Week 7	May 14, 2012	May 20, 2012	Following groundwater field screening for the delineation of horizontal COC distribution, an indication of vertical COC distribution will be performed as follows: at three locations along the estimated center line of the horizontal COC plume (COC source or sources, plume mid-point and plume leading edge) a cluster of temporary monitoring wells will be installed. At each cluster, groundwater samples will be collected at projected depths of 45, 50 and 55 BLS feet with the installation of 1-inch PVC well screen and riser pipe.
Installation of Monitoring Wells Week 8	May 21, 2012	May 27, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a terminal depth of approximately 20 feet each. Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Monitoring Wells Week 9	May 28, 2012	June 3, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a terminal depth of approximately 20 feet each. Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Monitoring Wells	June 4, 2012	June 10, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a

Item	Start Date	End Date	Comments
Week 10			terminal depth of approximately 20 feet each. Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Deep Monitoring Wells Week 11	June 11, 2012	June 17, 2012	Two (2) deep wells will be installed to a projected terminal depth of approximately 60 feet each. The deep wells will be installed as "telescoping wells" with 6-inch diameter PVC surface casing installed to 50 to 55 feet and 2-inch diameter, PVC well screen and casing to 60 feet. The length of screen for the deep well will be 5 feet.
Groundwater Sample Collection Week 12	June 18, 2012	June 24, 2012	Prior to groundwater sample collection, all newly installed wells will be developed by evacuation of at least three well volumes of groundwater. All existing wells found not to be bracketing interstitial groundwater will be purged prior to sample collection. Wells with measurable free product thicknesses will not be sampled unless otherwise advised by the Technical Project Manager.
Laboratory Analysis of Groundwater Samples Weeks 13 and 14	June 25, 2012	July 8, 2012	Laboratory analysis will be performed by Access Analytical, Inc. and GCAL, a partner and subcontracted laboratory to Access Analytical, Inc.
Aquifer Testing Week 13 or 14	June 25, 2012	July 8, 2012	A day will be scheduled on which aquifer testing will be performed on two monitoring wells, one installed in Zone 1 of interstitial groundwater and one installed in Zone 2 saturated soils.
Comprehensive Survey Week 13 or 14	June 25, 2012	July 8, 2012	A comprehensive survey will be performed and certified by a SC Registered Land Surveyor. The survey will provide a scale base map and elevations for the monitoring well network.
Tier II Report Preparation Weeks 15, 16 and 17.	July 9, 2012	July 30, 2012	A Tier II Assessment report will be prepared and submitted to the Technical Project Manager no later than July 30, 2012.

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

The samples will be (check as many as apply):	Homogenized	Split
Total number of Water samples	36	
Duplicates	2	
Field Blank	2	
Trip Blank	1	
From surface water features	0	
From Drinking/Irrigation water wells	0	
Ground Water from monitoring wells	31	
Soil	0	

If any of the above are circled please indicate how will it be done and the equipment needed.

N/A

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All sampling equipment is disposable with the exception of the ORS Oil/Water Interface Probe, the YSI Dissolved Oxygen (DO) Meter, the Hanna pH/Conductivity Meter and the Martini MI415 Turbidity Meter.

Drilling tools, including solid stem auger, hollow stem auger, drill rod for mud rotary, direct push (GeoprobeTM) drill rod and stainless-steel retractable well screen, are instrumental for soil and groundwater sample collection and for monitoring well installation. Obviously, these items are non-disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

The ORS Oil/Water Interface Probe, the YSI DO Meter and the Hanna ph/Conductivity Meter will be cleaned and decontaminated between each use. Decontamination procedures will consist of: 1) donning a new pair of nitrile gloves, 2) washing of each unit with a soap (AlconoxTM) solution, 3) rinsing with distilled water, 4) rinsing with Isopropanol and 5) a final rinsing with distilled water. Disposable items and used decontamination fluids and materials will be containerized pending proper disposal.

All drilling tools and associated equipment as applicable (including solid stem auger, hollow stem auger, drill rod for mud rotary, GeoprobeTM direct push drill rod and stainless-steel retractable well screens, wrenches, hammers, shovels, mud pans, etc.) will be decontaminated by method of high pressure steam cleaning prior to mobilization to the site. Additionally, all drilling rods and associated equipment as applicable will be decontaminated (high pressure steam cleaning) between each soil boring and/or well installation. Decontamination will proceed as follows: 1) a decontamination pad will be established at a secure area reasonably proximal to drilling locations, 2) the drilling rods and tools as applicable will be decontaminated by steam cleaning under high pressure, 3) decontamination fluids and soil cuttings as applicable will be containerized pending proper disposal.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

A rotary auger drill rig and Geoprobe direct push machine with appropriate down-hole tooling will be needed in order to complete the tasks outlined in this plan. It is anticipated that one of ARM's track-mounted Geoprobe direct push units with a rotary auger attachment will be used to complete the deep field screening and shallow well installation activities at the site. A photoionization detector with a calibration kit will be required in order to conduct field screening of the soil and groundwater onsite. A Mobile B-57 rotary auger rig will be used with mud-rotary equipment for the installation of the telescoping monitoring wells. An ARM steam cleaner will be utilized with a portable decontamination station to clean the auger and mud rotary equipment and to capture the decontamination fluids generated during the cleaning process.

Typical equipment for sampling monitoring wells will be needed. Equipment required: water/product level meter, pH/specific conductivity/temperature meter with spare pH tip and calibration supplies, dissolved oxygen meter with spare DO membranes and calibration supplies, extra batteries for meters, disposable hand bailers, colorless nylon bailer twine, powder free nitrile gloves, pre-labeled sample bottles with preservative(s) appropriate for the required analyses provided by laboratory in insulated cooler, ice, field notebook and permanent pens/markers, field file with necessary maps, historical data, contact info., chain of custody and field data sheets, decontamination supplies as detailed in Appendix H in the *Programmatic QAPP*, *Rev. 1*, 5-gallon plastic buckets, 55-gallon steel drum(s), hand tools and key(s) for entry into well vaults and drums, trash bag(s), metal detector, autolevel with tripod and surveyors rod.

TK Tank Services of Sumter, South Carolina will be utilized as the disposal facility for any contaminated soils generated during this assessment. Development and purge water and/or by products from decontamination generated by ARM during this scope of work will be disposed of at U.S. Water Recovery in Holly Hill, South Carolina.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Failure Response		Individual Responsible
Off-Site Property Access	Notify Technical Project Manager; participate in further negotiations.	Telephone and/or e-mail correspondence to SCDHEC placed in project file.	Field Manager Joseph Goings
Drill Rig Malfunction	Make repairs in field or obtain replacement drilling equipment; Notify Technical Project Manager of any impending delays in project schedule.	Make note of malfunction in Project Field Notes; place in Project File.	SC Certified Well Driller: Josh Register
Destroyed or Lost Monitoring Wells	Notify Technical Project Manager	Document in field log and written report, if necessary.	Field Manager Joseph Goings
Hitting a utility line during drilling.	Halt drilling immediately. Notify appropriate authorities; change drilling location.	Document in field log and written report, if necessary.	Field Manager Joseph Goings
Drilling Refusal	Contact Technical Project Manager on permissibility of completing soil boring or monitoring well at shallower depth; discuss feasibility of installation of a deep well.	Document in field log and written report, if necessary.	SC Certified Well Driller: Josh Register
Groundwater encountered at a shallower depth than expected (this possibility is enhanced at areas of lower surface elevation, often at down-gradient locations)	If deemed prudent, contact Technical Project Manager on permissibility of completing soil boring or monitoring well at shallower depth.	Document in field log and written report, if necessary.	SC Certified Well Driller: Josh Register
Malfunction of ORS Oil/Water Interface Probe	Notify field manager of equipment failure. Clean indicator and/or change batteries in the field. If problem persists, use back-up oil/water interface probe.	Document in field log and written report, if necessary.	Field Manager Joseph Goings Field Staff Tyler Felder

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. How will the samples get from the Site to the Lab to ensure holding requirements are met?

The samples will be maintained on ice in an insulated cooler during collection onsite and during transport. The cooler will be sealed during transport from the site to the ARM office. A laboratory courier will pick up and deliver the samples under chain of custody to the laboratory within less than 24 hours of sample collection.

2. How will the contactors cool the samples and keep the samples cool?

Samples will be packed in natural ice immediately after collection and surrounded by ice at all times until delivery to the laboratory. If samples are to be stored, they will be kept in a temperature controlled refrigerator at 4 degrees C.

3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?

A calibrated thermometer is used to check temperature of sample containers immediately upon arrival at the laboratory.

4. Where will the samples be stored in the Lab once they are received?

All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C + or – 2 degrees. Volatile organic samples are stored separately from all other samples.

 Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.

A chain of custody (COC) will be filled out for each sampling event at each project site. COC to be signed by <u>Contractor Field Technician</u> and <u>Shealy Environmental lab staff</u> at time physical transfer of samples occurs to courier. Shealy uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies, if any exist the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly.

B4 Analytical Methods

1. Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:

Parameter	SOP ID*	Method Referenced	Equipment	Comments
VOC's (BTEX/Napth/MTBE/DCA.)	GCMSV-003 r22	8260B	GC/MS	
Oxygenates	GCMSV-004 r1	8260B	GC/MS	
EDB	GC-034 r6	8011	GC	
Lead	MET-013 r18	6010C	ICP	

Table 7A Analytical SOPs and Referenced Methods

 This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
GCMSV-003	Method 8260B GCMSV-003 r22	STANDARD OPERATING PROCEDURE FOR
		THE ANALYSIS OF VOLATILE MASS SPEC
		SAMPLES
		BY METHOD 8260B
GCMSV-004	Oxygenates GCMSV-004 r1	STANDARD OPERATING PROCEDURE FOR
	10.00	THE ANALYSIS OF OXYGENATES
1000000		BY METHOD 8260B
GC-034	Method 8011 GC-034 r6	STANDARD OPERATING PROCEDURE FOR
		METHOD 8011
ICP Met-010	ICP Met-010 r18	STANDARD OPERATING PROCEDURE FOR
		ANALYSIS OF METALS
		BY ICP

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
Various sample matrix or related failures at laboratory	Corrective Action Initiated (see section 4.7 of lab or QAPP for detailed info)	Non-Conformance / Corrective Action Form kept at lab in controlled logbook	Laboratory QC/QA Manager
Surrogate Failure on Organics Analysis	Corrective Action Initiated, Samples are re-extracted and/or analyzed if surrogate recoveries outside of control limits. Data reported with qualifiers if necessary.	Non-Conformance / Corrective Action Form kept at lab in controlled logbook, LIMS	Analyst, Laboratory QC/QA Manager
Sample Containers Broken During Transit or at Lab	Client Notified via phone or email	Sample Receiving Checklist Form, LIMS	Sample Login Staff, Laboratory Project Manager, Analyst
Holding Time Exceeded	Client Notified via phone or email	Sample Receiving Checklist Form, LIMS	Sample Login Staff, Laboratory Project Manager, Analyst
Positive Hits in Method Blank	Corrective Action Initiated, Samples are re-extracted and/or analyzed if MB has hits above the RL's for compounds being analyzed.	Non-Conformance / Corrective Action Form kept at lab in controlled logbook, LIMS	Analyst, Laboratory QC/QA Manager

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
All	Soil, chemical materials	60 days after analysis the sample custodian will stage completed samples for disposal. The sample custodian will scan all the samples segregated for	55-gallon open top steel drum located in the Satellite Accumulation Area. Labeled according to the characteristics of the waste and the waste stream.	Waste disposal is provided by various DOT certified vendors who come to the facility and label, placard, and manifest the drums

		disposal as "STD" (sent to disposal) using the Horizon LIMS system.	Waste streams are determined by analysis of the waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	according to 49 CFR Part 173 before transporting to their facility.	
All	Water	60 days after analysis the sample custodian will stage completed samples for disposal. The sample custodian will scan all the samples segregated for disposal as "STD" (sent to disposal) using the Horizon LIMS system.	55-gallon tight head poly drum located in the Satellite Accumulation Area. Labeled according to the characteristics and waste stream. Waste streams are determined by analysis of the waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	Waste disposal is provided by various DOT certified vendors who come to the facility and label, placard, and manifest the drums according to 49 CFR Part 173 before transporting to their facility.	

Table 10A Sample Disposal

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Water level / interface probe	ALL	Check battery level & electronics, sensing probe tip and/or prism; and quality of measuring tape / replace/repair as necessary	weekly	Spare batteries and spare sensing probe tip repair kit with tape pigtail located inside metal cabinet in sample equipment room at ARM office	Michael Faris, P.G.
Photolonization Detector	ALL	Check battery, electronics, lamp, internal pump, hydrophobic water trap, and probe tip	Periodic – according to manufact. specs	Spare water traps and probe tip located inside metal cabinet in sample equipment room at ARM office	Joseph Goings, P.G.
DO meter	ALL	Check DO membrane / replace if necessary	Periodic – according	Inside metal cabinet in sample equipment	Tyler Felder – Shop Maintenance (ARM)

		75,245			
			to manufact. specs	room at ARM office	
pH / specific conductivity / temperature meter	ALL	Clean and check pH bulb and spec. conductivity probe for wear / replace if necessary	Periodic – according to manufact. specs	Inside metal cabinet in sample equipment room at ARM office	Tyler Felder – Shop Maintenance (ARM)
Turbidity meter ALL Clean and ch		Clean and check cuvets for wear, replace if necessary	Periodic – according to manufact. specs	.Inside metal cabinet in sample equipment room at ARM office	Tyler Felder – Shop Maintenance (ARM)
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Mass Spec ma		Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
maintenance,		Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	ALL	Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
Cr		Clean Sample introduction system, auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Leeman Mercury ALL Clean GLS, Change Pump tubing, Nafion Dryer, Lamp		Periodic	Laboratory	Mercury Analyst	
Flow Injection Analysis – Lachat 8000	ALL	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-

inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this.

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies Recalibration or instrument maintenance	
Photolonization detector	Daily check for proper function of battery, electronics, and calibration	According to manufacturer's specifications	Field Technician		
Water level / interface probe	Daily check for proper function of battery, electronics, measuring tape, and sensing probe tip/prism According to manufacturer's specifications		Field Technician	Replace or repair component(s) if found faulty or damaged	
DO meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance	
pH / specific conductivity / temperature meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance	
Turbidity Meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance	
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance	
Semi-volatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance	
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance	
Dionex IC	Daily calibration check	Method Requirements	Nitrate Analyst	Recalibration or instrument maintenance	
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance	
Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies	
Leeman Mercury Analyzer	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance	
Flow Injection Analysis – Lachat 8000	Daily and continuing calibration check	See calibration criteria	INM Analyst	Recalibration or instrument	

		maintenance

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

- 1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
- Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
- Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Photolonization detector	Zero with zero gas, calibrate with known span gas, adjust response factor to site conditions when appropriate	Daily calibration	Within 10% of standards	Recalibration or instrument maintenance	Field Technician, PM if necessary	
Water level / interface probe	The tape will be compared against an invar steel surveyors chain	Per manufacturers specifications (Solinst / Heron)	0.01 feet per 10 feet of tape length	Replace tape if not within acceptance criteria	Michael Faris, P.G.	Sampling SOP
DO meter	Enter elevation and expected salinity for geographic area, then calibrate to DO standard	Daily calibration	Within 5% of DO standard	Recalibration or instrument maintenance	Field Technician, PM if necessary	Sampling SOP

Instrument	Calibration	Frequency of	Acceptance	Corrective Action	Person	SOP
	Procedure	Calibration	Criteria	(CA)	Responsible for CA	Reference*
pH / specific conductivity / temperature meter	Immerse pH probe in singles packets of pH 4.0, 7.0, 10.0, with rinses in between	Daily calibration	Pass / fail according to automatic meter calibration	Recalibration or instrument maintenance	Field Technician, PM if necessary	Sampling SOP
Turbidity meter	Place standard (<0.1, 15, 100 NTU) in cuvet and measure	Daily calibration	Within 10% of each standard	Recalibration or instrument maintenance	Field Technician, PM if necessary	Sampling SOP
Volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
Semi-volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-SV-021
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
Dionex IC	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
Cetac Mercury Analyzer	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-IM-006
Lacaht QuickChem 8000	Minimum of 5 calibration standards	Daily or when indicated by calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042

Table 13A Instrument Calibration Criteria and Corrective Action

^{*} This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

- 1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
- 2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Nitrile gloves	ECT	Each box of gloves is sealed in	Metal cabinet in	Joseph Goings - ARM
	Manufacturing	non-damaged sipping box,	sample equipment	
		Certificate of analysis	room at ARM office	
Disposable hand	Pine	Each bailer individually sealed	In box in sample	Michael Faris - ARM
bailers	Environmental	in plastic bag in non-damaged	equipment room at	
		box	ARM office	
Bailer twine rolls	Pine	Each roll individually sealed in	Metal cabinet in	Michael Faris - ARM
	Environmental	plastic bag in non-damaged	sample equipment	
		box	room at ARM office	
Photolonization	Pine	Each canister sealed with	Metal cabinet in	Michael Faris - ARM
Standards	Environmental	certificate of analysis	sample equipment	
			room at ARM office	
Sample meter	Lab Safety Supply,	Each fluid in individually sealed	Metal cabinet in	Michael Faris - ARM
calibration fluids	Ben Meadows	bottle or bag in undamaged	sample equipment	(100 to 100 to 1
(standards)		box, certificates of analysis	room at ARM office	1 045371800 IRASAAAAA
Sample meter	Lab Safety Supply,	Each component in sealed	Metal cabinet in	Michael Faris - ARM
spare parts	Fondriest	container in undamaged box	sample equipment	
			room at ARM office	
Decontamination	Smith and Jones	Unopened, unused, labeled	In boxes in shop at	Yerin Flores - ARM
Fluids (DI water,	Dist. Co.	bottles in labeled boxes picked	ARM office	
Isopropanol)	VISS 4074111 40740412	up locally, certificates of	2330 VALLE & FIRST	
	10-28-01-10-1-28-01-10-10-10-10-10-10-10-10-10-10-10-10-	analysis		5
Laboratory-grade	Lab Safety Supply	Individually sealed single use	In boxes in shop at	Yerin Flores - ARM
non-phosphate		containers in undamaged	ARM office	
soap		shipping box		
Laboratory	Fisher,VWR	Certificates of analysis and	Laboratory storage	Receiving and laboratory
Chemicals		laboratory testing		personnel
Laboratory	O2Si, Restek,	Certificates of analysis and	Vendor specific	Laboratory Analysts
standards	High Purity, VHG,	laboratory verifications	storage conditions	ALC: IS
	Supelco			
Sample	Daniels Scientific,	Certificates of analysis and	Bottle storage area	Sample receiving personne
Containers	QEC	laboratory testing		

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

- Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
- Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
- 3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Richland County GIS	Identifying adjacent property owners, property boundaries, subsurface municipal utilities, etc.	Facilitate access to adjacent properties, history of usage and/or ownership of the subject property and adjacent properties.	This website also provides detailed topographic maps and information regarding stormwater runoff.
Phase II Subsurface Investigation Report, Broad River BP, Partner Engineering and Science, Inc., El Segundo, California, December, 2010	Preliminary information concerning soil quality and groundwater occurrence	The laboratory analytical results from the Phase II subsurface investigation were reported to the SCDHEC as an apparent release (January 4, 2011).	A copy of the report was provided to ARM by Mr. Fredrick N. Cecchini.

Table 15A Non-Direct Measurements

 Identify key resources/support facilities needed. Not applicable to this scope of work.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

As generated by the Environmental Rehabilitation Contractor (ARM Environmental Services, Inc.) in completing Tier II Assessment component tasks, field notes and logs will be stored in hardback bound field books and/or on 8 ½ x 11" field data sheets. Field data sheets are signed by staff upon completion of daily work. Copies of field notes and driller 1903 forms are provided on a daily basis and placed in the project file. Field boring logs are kept on a backed-up digital library.

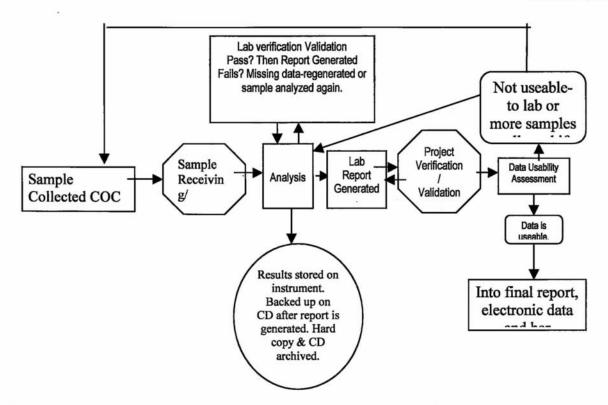


Figure 5: Laboratory Data Management Scheme (Source: Sample QAPP, South Carolina Department of Health and Environmental Control, March 21, 2001)

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

Copies of field notes and boring logs are reviewed by the Field Manager and placed in the project file. Additionally, field notes/logs are scanned, password secured, and placed into the digital project file. Original data sheets will also be kept by the field staff in field notebooks/folders for a minimum of three years.

All data is recorded in bound books and/or by instrument printout. If data is recorded by hand, it must be done in ink. It is inappropriate to have pencils, erasers, or correction fluid at the bench. Data is kept either as a hardcopy, electronically, or both. All data must be protected by the use of audit trails, passwords, and controlled logbooks. If changes or corrections are necessary, it must be performed in a way that maintains the integrity of the data. Changes must be initialed and dated and corrections made using a single line strikeout. If the record does not allow space to clearly show the change, write it in the comments or at the bottom of the page. If electronic files must be changed, the file must be renamed so original information is not lost. If an entire batch of data must be reprocessed all files must be renamed. Reasons for doing so must be written in the comments and/or fully documented using a correction form. At no time shall data be obliterated for any reasons.

How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted.

All data reported includes three levels of data review including calculations used to generate the reported analytical results. This review is performed by the analyst performing the test, the supervisor, and report

generation manager or designee. Data reduction includes all activities that convert instrument/computer responses into reportable results. Manually entered information is reviewed for accuracy in the LIMS and in the signed copy of the client report.

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Hard copies of final reports are contained in the specific folder in ARM's file library. Additionally, each report is converted to digital format and stored in its applicable digital folder. Hard copy storage will be for a minimum of three years. Digital storage will be indefinite. Digital data is backed-up on a weekly basis on a four month rolling schedule. For security purposes current week data is stored at an off-site location.

The laboratory will retain all records related to sample analysis including raw test data, calculations, derived data, calibrations and copies of test reports including chain of custodies. These records are archived in accordance with regulatory requirements for a minimum of ten years or as required by specific client contracts. Software/hardware permitting the access of electronic data must be maintained. The copy of client reports is stored in a room requiring key-card access. All reports must be signed out using the archived reports logbook. Client reports and chain of custodies are also scanned for electronic storage. Written and printed data records (bench sheets, logbooks, electronic printouts, etc.) are scanned before being boxed and placed in storage. Electronic data is stored on a dedicated server, which is backed-up daily. The safety officer keeps safety and disposal information. Archived data is stored on-site until capacity is met. The oldest archived data is then moved to a secure storage facility. The storage and on-site facility are monitored and protected from fire and theft. Electronic data storage is free from magnetic sources. It is the goal of the lab to have redundant copies (hard and electronic) to prevent loss of records due to being misplaced or environmental deterioration or catastrophe.

Section C Assessment and Oversight C1 Assessment and Response Actions

1. The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?

Either Michael Faris, PG – Senior Geologist (ARM Project Manager), or Joseph Goings, PG – Staff Geologist (Field Manager) will be responsible for observing field personnel on a daily basis depending on the week's schedule. Each of these ARM employees has the authority to stop the work if significant problems are observed.

2. The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit?

The laboratory submits annual Proficiency Testing (PT) samples to Wibby Environmental. Wibby is an approved vendor that submits PT results to the office of environmental laboratory certification. The laboratory director has the authority to stop work and submit Corrective Actions if problems are severe.

Broad River Amoco (BP) Revision Number 2 UST Permit #11946 Date: June 14, 2012

C2 Reports to Management
See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Please Return to:

Arthur Shrader

Assessment Section, UST Division

2600 Bull Street

Columbia, SC 29201

JAN 1 9 2011

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORM SHEET 1. CONTRACTOR OF CHOICE As the UST Owner/Operator of the UST Permit#11946. I would like to use the contractor or person below and request that they represent me for: Name of Contractor/Person(s) Address Telephone Number Certification # Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor. indicate if the person listed is your own employee ** if you would like the contractor to perform all future assessment activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter. 2. FINANCIAL OR FAMILIAL RELATIONSHIP Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? Yes No. (please initial) Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity. Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancée. 3. PAYMENT The first \$25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment. For eligible costs exceeding the \$25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one) For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor. For eligible costs exceeding the deductible, I request that payment be made directly to the contractor. (Note: all costs must receive prior financial approval from the Department regardless of payment option.) Underground Storage Tank Owner/Operator Signature

Date Signed



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

JUN 2 2 2012

FREDRICK N CECCHINI BROAD RIVER AMOCO 4335 BROAD RIVER ROAD COLUMBIA SC 29210-4009 20 tech

Re: Revised Tier II Directive

Broad River Amoco, 4335 Broad River Road, Columbia, SC UST Permit # 11946; CA # 42065; MWA # UMW-24502

Release reported January 4, 2011 Tier I Report received April 11, 2011

Monitoring Well Installation Report received June 21, 2011

OAPP Contractor Addendum received February 21, 2012 and Revision received

March 15, 2012 by EnviroTest

Tier II Directive dated May 21, 2012

QAPP Contractor Addendum by ARM received June 20, 2012

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the referenced UST Quality Assurance Program Plan (QAPP) submitted by ARM Environmental Services. Assessment activities at the site should be conducted in accordance with the SCDHEC QAPP for the UST Management Division. A copy of SCDHEC QAPP for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/html/ust.htm.

Tier II Directive dated May 21, 2012 is still applicable for definition of the free phase product as well as the horizontal and vertical extent of petroleum Chemicals of Concern (CoC). A **Tier II Report is due on or before October 5, 2012.** The referenced QAPP by ARM is approved and a signed Title and Approval Page is enclosed. The monitoring well approval has been revised for ARM Environmental Services, and a copy is enclosed for your records.

Please note that in accordance with R.61-92, Subpart H, Section 280.114, you are required to notify the Division by certified mail within ten (10) days of commencing a voluntary or involuntary proceeding in bankruptcy. State law also requires that an owner/operator or guarantor that files for bankruptcy protection must immediately submit appropriate forms documenting that entity's ability to demonstrate financial responsibility.

Mr. Cecchini Page 2

Please reference UST Permit number 11946 on all correspondence. If you have any questions, please contact me by phone at (803) 896-6669, by fax at (803) 896-6245, or by email at shradeaa@dhec.sc.gov.

Sincerely,

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Monitoring Well Approval (MWA)

Signed Site Specific QAPP Contractor Addendum

cc: ARM Environmental Services, Inc. PO Box PO Box 50285, Columbia, SC 29250 (with

enc.)

Enviro-Test Services, PO Box 2237, Irmo, SC 29063 (with enc.)

Technical File (with enc.)





TRANSMITTAL COVER SHEET

TO: Arthur Shrader, Hydrogeologist

COMPANY / AGENCY: UST Program / Bureau of Land and Waste

Management

FROM: Michael Faris

RE: Broad River Amoco; UST Permit #11946

QAPP Appendix B, Revision 3

DATE: November 28, 2012

TRANSMITTAL VIA: ✓ Standard US Mail Priority US Mail

___ Overnight Courier ___ Hand Delivery

COMMENTS:

Enclosed you will find the revised QAPP Appendix B Contractor Addendum text for the Assessment requested at the site. The text has been revised to reflect the use of Access Analytical as the laboratory instead of Shealy Environmental.

Please do not hesitate to give me a call if you have any questions or if further information is required.

Sincerely, ARM Environmental Services, Inc.

Michael Faris, P.G. Senior Geologist

Section A: Project Management A1 Title and Approval Page

Quality Assurance Project Plan Addendum to the SC DHEC UST Programmatic QAPP For Broad River Amoco, UST Permit # 11946

4335 Broad River Road, Columbia, SC – Richland County

Prepared by: Michael Faris
ARM Environmental Services Inc. - SCDHEC Certified Contractor No. 4

Date: November 28, 2012

<u>Approvals</u>	•	
Arthur Shrader, Hydrogeologist SCDHEC Project Manager	Signature	_ Date
Andrew Wilson, P.G. Contractor QA Manager	A her hul Signature	Date 1/29/12
Michael Faris, P.G. Site Rehabilitation Contractor	Signature	Date1/28/12
Ashley B. Amick Laboratory Director, Access Ana	lytical, Inc. Signature	_Date11/29/12
Scott Bailey Laboratory Director, GCAL	Brenda Martinez Wed Nov 28 2012 16:19:42 Signature	11/28/12 _Date
Laboratory Director, GCAL	Signature	

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Attachment A: Access Analytical, Inc. - Chain of Custody

A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Arthur Shrader, Hydrogeologist	SCDHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Michael Faris, PG	Site Rehabilitation Contractor	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	mfaris@ armenv.com
Joseph Goings, PG	Field Manager,	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	jgoings@ armenv.com
Andrew Wilson, PG	Project QA Manager	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	awilson@ armenv.com
Ashley B. Amick	Laboratory Director, Access	Access Analytical, Inc. 7478 Carlisle St. Irmo, SC 29063	803 781-4243	803 781-4303	aamick@axs- inc.com
Scott Bailey	Laboratory Director, GCAL	GCAL 7979 GSRI Rd. Baton Rouge, LA 70820	225 769-4900	225 767-5717	scott.bailey@g cal.com

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Technical Project Manager	Arthur Shrader, Hydrogeologist	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6669	803-896-6245	shradeaa@ dhec.sc.gov
Site Rehabilitation Contractor	Michael Faris, PG	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	mfaris@ armenv.com
Field Manager	Joseph Goings, PG	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	jgoings@ armenv.com
Project QA Manager	Andrew Wilson, PG	ARM Environmental Services, Inc. P.O. Box 50285 Columbia, SC 29250	803 783-3314	803 783-2587	awilson@ armenv.com
Analytical	Ashley B. Amick	Access Analytical, Inc.	803 781-4243	803-781-4303	aamick@axs-

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Laboratory Director		7478 Carlisle St. Irmo, SC 29063			inc.com

Table 2A Addendum Role Identification and Contact Information

Technical Project Manager: The Technical Project Manager (Art Shrader) is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites. The Technical Project Manager performs day-to-day review of plans and reports related to site rehabilitation activities on his or her assigned sites. These reviews include verification and analysis of data laboratories and recommendations for future work. The Technical Project Manager is responsible for the review of and approval of the site-specific QAPPs to ensure compliance with the UST Master QAPP. The Technical Project Manager is also responsible for validating the Project Data.

Site Rehabilitation Contractor: The role of the Contractor (ARM Environmental Services, Inc.) is to manage and coordinate field and office activities in order to complete all phases of the project. This includes, but not limited to, preparation of Quality Assurance Project Plan Contractor Addendum, property access, oversight of field activities, data analysis and interpretation, validating and verifying project data and preparation of a report. ARM is a Class I and Class II site Rehabilitation Contractor.

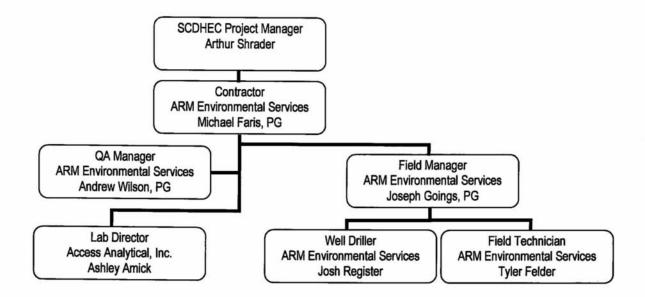
Project QA Manager: The Contractor Quality Assurance Manager is responsible for the oversight of all quality assurance activities associated with this project, including independent review of field data and laboratory analytical data. The QA Manager will resolve any issues when correctitude actions are needed to address data quality issues.

Field Manager: Responsibilities of the Field include, but are not limited to, preparation of field files detailing the project description and necessary task for the field crewman, oversight of field activities conducted by the technician, onsite data collection and decision making, verification of the collected field and laboratory analytical data and report preparation.

Field Technician: The Field Technician will collect groundwater samples for analytical qualitative and quantitative analyses.

Field Staff: The Field Staff will assist the Field Manager with field activities as necessary to complete the project.

Figure 1A: Organizational Chart



A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

From the Richland County Geographic Information System (GIS), a 1939 aerial photograph shows that the subject property was utilized for agriculture and was partially wooded. Broad River Road appears as a two-lane road. Information available through the Richland County Assessors Office indicates that property was owned by B.O. Derrick in 1955 and a 1959 aerial photograph indicates that the property had apparently been developed as a petroleum retail facility. Subsequently, the property was acquired by Associated Oils of South Carolina, Inc. in February 1988, and the previous UST system (B.O. Derrick) was properly closed, as reported to the SCDHEC in 1989. Reportedly, the closure included proper abandonment by removal of one 2,000-gallon UST and one 3,000-gallon UST. Additionally, the property redevelopment activities of 1988 and 1989 reportedly included the demolition of pre-existing structures and construction of the existing store building, dispenser islands and UST system. Subsequently, the property was acquired by Mr. Frederick N. Cecchini in June 1997, and Mr. Cecchini remains the current owner.

Reportedly, no soil samples were collected for analysis at the time of proper abandonment of the previous UST system as reported to SCDHEC in 1989. In December 2010, a Phase II Subsurface Investigation was performed by Partner Engineering and Science, Inc. of El Segundo, California. The Phase II investigation included the installation of four soil borings and a Temporary Monitoring Well Permit (Approval No. 4053) was obtained from the SCDHEC for the purpose of groundwater sample collection. Reportedly, the soil borings extended to terminal depths of 26 feet below land surface (BLS) utilizing direct push penetration technology with continuous soil sample collection. Drilling refusal was encountered in all four soil borings before groundwater was encountered; therefore, no groundwater samples were collectable for laboratory analysis. Eight soil samples (two from each soil boring) were submitted for laboratory analysis for Volatile Organic Compounds (VOC) and Polynuclear Aromatic Hydrocarbons (PAH). The laboratory analytical results indicated the detection of various VOC and PAH chemical compounds at concentrations deemed reportable to the SCDHEC.

An Initial Groundwater Assessment (IGWA) was completed by Enviro-Test Services, Inc. during January, 2011 and an IGWA report was submitted on February 4, 2011. On January 20, 2011, the soil boring for monitoring well MW-1 was installed. The soil sample from the 10 to 15 feet sampling interval yielded the highest PID reading of 1,782 ppm and accordingly was submitted for laboratory analysis for BTEX, MTBE, naphthalene, PAH and lead. Moderately elevated concentrations of toluene, ethylbenzene, xylenes and naphthalene were detected in the soil sample. Saturated sediments were encountered at the depth interval of 35 to 40 feet below grade level (BGL). As such, monitoring well MW-1 was installed to a depth of 40 feet BGL and was screened from 40 to 20 feet BGL. On January 21, 2011, a groundwater sample was collected from monitoring well MW-1 and laboratory analysis for BTEX, naphthalene, MTBE, PAH and lead was performed. The depth to groundwater in monitoring well MW-1 was measured from the top-of-casing to be 20.92 feet. The groundwater sample yielded detected COC concentrations as follows: benzene (929 ug/l), toluene (10,300 ug/l), ethylbenzene (684 ug/l), MTBE (243 ug/l) and naphthalene (922 ug/l). Following review of the IGWA report, the SCDHEC requested a Tier I Assessment in correspondence dated February 7, 2011.

Field activities for the Tier I Assessment were commenced on February 24 and 25, 2011 with the completion of soil borings SB-1 through SB-9. Laboratory analysis of soil samples for BTEX, MTBE and PAH yielded elevated concentrations of benzene and naphthalene above RBSL in soil borings SB-1 (10 ft), SB-2 (5 ft), SB-3 (8 ft) and 5 (6 ft) which were installed proximal to the existing UST basin (SB-1 and SB-2) and product pipeline/dispenser islands (SB-3 and SB-5). Monitoring wells MW-2, MW-3 and MW-4 were completed on February 25, 2011 and were subsequently sampled on March 5, 2011. Laboratory analysis of the groundwater samples yielded concentrations of

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benzene as follows: MW-1 (1,760 ug/l), MW-2 (1,650 ug/l), MW-3 (9.93 ug/l) and MW-4 (1,830 ug/l). Additionally, concentrations of MTBE were also detected in wells MW-2 (3,420 ug/l) and MW-4 (3,100 ug/l). Naphthalene by EPA method 8260 was detected in wells MW-1 (4,070J ug/l), MW-2 (462J ug/l) and MW-4 (598 ug/l). Also, elevated concentrations of toluene were detected in wells MW-1 (16,400 ug/l) and MW-2 (3,230 ug/l) and ethylbenzene in wells MW-1 (1,270 ug/l) and MW-4 (1,270 ug/l). A Tier I Assessment Report was submitted to SCDHEC on April 8, 2011.

Subsequent to review of the Tier I Assessment Report, the Technical Project Manager and Section Manager, as applicable, expressed concern regarding the depth of the screened interval of each monitoring well in relation to the measured groundwater levels due to the fact that none of the monitoring wells were bracketing the water table of the site surficial aquifer. The contention of Enviro-Test Services, Inc. was that during soil boring and monitoring well installations no saturated sediments were encountered until the 35 to 40-ft depth interval of drilling at each well location; therefore, the monitoring wells were installed at depths somewhat deeper than preferable. Also, during drilling activities for installation of monitoring well MW-4, where elevated COC's were later detected in the March 5, 2011 groundwater sample, no petroleum hydrocarbon odors or elevated PID readings were noted to be present in apparent vadose soils; however, upon encountering saturated soils at approximately 35 feet, strong odors and elevated PID readings were readily apparent. Consequently, the Technical Project Manager decided that an additional monitoring well (MW-5) should be installed at a shallower, bracketing depth to determine the availability of groundwater for sample collection in what appeared to be unsaturated, vadose soils. Accordingly, on May 27, 2011 monitoring well MW-5 was installed to a depth of 20 feet, with a 10-ft screen at a location adjacent to the north corner of the existing convenience store building. The infiltration of groundwater was noted to be exceedingly slow; as such, groundwater was allowed to seep into the well casing for several days. On June 3, 2011, the depth to groundwater was measured at 13.80 feet and free product (gasoline) of a degraded appearance was measured at 13.68 feet (a free product thickness of 0.12 feet). Again, on June 20, 2011, depth to the groundwater was measured at 14.05 feet and free product at 13.75 feet (a free product thickness of 0.30 feet). These findings were submitted to the SCDHEC Technical Project Manager on June 20, 2011.

In correspondence dated July 13, 2011, the SCDHEC UST Management Division requested a Tier II Assessment Plan and Cost Agreement for the Broad River Amoco (BP). On behalf of Mr. Fredrick N. Cecchini, a Tier II Assessment Plan and Cost Agreement were submitted on July 22, 2011. Subsequently, in correspondence entitled "QAPP Contractor Addendum Directive for Tier II" (dated January 20, 2012), the SCDHEC UST Management Section requested submittal of this QAPP Contractor Addendum. In conversation with the Technical Project Manager on February 9, 2012, the Project QA Manager was informed that the July 22, 2011 Tier II Assessment Plan remains valid for the purpose of defining the horizontal and vertical extent of contaminant migration at the subject site; however, a revised Cost Agreement, compatible with the SCDHEC document entitled "SUPERB Account Allowable Costs" (dated July 1, 2012) was specifically requested. As such, the July 22, 2012 Tier II Assessment Plan is included I this QAPP Contractor Addendum as Attachment A, as is the revised Cost Agreement.

Please answer the following: Does this project fall under UST or Brownfields area?

This project falls under the UST area of SCDHEC.

A6 Project/Task Description

 Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).

Completion of a Tier II Assessment in order to delineate the horizontal and vertical extent of petroleum hydrocarbon contaminants at the Broad River Amoco (BP).

- 2. The work will begin within 14 days after cost approval and Tier II Assessment sampling should be complete within 120 days of initiation.
- 3. Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.

As indicated in the Tier II Assessment Plan included in Attachment A of this QAPP Contractor Addendum, groundwater field screening will include installation of temporary monitoring wells constructed of 1-inch diameter PVC well screen and casing. The temporary monitoring wells are to be installed in two separate stratified depth zones as follows: Zone 1: terminal depth of approximately 20 feet for field screening of interstitial groundwater, and Zone 2: terminal depth of approximately 40 feet for field screening of groundwater of saturated soils of the site surficial aquifer. The seepage of groundwater into the Zone 1 temporary monitoring wells is expected to be very slow and may require 24 to 48 hours before adequate quantities of groundwater have accumulated for sample collection.

Additionally, permission to access adjacent and/or down-gradient private or public property will most likely be required for groundwater field screening and subsequent permanent monitoring well installation. Also, various subsurface utilities, overhead electrical lines and building structures may inhibit physical access and/or maneuverability for drilling equipment.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

See attached Figures 1 and 2.

The subject site is located in northwest Richland County in Columbia. South Carolina and is situated on the southwest side of Broad River Road, a five-lane local thoroughfare. The site is comprised of approximately 0.85 acres and is currently owned and operated as a petroleum retail facility, convenience store and restaurant (Broad River BP). Currently, the property is improved with a store building of 2,000 square feet. The store building is located toward the rear (southwest) area of the property. Fronting the store building are three product dispensers covered by a canopy. An underground storage tank (UST) basin is located proximal (north) to the dispenser islands. An automobile water and vacuum servicing unit is located adjacent to the northwest property boundary, Dothan Road. The surface of the property is paved primarily with asphalt except over the area of the UST basin and proximal to the dispenser islands where concrete is present. Nearly the entire property is developed on apparent fill material. The property slopes moderately from Broad River Road southwest toward the curbed edge of the asphalt pavement behind the store building. The curbed edge directs rainfall runoff toward a drainage culvert near the west comer of the property and ultimately to a subsurface municipal storm water sewer system beneath Dothan Road. The west corner is the lowest area of the subject property. Just beyond the curbed edge of the asphalt pavement, a chain link fence is situated at the top of an earthen embankment which slopes steeply toward the southwest property line, located parallel to the foot of the embankment.

The subject property is bounded by Broad River Road to the northeast and beyond Broad River Road, a property currently occupied by the South Carolina Law Enforcement Division (SCLED). The adjacent property to the southeast is apparently commercially utilized (Nail and Beauty Salon). The adjacent property to the southwest is commercially utilized as a nursery school and day care (Play Pal Day Care). The Play Pal Day Care facility encompasses two properties fronting Dothan Road. The subject property is bounded to the northwest by Dothan Road and a commercially utilized property beyond (MDC Associates, an apparent mechanical engineering firm). The commercial usage of the subject property and adjacent properties is expected to remain the same in the future.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Lab Director, Access	Ashley B. Amick	BS – Biology	05-1991	SCDHEC Certified Lab	32575001
Lab Director, GCAL	Scott Bailey	BS – Environmental Health	12-1991	SCDHEC Certified Lab	73006001
Contractor QA Manager	Andrew Wilson, PG	Professional Geologist	5/6/1991	Professional Geologist	805
Contractor	Michael Faris, PG	Professional Geologist	8/27/2004	Professional Geologist	2379
Contractor Field Mgr.	Joseph Goings, PG	Professional Geologist	8/25/2010	Professional Geologist	2530
Well Driller	Josh Register	Certified Well Driller	7/10/2007	Certified Well Driller	1921
Field Technician	Tyler Felder	OSHA 8hr. refresher	11/18/11		

Table 3A Required Training and Licenses

Christy Smith	of	ARM Environmental Services, Inc.	is responsible to ensuring that
personnel participat	ing in this	project receive the proper training.	All training records will be stored in the
following location:_	secure d	igital copy on ARM server, as well a	is in personnel files located in locked file
cabinet. Server and	file cabine	et are located onsite at ARM office.	

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory	Access Analytical, Inc.	
Name of Lab Director	Ashley B. Amick	
SC DHEC Certification Number_	32575001	21.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.

Parameters this Lab will analyze for this project:

N/A (field parameters if required)

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Full Name of the Laboratory	GCAL (Note: partner / sub lab for Access)
Name of Lab Director	Scott Bailey
SC DHEC Certification Number	73006001
Please note: SC DHEC may requir as part of this QAPP.	e that the contractor submit some or all of the Laboratory's SOPs
A9 Documents and Records	
Personnel will receive the most cu (Check all that apply)	rrent version of the QAPP Addendum via:
xUS MailCourierx	XHand delivered
Other (please specify):	<u> </u>

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival	
Instrument Raw Data	Laboratory	Hardcopy and Electronic	Hardcopy: Offsite 7years Electronic: External hard drive 10 years	Yes	
Lab Report	Laboratory	Electronic	External hard drive 10 years	Yes	
Field Data and Assessment Report	ARM Environmental Services, Inc.	Hardcopy and Electronic	Hardcopy: Onsite for 5 years Electronic: Onsite and offsite for 10 years	Yes	

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

NOTE: The Tier II Assessment will commence within 14 days of approval of the QAPP Contractor Addendum and is projected to be completed within 120 days (or 17 weeks) of commencement. The date of QAPP approval is unknown, as are the dates of implementation and completion of assessment task components. Also unknown are the assessment component tasks that will be approved or disapproved. Provided below are idealized time estimations for sequential completion of the Tier II Assessment task components based on an arbitrarily selected date of commencement (April 2, 2012). The estimations are based on the assumption that the Tier II Assessment Plan included in Attachment A will be approved as proposed.

Item	Start Date	End Date	Comments
Groundwater Field Screening - Zone 1 Week 1	April 2, 2012	April 8, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph – Mass

Item	Start Date	End Date	Comments
			Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 1 Week 2	April 9, 2012	April 15, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 1 Week 3	April 16, 2012	April 22, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 20 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 4	April 23, 2012	April 29, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 5	April 30, 2012	May 6, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening - Zone 2 Week 6	May 7, 2012	May 13, 2012	Ten (10) 1-inch diameter, PVC well screen and casing points will be installed to 40 feet each. Sufficient time will be allowed for groundwater infiltration into each well. A groundwater sample will be collected for analysis by Gas Chromatograph — Mass Spectrometer. Review of GC data. Plan formulation.
Groundwater Field Screening – Vertical Plume Delineation Week 7	May 14, 2012	May 20, 2012	Following groundwater field screening for the delineation of horizontal COC distribution, an indication of vertical COC distribution will be performed as follows: at three locations along the estimated center line of the horizontal COC plume (COC source or sources, plume mid-point and plume leading edge) a cluster of temporary monitoring wells will be installed. At each cluster, groundwater samples will be collected at projected depths of 45, 50 and 55 BLS feet with the installation of 1-inch PVC well screen and riser pipe.
Installation of Monitoring Wells Week 8	May 21, 2012	May 27, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a terminal depth of approximately 20 feet each. Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Monitoring Wells Week 9	May 28, 2012	June 3, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a terminal depth of approximately 20 feet each.

ltem	Start Date	End Date	Comments
			Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Monitoring Wells Week 10	June 4, 2012	June 10, 2012	Eight (8) permanent monitoring wells will be installed. Monitoring wells installed within Zone 1 will be designed to bracket interstitial groundwater with a terminal depth of approximately 20 feet each. Monitoring wells installed into saturated soils of Zone 2 will be installed to a terminal depth of approximately 40 feet each. All wells will be constructed on 2-inch diameter PVC well screen and casing.
Installation of Deep Monitoring Wells Week 11	June 11, 2012	June 17, 2012	Two (2) deep wells will be installed to a projected terminal depth of approximately 60 feet each. The deep wells will be installed as "telescoping wells" with 6-inch diameter PVC surface casing installed to 50 to 55 feet and 2-inch diameter, PVC well screen and casing to 60 feet. The length of screen for the deep well will be 5 feet.
Groundwater Sample Collection Week 12	June 18, 2012	June 24, 2012	Prior to groundwater sample collection, all newly installed wells will be developed by evacuation of at least three well volumes of groundwater. All existing wells found not to be bracketing interstitial groundwater will be purged prior to sample collection. Wells with measurable free product thicknesses will not be sampled unless otherwise advised by the Technical Project Manager.
Laboratory Analysis of Groundwater Samples Weeks 13 and 14	June 25, 2012	July 8, 2012	Laboratory analysis will be performed by Access Analytical, Inc. and GCAL, a partner and subcontracted laboratory to Access Analytical, Inc.
Aquifer Testing Week 13 or 14	June 25, 2012	July 8, 2012	A day will be scheduled on which aquifer testing will be performed on two monitoring wells, one installed in Zone 1 of interstitial groundwater and one installed in Zone 2 saturated soils.
Comprehensive Survey Week 13 or 14	June 25, 2012	July 8, 2012	A comprehensive survey will be performed and certified by a SC Registered Land Surveyor. The survey will provide a scale base map and elevations for the monitoring well network.
Tier II Report Preparation Weeks 15, 16 and 17.	July 9, 2012	July 30, 2012	A Tier II Assessment report will be prepared and submitted to the Technical Project Manager no later than July 30, 2012.

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

Total number of Water samples The samples will be (check as many as apply):	36Homogenized	
Duplicates	2	
Field Blank	2	
Trip Blank	1	
From surface water features	0	
From Drinking/Irrigation water wells	0	
Ground Water from monitoring wells	31	
Soil	0	

If any of the above are circled please indicate how will it be done and the equipment needed.

N/A

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All sampling equipment is disposable with the exception of the ORS Oil/Water Interface Probe, the YSI Dissolved Oxygen (DO) Meter, the Hanna pH/Conductivity Meter and the Martini MI415 Turbidity Meter.

Drilling tools, including solid stem auger, hollow stem auger, drill rod for mud rotary, direct push (GeoprobeTM) drill rod and stainless-steel retractable well screen, are instrumental for soil and groundwater sample collection and for monitoring well installation. Obviously, these items are non-disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

The ORS Oil/Water Interface Probe, the YSI DO Meter and the Hanna ph/Conductivity Meter will be cleaned and decontaminated between each use. Decontamination procedures will consist of: 1) donning a new pair of nitrile gloves, 2) washing of each unit with a soap (Alconox™) solution, 3) rinsing with distilled water, 4) rinsing with Isopropanol and 5) a final rinsing with distilled water. Disposable items and used decontamination fluids and materials will be containerized pending proper disposal.

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All drilling tools and associated equipment as applicable (including solid stem auger, hollow stem auger, drill rod for mud rotary, GeoprobeTM direct push drill rod and stainless-steel retractable well screens, wrenches, hammers, shovels, mud pans, etc.) will be decontaminated by method of high pressure steam cleaning prior to mobilization to the site. Additionally, all drilling rods and associated equipment as applicable will be decontaminated (high pressure steam cleaning) between each soil boring and/or well installation. Decontamination will proceed as follows: 1) a decontamination pad will be established at a secure area reasonably proximal to drilling locations, 2) the drilling rods and tools as applicable will be decontaminated by steam cleaning under high pressure, 3) decontamination fluids and soil cuttings as applicable will be containerized pending proper disposal.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

A rotary auger drill rig and Geoprobe direct push machine with appropriate down-hole tooling will be needed in order to complete the tasks outlined in this plan. It is anticipated that one of ARM's track-mounted Geoprobe direct push units with a rotary auger attachment will be used to complete the deep field screening and shallow well installation activities at the site. A photoionization detector with a calibration kit will be required in order to conduct field screening of the soil and groundwater onsite. A Mobile B-57 rotary auger rig will be used with mud-rotary equipment for the installation of the telescoping monitoring wells. An ARM steam cleaner will be utilized with a portable decontamination station to clean the auger and mud rotary equipment and to capture the decontamination fluids generated during the cleaning process.

Typical equipment for sampling monitoring wells will be needed. Equipment required: water/product level meter, pH/specific conductivity/temperature meter with spare pH tip and calibration supplies, dissolved oxygen meter with spare DO membranes and calibration supplies, extra batteries for meters, disposable hand bailers, colorless nylon bailer twine, powder free nitrile gloves, pre-labeled sample bottles with preservative(s) appropriate for the required analyses provided by laboratory in insulated cooler, ice, field notebook and permanent pens/markers, field file with necessary maps, historical data, contact info., chain of custody and field data sheets, decontamination supplies as detailed in Appendix H in the *Programmatic QAPP*, *Rev.* 1, 5-gallon plastic buckets, 55-gallon steel drum(s), hand tools and key(s) for entry into well vaults and drums, trash bag(s), metal detector, autolevel with tripod and surveyors rod.

TK Tank Services of Sumter, South Carolina will be utilized as the disposal facility for any contaminated soils generated during this assessment. Development and purge water and/or by products from decontamination generated by ARM during this scope of work will be disposed of at U.S. Water Recovery in Holly Hill, South Carolina.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Off-Site Property Access	Notify Technical Project Manager; participate in further negotiations.	Telephone and/or e-mail correspondence to SCDHEC placed in project file.	Field Manager Joseph Goings
Drill Rig Malfunction	Make repairs in field or obtain replacement drilling equipment; Notify Technical Project Manager of any impending delays in project schedule.	Make note of malfunction in Project Field Notes; place in Project File.	SC Certified Well Driller: Josh Register
Destroyed or Lost Monitoring Wells	Notify Technical Project Manager	Document in field log and written report, if necessary.	Field Manager Joseph Goings
Hitting a utility line during drilling.	Halt drilling immediately. Notify appropriate authorities; change drilling location.	Document in field log and written report, if necessary.	Field Manager Joseph Goings
Drilling Refusal	Contact Technical Project Manager on permissibility of completing soil boring or monitoring well at shallower depth; discuss feasibility of installation of a deep well.	Document in field log and written report, if necessary.	SC Certified Well Driller: Josh Register
Groundwater encountered at a shallower depth than expected (this possibility is enhanced at areas of lower surface elevation, often at down-gradient locations)	If deemed prudent, contact Technical Project Manager on permissibility of completing soil boring or monitoring well at shallower depth.	Document in field log and written report, if necessary.	SC Certified Well Driller: Josh Register
Malfunction of ORS Oil/Water Interface Probe	Notify field manager of equipment failure. Clean indicator and/or change batteries in the field. If problem persists, use back-up oil/water interface probe.	Document in field log and written report, if necessary.	Field Manager Joseph Goings Field Staff Tyler Felder

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. How will the samples get from the Site to the Lab to ensure holding requirements are met?

The samples will be maintained on ice in an insulated cooler during collection onsite and during transport. The cooler will be sealed during transport from the site to the ARM office. A laboratory courier will pick up and deliver the samples under chain of custody to the laboratory within less than 24 hours of sample collection.

Once samples are received from client by Access they are temp checked for compliance using a NIST traceable thermometer and the temperature is recorded on the COC. Samples are then kept on ice until they are shipped out (normally samples are shipped on the same day they are received by Access). Samples are shipped according to the established SOP that Access has for environmental sample shipment. This SOP addresses temperature control issues and specifies how samples are to be packed so that they remain between 0-6 degrees C while in transit to the receiving lab (GCAL).

2. How will the contactors cool the samples and keep the samples cool?

Wet ice will be used to keep the samples cool in an insulated cooler while in the field and during transit. A clean, designated sample refrigerator will be used until samples are picked up under chain of custody by laboratory personnel.

3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?

Temperatures are checked with a NIST traceable thermometer. Sample temperatures are checked by Access staff when samples are received and checked again at the receiving laboratory (GCAL) once they arrive. Yes, temperature blanks are normally utilized.

4. Where will the samples be stored in the Lab once they are received?

Once samples arrive at the receiving lab (GCAL) they are logged in and subsequently moved to dedicated, temperature controlled coolers within the lab until ready for analysis.

5. Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.

It is the labs policy to maintain a Continuous Chain of Custody. A continuous chain of custody sets protocols for keeping an unbroken, or continuous, chain of custody. A complete chain of custody is maintained by Access / GCAL. Each sample(s) when submitted is accompanied by a Chain of Custody form. These forms contain pertinent information about the sample(s) including specific analytical requests, sampling notes, sample condition, customer name and address. Additionally, information concerning the site name, field identification marks, date and time of collection, sampler signature, and preservation data is recorded.

Upon receipt signature and subsequent login of samples at the receiving laboratory facility (GCAL) all COCs are scanned into the LIMS system and associated with the individual project they represent. The COC is then included along with the final report when it is sent to the client. Original copies of the COC document can be returned to the client via postal mail upon request.

B4 Analytical Methods

1. Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:

Parameter	SOP ID*	Method Referenced	Equipment	Comments
рН	Field Purge Meters SOP	9040C	Field mutlimeter	ThermoOrion 4 Star
temperature	Field Purge Meters SOP	SM-2550B	Field mutlimeter	ThermoOrion 4 Star
Speific conductivity	Field Purge Meters SOP	9050A	Field mutlimeter	ThermoOrion 4 Star
Dissolved oxygen	Field Purge Meters SOP	SM-4500 OG	Field meter	YSI 55
turbidity	Field Purge Meters SOP	SM-2130B	Field meter	Hanna HI 98703
BTEX+Naph+MTB E+Oxygentes	S-VO-002	8260B	GC/MS	
PAH's	S-SV-021	8270D	GC/MS	
EDB	S-SV-012	8011	GC	
Lead,T.	S-IM-022	6010C	ICP	1950
Ferrous Iron	S-IN-009	SM 3500-FED	Spectrophotometer	
Nitrate	S-IN-042	353.2	Auto- analyzer/Leachate	
Sulfate	S-IN-010	300.0	Ion Chromatograph	
Methane	S-VO-004	RSK-175	GC	FALSHBUGH AND SACS
TOC	S-IN-030	Walkley-Black	N/A)
DRO - TPH	S-SV-001	8015C	GC	

Table 7A Analytical SOPs and Referenced Methods

This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
GCMSV-003	Method 8260B GCMSV-003 r22	STANDARD OPERATING PROCEDURE FOR THE ANALYSIS OF VOLATILE MASS SPEC SAMPLES BY METHOD 8260B
GCMSV-004	Oxygenates GCMSV-004 r1	STANDARD OPERATING PROCEDURE FOR THE ANALYSIS OF OXYGENATES BY METHOD 8260B
GC-034	Method 8011 GC-034 r6	STANDARD OPERATING PROCEDURE FOR METHOD 8011
GCMSSV-004	Method 8270D GCMSSV-004 r3	STANARD OPERATING PROCEDURE FOR THE ANALYSIS OF SEMI-VOLATILE MAS SPEC SAMPLE BY METHOD 8270D
ICP Met-010	ICP Met-010 r18	STANDARD OPERATING PROCEDURE FOR ANALYSIS OF METALS BY ICP
IC WL-042	IC WL-042 r15	STANDARD OPERATING PROCEDURE FOR IC
GC-024	Dissolved Gas GC-024 r6	STANDARD OPERATING PROCEDURE FOR THE ANALYSIS OF DISSOLVED GAS IN GROUNDWATER
WL-047	Ferrous Iron WL-047 r5	STANDARD OPERATING PROCEDURE FOR THE ANALSYSIS OF FERROUS IRON

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
DO meter does not match the equilibration charts	Re Calibrate, check again. If still out, replace membrane and recalibrate.	Documented in the Purging Meter Calibration Sheet	Tyler Felder
pH meter does not	Re Calibrate, check again.	Documented in the	Tyler Felder
match the equilibration	If still out, replace pH	Purging Meter	
charts	sensor.	Calibration Sheet	
turbidity meter does not	Clean cuvets, re-calibrate,	Documented in the	Field Technician
match the equilibration	check again. If still out,	Purging Meter	
charts	replace meter	Calibration Sheet	
COC or Sample	Call Client	Sample Receiving	Analyst, Laboratory
Receiving issues		Checklist (SRC)	QC/QA Manager

Failure	Response	Documented Where?	Individual Responsible
Surrogate Failure on Organics Analysis	Corrective Action Initiated, Samples are re-extracted and/or analyzed if surrogate recoveries outside of control limits. Data reported with qualifiers if necessary.	Non-Conformance / Corrective Action Form kept at lab in controlled logbook, LIMS	Analyst, Laboratory QC/QA Manager
Sample Containers Broken During Transit or at Lab	Client Notified via phone or email	Sample Receiving Checklist Form, LIMS	Sample Login Staff, Laboratory Project Manager, Analyst
Holding Time Exceeded	Client Notified via phone or email	Sample Receiving Checklist Form, LIMS	Sample Login Staff, Laboratory Project Manager, Analyst
Positive Hits in Method Blank	Corrective Action Initiated, Samples are re-extracted and/or analyzed if MB has hits above the RL's for compounds being analyzed.	Non-Conformance / Corrective Action Form kept at lab in controlled logbook, LIMS	Analyst, Laboratory QC/QA Manager

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments	
All Soil, chemical mater		60 days after analysis the sample custodian will stage completed samples for disposal. The sample custodian will scan all the samples segregated for disposal as "STD" (sent to disposal) using the Horizon LIMS system.	55-gallon open top steel drum located in the Satellite Accumulation Area. Labeled according to the characteristics of the waste and the waste stream. Waste streams are determined by analysis of the waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	Waste disposal is provided by various DOT certified vendors who come to the facility and label, placard, and manifest the drums according to 49 CFR Part 173 before transporting to their facility.	
All	Water	60 days after analysis the sample custodian will stage completed samples for disposal. The sample custodian will scan all the samples segregated for disposal as "STD" (sent to disposal) using the Horizon LIMS system.	55-gallon tight head poly drum located in the Satellite Accumulation Area. Labeled according to the characteristics and waste stream. Waste streams are determined by analysis of the waste and through process knowledge. When the drum is full it is moved to the Central Accumulation Area for disposal.	Waste disposal is provided by various DOT certified vendors who come to the facility and label, placard, and manifest the drums according to 49 CFR Part 173 before transporting to their facility.	

Table 10A Sample Disposal

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Water level / interface probe	ALL	Check battery level & electronics, sensing probe tip and/or prism; and quality of measuring tape / replace/repair as necessary	weekly	Spare batteries and spare sensing probe tip repair kit with tape pigtail located inside metal cabinet in sample equipment room at ARM office	Michael Faris, P.G.
Photolonization Detector	ALL	Check battery, electronics, lamp, internal pump, hydrophobic water trap, and probe tip	Periodic – according to manufact. specs	Spare water traps and probe tip located inside metal cabinet in sample equipment room at ARM office	Joseph Goings, P.G.
DO meter	ALL	Check DO membrane / replace if necessary	Periodic – according to manufact. specs	Inside metal cabinet in sample equipment room at ARM office	Tyler Felder – Shop Maintenance (ARM)
pH / specific conductivity / temperature meter	ALL	Clean and check pH bulb and spec. conductivity probe for wear / replace if necessary	Periodic – according to manufact. specs	Inside metal cabinet in sample equipment room at ARM office	Tyler Felder – Shop Maintenance (ARM)
Turbidity meter	ALL	Clean and check cuvets for wear, replace if necessary	Periodic – according to manufact. specs	Inside metal cabinet in sample equipment room at ARM office	Tyler Felder – Shop Maintenance (ARM)
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst

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Semi-volatiles Mass Spec	ALL	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	ALL Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.		Periodic	Laboratory	IC Analyst
ICP			Periodic	Laboratory	ICP Analyst
Leeman Mercury Analyzer	ALL	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst
Flow Injection Analysis – Lachat 8000	ALL	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, reinspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this.

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Photolonization detector	Daily check for proper function of battery, electronics, and calibration	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance
Water level / interface probe	Daily check for proper function of battery, electronics, measuring tape, and sensing probe tip/prism	According to manufacturer's specifications	Field Technician	Replace or repair component(s) if found faulty or damaged

		Date. November 26, 2012				
Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies		
DO meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance		
pH / specific conductivity / temperature meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance		
Turbidity Meter	Daily calibration check	According to manufacturer's specifications	Field Technician	Recalibration or instrument maintenance		
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance		
Semi-volatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance		
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance		
Dionex IC	Daily calibration check	Method Requirements	Nitrate Analyst	Recalibration or instrument maintenance		
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance		
eeman Mercury Analyzer	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance		
Flow Injection Analysis – Lachat 8000	Daily and continuing calibration check	See calibration criteria	INM Analyst	Recalibration or instrument maintenance		

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

- Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
- 2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
- 3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

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Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Photolonization detector	Zero with zero gas, calibrate with known span gas, adjust response factor to site conditions when appropriate	Daily calibration	Within 10% of standards	Recalibration or instrument maintenance	Field Technician, PM if necessary	
Water level / interface probe	The tape will be compared against an invar steel surveyors chain	Per manufacturers specifications (Solinst / Heron)	0.01 feet per 10 feet of tape length	Replace tape if not within acceptance criteria	Michael Faris, P.G.	Sampling SOP
DO meter	Enter elevation and expected salinity for geographic area, then calibrate to DO standard	Daily calibration	Within 5% of DO standard	Recalibration or instrument maintenance	Field Technician, PM if necessary	Sampling SOP

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible	SOP Reference*
	110000010	Cambration	Criteria	(CA)	for CA	Reference
pH / specific	Immerse pH	Daily calibration	Pass / fail	Recalibration or	Field	Sampling
conductivity /	probe in singles		according to	instrument	Technician,	SOP
temperature	packets of pH		automatic meter	maintenance	PM if	
meter	4.0, 7.0, 10.0,		calibration		necessary	
	with rinses in				4.100.000 to 20000 2.80=1	
	between					
Turbidity meter	Place standard	Daily calibration	Within 10% of	Recalibration or	Field	Sampling
	(<0.1, 15, 100	71/3	each standard	instrument	Technician,	SOP
	NTU) in cuvet			maintenance	PM if	
	and measure				necessary	
Volatiles Mass	Minimum of 5	When indicated by	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
Spec	calibration	continuous	MOTOGRESSES ENGINERANT SETTEMEN	- to - A to date to the co- ob all will	>000 0000 1110 0000 110 - 020-40	
	standards for	calibration				
	all compounds	verification standard				
Semi-volatiles	Minimum of 5	When indicated by	Method Criteria	Detailed in SOP	MSSV	S-SV-021
Mass Spec	calibration	calibration			Analyst	
	standards for	verification standard				
	all compounds					
GC ECD	Minimum of 5	When indicated by	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
	calibration	calibration				
	standards for	verification standard				
	all compounds		12			
Dionex IC	Minimum of 5	When indicated by	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
	calibration	calibration		1		
	standards for	verification standard				
	all compounds				i i	
ICP	Minimum of 3	When indicated by	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
	calibration	calibration				
	standards for	verification standard			1	
	all compounds					20-1-1-115
Cetac Mercury	Minimum of 5	When indicated by	Method Criteria	Detailed in SOP	Mercury	S-IM-006
Analyzer	calibration	calibration			Analyst	
	standards for	verification standard				
	all compounds					
Lacaht	Minimum of 5	Daily or when	Method Criteria	Detailed in SOP	Nitrate	S-IN-042
QuickChem	calibration	indicated by			Analyst	
8000	standards	calibration			*	
		verification standard				

Table 13A Instrument Calibration Criteria and Corrective Action

^{*} This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.

2. Identify the individual(s) responsible for this.

item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Nitrile gloves	ECT	Each box of gloves is sealed in	Metal cabinet in	Joseph Goings - ARM
Je resente Militaria	Manufacturing	non-damaged sipping box,	sample equipment	bosoph Congs - Artiv
		Certificate of analysis	room at ARM office	
Disposable hand	Pine	Each bailer individually sealed	In box in sample	Michael Faris - ARM
bailers	Environmental	in plastic bag in non-damaged	equipment room at	monaci i and 71 an
		box	ARM office	
Bailer twine rolls	Pine	Each roll individually sealed in	Metal cabinet in	Michael Faris - ARM
	Environmental	plastic bag in non-damaged	sample equipment	
		box	room at ARM office	MOST PE
Photolonization	Pine	Each canister sealed with	Metal cabinet in	Michael Faris - ARM
Standards	Environmental	certificate of analysis	sample equipment	
			room at ARM office	- 41115
Sample meter	Lab Safety Supply,	Each fluid in individually sealed	Metal cabinet in	Michael Faris - ARM
calibration fluids	Ben Meadows	bottle or bag in undamaged	sample equipment	
(standards)		box, certificates of analysis	room at ARM office	
Sample meter	Lab Safety Supply,	Each component in sealed	Metal cabinet in	Michael Faris - ARM
spare parts	Fondriest	container in undamaged box	sample equipment	
			room at ARM office	
Decontamination	Smith and Jones	Unopened, unused, labeled	In boxes in shop at	Yerin Flores - ARM
Fluids (DI water,	Dist. Co.	bottles in labeled boxes picked	ARM office	
Isopropanol)		up locally, certificates of		
		analysis		
Laboratory-grade	Lab Safety Supply	Individually sealed single use	In boxes in shop at	Yerin Flores - ARM
non-phosphate	ĺ	containers in undamaged	ARM office	
soap		shipping box		
Laboratory	Fisher,VWR	Certificates of analysis and	Laboratory storage	Receiving and laboratory
Chemicals		laboratory testing		personnel
Laboratory	O2Si, Restek,	Certificates of analysis and	Vendor specific	Laboratory Analysts
standards	High Purity, VHG,	laboratory verifications	storage conditions	
	Supelco	W		
Sample	Daniels Scientific,	Certificates of analysis and	Bottle storage area	Sample receiving personne
Containers	QEC	laboratory testing		

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

- Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
- 2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
- 3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Richland County GIS	Identifying adjacent property owners, property boundaries, subsurface municipal utilities, etc.	Facilitate access to adjacent properties, history of usage and/or ownership of the subject property and adjacent properties.	This website also provides detailed topographic maps and information regarding stormwater runoff.
Phase II Subsurface Investigation Report, Broad River BP, Partner Engineering and Science, Inc., El Segundo, California, December, 2010	Preliminary information concerning soil quality and groundwater occurrence	The laboratory analytical results from the Phase II subsurface investigation were reported to the SCDHEC as an apparent release (January 4, 2011).	A copy of the report was provided to ARM by Mr. Fredrick N. Cecchini.

Table 15A Non-Direct Measurements

 Identify key resources/support facilities needed. Not applicable to this scope of work.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

As generated by the Environmental Rehabilitation Contractor (ARM Environmental Services, Inc.) in completing Tier II Assessment component tasks, field notes and logs will be stored in hardback bound field books and/or on 8 ½ x 11" field data sheets. Field data sheets are signed by staff upon completion of daily work. Copies of field notes and driller 1903 forms are provided on a daily basis and placed in the project file. Field boring logs are kept on a backed-up digital library.

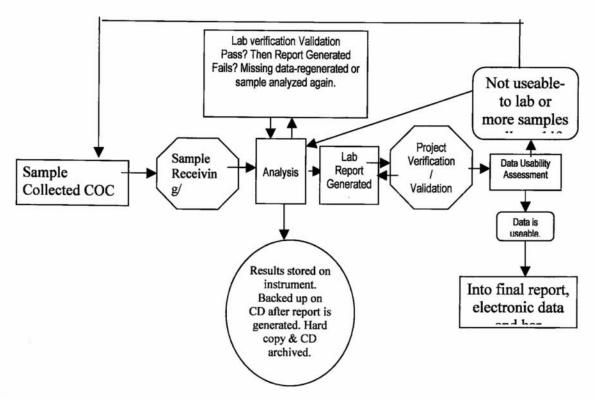


Figure 5: Laboratory Data Management Scheme (Source: Sample QAPP, South Carolina Department of Health and Environmental Control, March 21, 2001)

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

Copies of field notes and boring logs are reviewed by the Field Manager and placed in the project file. Additionally, field notes/logs are scanned, password secured, and placed into the digital project file. Original data sheets will also be kept by the field staff in field notebooks/folders for a minimum of three years.

All data is recorded in bound books and/or by instrument printout. If data is recorded by hand, it must be done in ink. It is inappropriate to have pencils, erasers, or correction fluid at the bench. Data is kept either as a hardcopy, electronically, or both. All data must be protected by the use of audit trails, passwords, and controlled logbooks. If changes or corrections are necessary, it must be performed in a way that maintains the integrity of the data. Changes must be initialed and dated and corrections made using a single line strikeout. If the record does not allow space to clearly show the change, write it in the comments or at the bottom of the page. If electronic files must be changed, the file must be renamed so original information is not lost. If an entire batch of data must be reprocessed all files must be renamed. Reasons for doing so must be written in the comments and/or fully documented using a correction form. At no time shall data be obliterated for any reasons.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted.

All data reported includes three levels of data review including calculations used to generate the reported analytical results. This review is performed by the analyst performing the test, the supervisor, and report

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generation manager or designee. Data reduction includes all activities that convert instrument/computer responses into reportable results. Manually entered information is reviewed for accuracy in the LIMS and in the signed copy of the client report.

How will the data be archived once the report is produced? How can it be retrieved? (This applies
to both electronic and hard copies).

Hard copies of final reports are contained in the specific folder in ARM's file library. Additionally, each report is converted to digital format and stored in its applicable digital folder. Hard copy storage will be for a minimum of three years. Digital storage will be indefinite. Digital data is backed-up on a weekly basis on a four month rolling schedule. For security purposes current week data is stored at an off-site location.

The laboratory will retain all records related to sample analysis including raw test data, calculations, derived data, calibrations and copies of test reports including chain of custodies. These records are archived in accordance with regulatory requirements for a minimum of ten years or as required by specific client contracts. Software/hardware permitting the access of electronic data must be maintained. The copy of client reports is stored in a room requiring key-card access. All reports must be signed out using the archived reports logbook. Client reports and chain of custodies are also scanned for electronic storage. Written and printed data records (bench sheets, logbooks, electronic printouts, etc.) are scanned before being boxed and placed in storage. Electronic data is stored on a dedicated server, which is backed-up daily. The safety officer keeps safety and disposal information. Archived data is stored on-site until capacity is met. The oldest archived data is then moved to a secure storage facility. The storage and on-site facility are monitored and protected from fire and theft. Electronic data storage is free from magnetic sources. It is the goal of the lab to have redundant copies (hard and electronic) to prevent loss of records due to being misplaced or environmental deterioration or catastrophe.

Section C Assessment and Oversight C1 Assessment and Response Actions

1. The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?

Either Michael Faris, PG – Senior Geologist (ARM Project Manager), or Joseph Goings, PG – Staff Geologist (Field Manager) will be responsible for observing field personnel on a daily basis depending on the week's schedule. Each of these ARM employees has the authority to stop the work if significant problems are observed.

2. The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit?

-RESPONSE:

Access Analytical, Inc. is an SCDHEC certified lab for field parameters. Access
participates in annual proficiency testing (PT) audit studies in order to maintain its DHEC

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certification. The audit samples are provided by Wibby Environmental who is a producer of analytical standards and unknown audit samples. Wibby Environmental is an approved vendor for the SCDHEC laboratory certification group (see www.scdhec.gov/environment/envserv/lcptrequirements.htm for a list of approved vendors). Access does not hold other certifications as it is not required for this work.

- II. GCAL is certified by DHEC and numerous other states. In addition to the applicable SCDHEC certifications GCAL also participates in the following:
 - Louisiana Environmental Laboratory Accreditation Program This assessment is conducted every two years. During that assessment the lab is assessed to the TNI Standards and the Louisiana Department of Environmental Qualities certification regulations. Theses assessment is based on the ISO 17025 requirements and ISO 17011 requirements as found in the TNI standards.
 - DOD certification This assessment is scheduled every two years and is completed by ACLASS. The assessment is based on the DOD QSM requirements.
 - The lab performs 2 PT studies every year.
 - California ELAP requires an assessment every two years and is conducted by the state's assessors. The assessment is to verify compliance with the requirements of the state of California.
 - Arizona requires an assessment every year and is conducted by the state's assessment team. The assessment is to verify compliance with the requirements of the state of Arizona.
 - North Carolina at the time of application standard operating procedures, quality assurance project plan, and PT results are submitted for review. Assessments are conducted every two years.
 - Client Assessments GCAL's clients can and do require assessment using a third party assessor such as Environmental Standards. The contracted assessment team verifies that GCAL is meeting the requirements of the clients contract and is compliant with EPA requirements and compliant with state regulations.

When or how often are these done?

- REPONSE: Answer to this question is included in the above response.

Who will the results be given to and who has the ability to stop work if problems are severe?

- RESPONSE: The results of the audits are reviewed by the associated regulating bodies. Any of these organizations have the right to cease work being done which falls under their program area if sufficient deficiencies are found.

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C2 Reports to Management
See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Access Analytical - Chain of Custody Record

Project Submission #:				Laboratory ID: RUSH # PO # :										
Company Name: Preserve (*see code				ative: des below)		Π	T							
				333		<u>@</u>	1	\vdash		+		(0.79)	ANALYTICAL INC	
City: State: Zip:				REQUESTED LAB ANALYSIS: 4 TEX/Napth/MTBE/	rcle on						ANALYTICAL, INC. Main Office:			
Project Name: Report To:			BANA	BTEX/Napth/MTBE/	3DB by 8260 / 8011 (circle one)	8270	lfate				1248 Lake Murray Blvd. Irmo, SC 29063 Phone: 803.781.4243 / 888.315.4243 (toll free)			
			D LA											
Sampled By (print):	0.000			17	UESTE	CNap	, 8260	PAH's by 8270	Nitrate / Sulfate	Total Lead	Ferrous Iron	ane	Fax: 803.781	.4303
Sample I abel	Date Collected	Time Collected	Matrix	# of Cont	+ REQ	BTE	ЕДВ Ру	PAH	Nitrat	Total	Ferro	Methane	N	OTES / COMMENTS
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Turnaround Time: Std. (5-7 Bus. days)RUSH* *Date Required: (For rush work, results faxed by end of business day on date required)	on Ice?YesNo		<u> </u>	ect Location: SCNC er(specify)		Relin	guished	By:		Bo	Date:		Time:	Received By:
* Preservative Codes (place corre	esponding # in bloc	k above analysis j	ield): 0	= None,	1 = HCL	, 2 = HN	1O3, 3 = H	I ₂ SO ₄ , 4 =	NaOH, 5	$= Na_2S_2$	03, 6=N	aHSO ₄ , C	ther = Specify	

Pg___ of ____

Original Copy - Returned w/Report

ACCESS COC for UST work.pdf



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

DEC 0 4 2012

FREDRICK N CECCHINI BROAD RIVER AMOCO 4335 BROAD RIVER ROAD COLUMBIA SC 29210-4009



Re: Revised Tier II Directive

Broad River Amoco, 4335 Broad River Road, Columbia, SC UST Permit # 11946; CA # 42065; MWA # UMW-24502

Release reported January 4, 2011 Tier I Report received April 11, 2011

Monitoring Well Installation Report received June 21, 2011

QAPP Contractor Addendum received February 21, 2012 and Revision received March

15, 2012 by EnviroTest

Tier II Directive dated May 21, 2012

QAPP Contractor Addendum by ARM received June 20, 2012

Revised Tier II Directive dated June 22, 2012

OAPP Contractor Addendum by ARM received December 4, 2012

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the referenced UST Quality Assurance Program Plan (QAPP) submitted by ARM Environmental Services received on December 4, 2012. The QAPP Contractor Addendum changing the laboratory to Access Analytical and GCAL is approved. A copy of the signed QAPP is enclosed for your reference and records. A Tier II assessment report that defines the product, as well as the dissolved plume both shallow and deep is due on or before January 25, 2013.

Please reference UST Permit number 11946 on all correspondence. If you have any questions, please contact me by phone at (803) 896-6669, by fax at (803) 896-6245, or by email at shradeaa@dhec.sc.gov.

Sincerely.

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Signed Site Specific QAPP Contractor Addendum

cc: ARM Environmental Services, Inc. PO Box PO Box 50285, Columbia, SC 29250 (with enc.)

Enviro-Test Services, PO Box 2237, Irmo, SC 29063 (with enc.)

Technical File (with enc.)

Section A: Project Management A1 Title and Approval Page

Quality Assurance Project Plan Addendum to the SC DHEC UST Programmatic QAPP For

Broad River Amoco, UST Permit # 11946

4335 Broad River Road, Columbia, SC - Richland County

Prepared by: Michael Faris
ARM Environmental Services Inc. - SCDHEC Certified Contractor No. 4

Date: November 28, 2012

Approvals	0		,
Arthur Shrader, Hydrogeologist SCDHEC Project Manager	Signature	_ Date_	12/4/12
Andrew Wilson, P.G. Contractor QA Manager	A her hul Signature	_ Date_	1/29/12
Michael Faris, P.G. Site Rehabilitation Contractor	Mulay Java Signature	_ Date_	11/28/12
Ashley B. Amick Laboratory Director, Access Ana	alytical, Inc. Signature	Date_	11/29/12
Scott Bailey	Bunda Martinez Wed Nov 28 2012 16:19:42	Date_	11/28/12
Laboratory Director, GCAL	Signature	(1)	



Shrader, Art A. <shradeaa@dhec.sc.gov>

Screening Data Review

Broad River Amoco; UST Permit #11946

4 messages

Michael Faris <mfaris@armenv.com>

To: "ArtShrader @DHEC" <SHRADEAA@dhec.sc.gov>



Tue, Feb 12, 2013 at 4:54 PM

Art,

Please review the final in a long saga of well proposal maps for the site. I am hopeful that we will fully delineate the contaminant plume with this final round of wells.

Upon reviewing the available lithology and historical information from many boreholes on and around the release, it is apparent that groundwater can be found in several layers at the site. The most shallow water encountered at the site is generally found between 15' - 20' below ground surface (bgs). This shallow water is very slow to accumulate in the boreholes (wells). Typically it took at least several days for the water levels to come to equilibrium. It is likely that this most shallow water is present in small volume in the sandy clayey silt due to localized recharge and capillarity. The soils become more clayey (a silty clay) and mostly dry beginning at approximately 25' bgs. The second layer of water encountered in the subsurface is typically found at an approximate depth of 35'-40'. The water in this second water bearing zone is generally under pressure and immediately enters the borehole and comes up many feet in the wells.

The two layers of water are clearly connected in some fashion as contamination has been identified at both depths during this Tier II investigation. There is an aquitard comprised of mostly dry silty clay (with a small % of sand) between the two above-described zones of water across the area of study. Because the contaminants have been identified at both depths in and near the source area, there clearly is transmissivity between the two layers. Therefore, the silty clay is not considered true aquiclude, but is acting at least as a partial confining unit. There was no 'smoking gun' layer of high permeability identified that was clearly a preferential pathway for migration of the contaminants. Therefore, I believe that we must continue the well installation effort and complete the delineation of the contaminants in both zones of groundwater.

Once the wells are installed and the survey completed, cross sections will be completed more clearly depicting what was described above lithologically.

Thank, Michael

Michael L. Faris, P.G. ARM Environmental Services, Inc. 1210 First Street South Columbia, SC 29209 mfaris@armenv.com ph: 803 783-3314

2 attachments

cell: 803 269-3913

BroadRiverAmoco_WellApproval021213.pdf

BroadRiverAmoco_ScreeningResults092012.pdf

Shrader, Art A. <shradeaa@dhec.sc.gov>
To: Michael Faris <mfaris@armenv.com>

Tue, Feb 12, 2013 at 5:14 PM

Michael.

I agree the dissolved plume is not defined and additional monitoring well are required.

I do not fee the product is defined either. The wells you installed are screening data. Will product migrate to FP9, FP10 or FP11 in the future? With the complex geology and slow recharge a series of recovery wells with long screens will be required to define the product and a starting point to recover product. I would be really interested in a free product recovery test/ bail down test on the well with the greatest product thickness also. Since we must remove all measurable product to even consider conditional closure, how to attack the product might be the most important assessment data.

Art

[Quoted text hidden]

-

Arthur Shrader, Hydrogeologist Assessment Section Underground Storage Tank Management Division Bureau of Land & Waste Management

tel: (803) 896-6669 fax: (803) 896-6245

Michael Faris <mfaris@armenv.com>

To: "Shrader, Art A." <shradeaa@dhec.sc.gov>

Tue, Feb 12, 2013 at 5:18 PM

Art,

Agreed regarding free product.

I would really like to get back onto drilling this one. This one keeps me up at night. I wish to complete this project. What can we agree needs to be drilled in order to finish this assessment. While working out what to do regarding the product, what can we get done downgradient to complete the dissolved-phase delineation?

I understand recovery wells are desired. Would it be prudent to install additional 2" monitoring wells in the vicinity of the product, then install recovery wells based on what is found after a few sampling events? or do you want recovery wells now as part of this assessment?

Michael

From: Shrader, Art A.

Sent: Tuesday, February 12, 2013 5:14 PM

To: Michael Faris

Subject: Re: Broad River Amoco; UST Permit #11946

[Quoted text hidden]

Shrader, Art A. <shradeaa@dhec.sc.gov>
To: Michael Faris <mfaris@armenv.com>

Tue, Feb 12, 2013 at 5:32 PM

Michael,

This is one is not easy. That might be some of the reason Terry passed this one to ARM.

This is like New China Restaurant. This is one of those sites where if you can define the geology, you can define

the plume (product and dissolved) vs stabbing wells in the ground and stopping when you have 8 shallow and 3 deep wells.

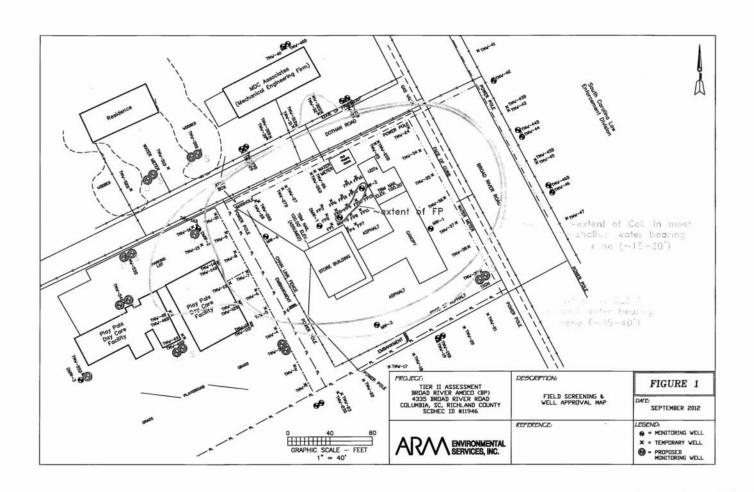
You defined the product with screening wells, so we need wells to define the product in the future. Recovery wells are monitoring wells only better since they are larger diameter to collect product (a definite plus in clay and up welling pressure) or they can be sampled if there is no product. I think 2 inch monitoring wells would be a waste, recovery wells would be a step in the right direction in the area of product.

Monitoring wells (shallow and deep) as you have proposed are needed to address the dissolved product and define the geology outside the area with product.

If every site was a sandbox for geology, there would be no challenge.

Art

[Quoted text hidden]



Broad River Amoco (BP); UST Permit #11946 Tabulated Field Screening Results As of 9/14/2012

Temp. Well ID	Date	Date Total Depth		MTBE	BTEXM	
RBSLs			5.0	40	N/A	
TMW-1	5/17/12	15.0	>1	>1	>1	
TMW-2	5/17/12	15.0	>1	>1	>1	
TMW-3	5/17/12	15.0	>1	>1	>1	
TMW-4	5/17/12	15.0	>1	>1	1.51	
TMW-5	5/17/12	15.0	59.3	1.75	139.9	
TMW-6	5/18/12	15.0	3.65	2.50	84.2	
TMW-7	5/18/12	15.0	80.3	322.4	973	
TMW-8	5/18/12	15.0	>1	1.04	38.2	
TMW-9	5/18/12	15.0	73.5	142.8	249.8	
TMW-10	5/18/12	15.0	7.3	9.69	24.8	
TMW-11	5/24/12	15.0	>1	>1	19.7	
TMW-11D	7/24/12	34.5	2	1	3	
TMW-12	5/24/12	15.0	>1	1.68	3.12	
TMW-12D	7/25/12	34.0	1	8	9	
TMW-13	5/24/12	15.0	12	14.9	32.9	
TMW-14	5/24/12	15.0	1	4.06	5.1	
TMW-14D	7/20/12	39.0	Ö	2	3	
TMW-15	5/25/12	15.0	>1	0.80	3.34	
TMW-16	5/25/12	15.0	0.57	>1	2.24	
TMW-16D	7/24/12	39.5	4	113	118	
TMW-17	5/25/12	15.0	>1	>1	>1	
TMW-18	6/13/12	19.0	0	0	5.0	
TMW-19	6/13/12	19.0	0	0	0	
TMW-19D	7/17/12	40.0	1	0	9	
TMW-20	6/13/12	19.0	>1	>1	9	
TMW-21	6/13/12	19.0	>1	>1	4	
TMW-22	6/13/12	19.0	>1	7	0	
TMW-23	6/19/12	20.0	>1	>1	7	
TMW-23D	6/19/12	42.0	>1	>1	2	
TMW-24	6/21/12	19.0	3	23	63	
TMW-25	7/5/12	19.0	266	234	1212	
TMW-25D	7/19/12	40.0	138	440	1239	
TMW-26		refusal due t				
TMW-26D	6/00/40	refusal due t			000	
TMW-27	6/20/12	20.0	81	127	938	
TMW-27D TMW-28	7/5/12 6/20/12	39.0	130	147 270	446 888	
TMW-28D	6/20/12	20.0 40.0	102 132	196	751	
TMW-29	7/5/12	20.0	>1	>1	25	
TMW-29D	7/16/12	40.0	0	0	19	

Note:

Results expressed in ug/L (PPB)

Broad River Amoco (BP); UST Permit #11946 Tabulated Field Screening Results (Cont.) As of 9/14/2012

Temp. Well ID	Date	Total Depth	Benzene	MTBE	BTEXM N/A	
RBSLs			5.0	40		
TMW-30	7/05/12	20.0	1	>1	7	
TMW-30D	7/17/12	40.0	0	0	28	
TMW-31	7/05/12	20.0	>1	>1	2	
TMW-31D	7/05/12	37.0	>1	>1	23	
TMW-32	7/05/12	19.0	>1	>1	7	
TMW-32D	7/19/12	40.0	70	2.2	170.0	
TMW-33	7/05/12	20.0	>1	>1	2	
TMW-33D	7/25/12	39.0	>1	>1	>1	
TMW-34	7/12/12	20.0	226	378	1275	
TMW-35	7/12/12	20.0	125	355	1100	
TMW-36	7/12/12	20.0	130	220	1026	
TMW-37	7/17/12	23.0	62	1.0	108	
TMW-38	7/13/12	25.0	28	1.0	140	
TMW-39	7/17/12	25.0	0	0	3	
TMW-40	7/23/12	25.0	>1	>1	62	
TMW-40D	7/23/12	39.5	>1	>1	2	
TMW-41	7/26/12	24.0	>1	>1	>1	
TMW-42	7/26/12	20.0	>1	>1	>1	
TMW-43	7/26/12	26.0	>1	>1	>1	
TMW-43D	8/6/12	39.0	>1	>1	>1	
TMW-44	8/6/12	24.0	>1	>1	>1	
TMW-44D	8/6/12	39.0	>1	>1	>1	
TMW-45	8/7/12	24.0	>1	>1	>1	
TMW-45D	8/7/12	39.0	>1	>1	>1	
TMW-46	8/7/12	24.0	>1	>1	>1	
TMW-46D	8/7/12	35.0	>1	>1	>1	
TMW-47	7/27/12	23.0	>1	>1	>1	
TMW-48	7/25/12	20.0	>1	19	32	
TMW-48D	7/25/12	34.0	>1	35	42	
TMW-49	7/26/12	19.0	>1	15	15	
TMW-49D	7/26/12	34.0	>1	1	1	
TMW-50D	9/13/12	40.0	>1	>1	>1	
TMW-51D	9/13/12	39.0	>1	>1	2	
TMW-52D	9/13/12	38.0	>1	>1	>1	
TMW-53D	9/14/12	38.0	>1	>1	>1	
TMW-54D	9/14/12	38.0	>1	11	4	
TMW-55D	9/14/12	38.0	>1	>1	>1	

Note:

Results expressed in ug/L (PPB)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Certified Letter 91 7199 9991 7031 3719 2715 APR 1 0 2013

FREDRICK N CECCHINI BROAD RIVER AMOCO 4335 BROAD RIVER ROAD COLUMBIA SC 29210-4009



Re: Notice of Alleged Violation

Broad River Amoco, 4335 Broad River Road, Columbia, SC UST Permit # 11946; CA # 42065; MWA # UMW-24502

Release reported January 4, 2011 Tier I Report received April 11, 2011

Monitoring Well Installation Report received June 21, 2011

QAPP Contractor Addendum received February 21, 2012 and Revision received March 15, 2012 by EnviroTest

Tier II Directive dated May 21, 2012

QAPP Contractor Addendum received June 20, 2012 by ARM Environmental Services

Revised Tier II Directive dated June 22, 2012

QAPP Contractor Addendum received December 4, 2012 by ARM Environmental

Services

Revised Tier II Directive dated December 4, 2012

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) directed you in May 2012 to complete a Tier II Assessment to define the extent of the product plus horizontal and vertical extent of petroleum Chemicals of Concern with the report due on or before August 30, 2012. Due to another contractor conducting the assessment on behalf of Enviro-Test Services and change of laboratory, the due date was extended to January 25, 2013. To date the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. Please submit the report on or before May 30, 2013. Should you not submit the complete Tier II Assessment Report on or before this date, this office will initiate further enforcement action.

Please note that in accordance with R.61-92, Subpart H, Section 280.114, you are required to notify the Division by certified mail within ten (10) days of commencing a voluntary or involuntary proceeding in bankruptcy. State law also requires that an owner/operator or guarantor that files for bankruptcy protection must immediately submit appropriate forms documenting that entity's ability to demonstrate financial responsibility.

Mr. Cecchini Page 2

Please reference UST Permit number 11946 on all correspondence. If you have any questions, please contact me by phone at (803) 896-6669, by fax at (803) 896-6245, or by email at shradeaa@dhec.sc.gov.

Sincerely,

Arthur Shrader, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

cc: ARM Environmental Services, Inc. PO Box PO Box 50285, Columbia, SC 29250

Enviro-Test Services, PO Box 2237, Irmo, SC 29063

Technical File

US 7

MAY 3 0 2013

May 28, 2013

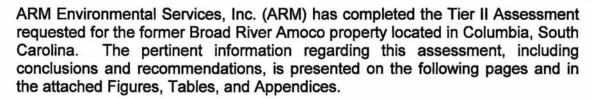
Arthur Shrader, Hydrogeologist
Underground Storage Tank Section
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re:

Broad River Amoco

4335 Broad River Rd., Columbia Richland County, South Carolina UST Permit #11946; CA #42065 ARM Project #06-414.1-12

Dear Mr. Shrader;



Based on the analytical data collected during this assessment, it is apparent that free-phase petroleum product is present north of the store building on the property. Additionally, dissolved-phase Chemicals of Concern (CoC) are present in groundwater at concentrations above their respective Risk-Based Screening Levels (RBSLs) in several monitoring wells associated with the release. Based on the data collected during this assessment, the extent of free-phase and dissolved-phase groundwater contaminant plumes appear to be defined.

If you should have any questions regarding the results of this assessment, or should you need additional information, please do not hesitate to contact our office.

Sincerely,

CC:

ARM Environmental Services, Inc.

Contractor Certification #4

Michael L. Faris, P.G.

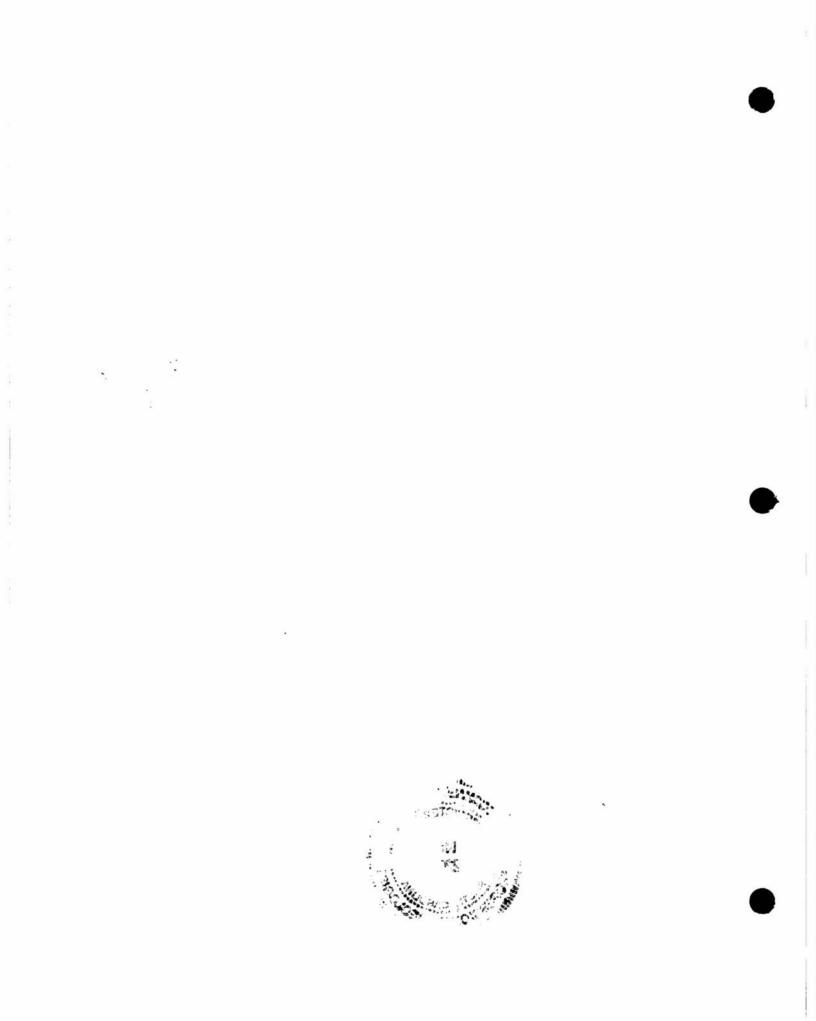
Senior Geologist

Fredrick Cecchin

Andrew M. Wilson, P.G.

Achen Wh

Principal / Sr. Project Manager



Background

The subject site is located in northwest Richland County in Columbia, South Carolina and is situated on the southwest side of Broad River Road, a five-lane local thoroughfare. The site is comprised of approximately 0.85 acres and is currently owned and operated as a petroleum retail facility, convenience store and restaurant (Broad River BP).

A 1939 aerial photograph from the Richland County Geographic Information System (GIS) shows that the subject property was utilized for agriculture and was partially wooded. Broad River Road appears as a two-lane road. Information available through the Richland County Assessor's Office indicates the property was owned by B.O. Derrick in 1955 and a 1959 aerial photograph indicates that the property had apparently been developed as a petroleum retail facility. Subsequently, the property was acquired by Associated Oils of South Carolina, Inc. in February 1988, and the previous UST system (B.O. Derrick) was properly closed, as reported to the SCDHEC in 1989. Reportedly, the closure included proper abandonment by removal of one 2,000-gallon UST and one 3,000-gallon UST. Additionally, the property redevelopment activities of 1988 and 1989 reportedly included the demolition of pre-existing structures and construction of the existing store building, dispenser islands and UST system. Subsequently, the property was acquired by Mr. Frederick N. Cecchini in June 1997, and Mr. Cecchini remains the current owner.

UST#	Product	Date Installed	Currently in use (Yes or No)	If not in use, Date Removed
1	Gasoline (2,000 gallon)	(?)	No	1989 *
2	Gasoline (3,000 gallon)	(?)	No	1989
3	Diesel (3,000 gallon)	1989	Yes	-
4	Gasoline Unleaded (3,000 gallon)	1989	Yes	
5	Gasoline Plus (3,000 gallon)	1989	Yes	-
6	Gasoline Plus (8,000 gallon)	1989	Yes	-
7	Gasoline Super (8,000 gallon)	1989	Yes	-
8	Kerosene (1,000 gallon)	1989	Yes	-

Reportedly, no soil samples were collected for analysis at the time of proper abandonment of the previous UST system as reported to SCDHEC in 1989. In December 2010, a Phase II Subsurface Investigation was performed by Partner Engineering and Science, Inc. of El Segundo, California. The Phase II investigation included the installation of four soil borings and a Temporary Monitoring Well Permit (Approval No. 4053) was obtained from the SCDHEC for the purpose of groundwater sample collection. Reportedly, the soil borings extended to terminal depths of 26 feet below land surface (BLS) utilizing direct push penetration technology with continuous soil sample collection.

Page 2 ARM ENVIRONMENTAL SERVICES, INC.

Drilling refusal was encountered in all four soil borings before groundwater was encountered; therefore, no groundwater samples were collected for laboratory analysis. Eight soil samples (two from each soil boring) were submitted for laboratory analysis for Volatile Organic Compounds (VOC) and Polynuclear Aromatic Hydrocarbons (PAH). The laboratory analytical results indicated the detection of various VOC and PAH chemical compounds at concentrations deemed reportable to the SCDHEC.

An Initial Groundwater Assessment (IGWA) was completed by Enviro-Test Services, Inc. during January, 2011 and an IGWA report was submitted on February 4, 2011. On January 20, 2011, the soil boring for monitoring well MW-1 was installed. The soil sample from the 10 to 15 feet sampling interval yielded the highest PID reading of 1,782 ppm and accordingly was submitted for laboratory analysis for BTEX, MTBE, naphthalene, PAH and lead. Moderately elevated concentrations of toluene, ethylbenzene, xylenes and naphthalene were detected in the soil sample. Saturated sediments were encountered at the depth interval of 35 to 40 feet below grade level (BGL). As such, monitoring well MW-1 was installed to a depth of 40 feet BGL and was screened from 40 to 20 feet On January 21, 2011, a groundwater sample was collected from monitoring well MW-1 and laboratory analysis for BTEX, naphthalene, MTBE, PAH and lead was performed. The depth to groundwater in monitoring well MW-1 was measured from the top-of-casing to be 20.92 feet. The groundwater sample yielded COC concentrations as follows: benzene (929 ug/l), toluene (10,300 ug/l), ethylbenzene (684 ug/l), MTBE (243 ug/l) and naphthalene (922 ug/l). Following review of the IGWA report, the SCDHEC requested a Tier I Assessment in correspondence dated February 7, 2011.

Field activities for the Tier I Assessment were commenced on February 24 and 25, 2011 with the completion of soil borings SB-1 through SB-9. Laboratory analysis of soil samples for BTEX, MTBE and PAH yielded elevated concentrations of benzene and naphthalene above RBSL in soil borings SB-1 (10 ft), SB-2 (5 ft), SB-3 (8 ft) and 5 (6 ft) which were installed proximal to the existing UST basin (SB-1 and SB-2) and product pipeline/dispenser islands (SB-3 and SB-5). Monitoring wells MW-2, MW-3 and MW-4 were completed on February 25, 2011 and were subsequently sampled on March 5, 2011. Laboratory analysis of the groundwater samples yielded concentrations of benzene as follows: MW-1 (1,760 ug/l), MW-2 (1,650 ug/l), MW-3 (9.93 ug/l) and MW-4 (1,830 ug/l). Additionally, concentrations of MTBE were also detected in wells MW-2 (3,420 ug/l) and MW-4 (3,100 ug/l). Naphthalene by EPA method 8260 was detected in wells MW-1 (4,070J ug/l), MW-2 (462J ug/l) and MW-4 (598 ug/l). Also, elevated concentrations of toluene were detected in wells MW-1 (16,400 ug/l) and MW-2 (3,230 ug/l) and ethylbenzene in wells MW-1 (1,270 ug/l) and MW-4 (1,270 ug/l). A Tier I Assessment Report was submitted to SCDHEC on April 8, 2011.

ARM ENVIRONMENTAL SERVICES, INC.

Subsequent to review of the Tier I Assessment Report, the Technical Project Manager and Section Manager, as applicable, expressed concern regarding the depth of the screened interval of each monitoring well in relation to the measured groundwater levels due to the fact that none of the monitoring wells were bracketing the water table of the site surficial aguifer.

Enviro-Test Services, Inc. stated that during soil boring and monitoring well installations no saturated sediments were encountered until the 35 to 40-ft depth interval of drilling at each well location; therefore, the monitoring wells were installed at depths somewhat deeper than preferable. Also, during drilling activities for installation of monitoring well MW-4, where elevated COC's were later detected in the March 5, 2011 groundwater sample, no petroleum hydrocarbon odors or elevated PID readings were noted to be present in apparent vadose soils; however, upon encountering saturated soils at approximately 35 feet, strong odors and elevated PID readings were readily Consequently, the Technical Project Manager decided that an additional monitoring well (MW-5) should be installed at a shallower, bracketing depth to determine the availability of groundwater for sample collection in what appeared to be unsaturated, vadose soils. Accordingly, on May 27, 2011 monitoring well MW-5 was installed to a depth of 20 feet, with a 10-ft screen at a location adjacent to the north corner of the existing convenience store building. The infiltration of groundwater was noted to be exceedingly slow; as such, groundwater was allowed to seep into the well casing for several days. On June 3, 2011, the depth to groundwater was measured at 13.80 feet and free product (gasoline) of a degraded appearance was measured at 13.68 feet (a free product thickness of 0.12 feet). Again, on June 20, 2011, depth to the groundwater was measured at 14.05 feet and free product at 13.75 feet (a free product thickness of 0.30 feet). These findings were submitted to the DHEC Project Manager on June 20, 2011.

Based on the results of the Tier I Assessment, a Tier II directive was issued by DHEC so the horizontal and vertical extent of the contaminant plume could be fully delineated. This site is currently in the assessment section of the UST Program in order to continue to evaluate the horizontal and vertical extent of the contaminant plume.

The subject property is bounded by Broad River Road to the northeast, then by the South Carolina Law Enforcement Division (SLED). The adjacent property to the southeast is a nail and beauty salon. The adjacent property to the southwest is commercially utilized as a nursery school and day care (Play Pal Day Care). The Play Pal Day Care facility encompasses two properties fronting Dothan Road. The subject property is bounded to the northwest by Dothan Road and a commercially utilized property beyond (MDC Associates, an apparent mechanical engineering firm). The commercial usage of the subject property and adjacent properties is expected to remain the same in the future.

Page 4

ARM ENVIRONMENTAL
SERVICES, INC.

Site Geography

In general, the site is located on the west side of a topographically ridge extending southeast to northwest. Broad River Road lies at or near the crest of the apparent topographic ridge. Storm water runoff on the east side of the ridge ultimately flows into the Broad River located approximately 2 miles east of the site. On the west side of the ridge, storm water runoff flows toward Stoop Creek located approximately 1,650 feet to the southwest (near the southwest dead end of Dothan Road). From this point, Stoop Creek flows southward approximately 2.6 miles before emptying into the Saluda River.

In the general vicinity, numerous surface water features are evident on the USGS topographic map including several unnamed creeks (apparently spring fed) and several small to medium-sized surface water impoundments. relative close proximity to the site, three surface water features are apparent on the west side of the topographic ridge and three on the east side of the topographic ridge. These surface water features are visibly apparent of Figure 1, a topographic site location map. On the west side of the topographic ridge, located approximately 1,430 feet to the northwest is a small pond with an estimated surface elevation of 265 feet MSL, approximately 1,680 feet to the southwest is the aforementioned Stoop Creek (estimated surface elevation of 233 feet MSL) and approximately 2,370 feet to the south-southeast is an apparent spring-fed creek (estimated surface elevation of 252 feet MSL at depicted point of emergence). On the east side of the topographic ridge, located approximately 1,240 feet to the northeast is an apparent spring-fed creek (estimated surface elevation of 248 feet MSL at the depicted point of emergence), approximately 1,820 feet to the east-northeast is an apparent spring-fed creek (estimated surface elevation of 230 feet MSL at the depicted point of emergence) and approximately 2,480 feet to the southeast is an apparent incised, spring-fed creek (estimated surface elevation of 235 feet MSL at the depicted point of emergence). Estimated surface elevations were obtained via the Richland County GIS utilizing a topographic option depicting contour intervals of two feet. For purposes of estimation, the depicted contours are deemed to be reasonably reliable.

According to the USGS Topographic Quadrangle Map of Columbia North, South Carolina, dated 1972 and revised in 1990, the elevation of the site is approximately 275 feet above mean sea level (MSL). The topography surrounding the site is relatively flat toward the north and east, but slopes downward toward the west/southwest. The topography in the general vicinity of the site slopes downward toward the west/southwest. A Topographic Site Location Map is included as Figure 1.

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Regional Geology and Hydrogeology

The Broad River Amoco (BP) lies within the Lower Piedmont Physiographic Provence in close proximity and northwest of the contact zone, the "fall line", with the Upper Coastal Plain Physiographic Provence. The dominant rock types of the general area are related to the Carolina Slate Belt and specifically the Precambrian to Early Cambrian, Persimmon Fork Formation which is comprised primarily of green-gray to blue-gray, moderately metamorphosed, felsic volcanic (metavolcanic) tuffs and to a lesser extent mafic metavolcanic tuffs. These rocks occur as very weathered to moderately weathered outcrops in the site study area and are most often visible at areas of excavation related to road and building construction.

In the general vicinity, the uppermost aquifer generally occurs under unconfined conditions and receives water from precipitation, which infiltrates the unsaturated surface soils and migrates downward to the saturated zone. Underlying the uppermost aquifer is the fractured bedrock aquifer in which groundwater occurs in fractures, joints and faults. The fractured bedrock aquifer is often an important water resource for rural residences and commercial and light industrial properties at areas where municipal water supply is unavailable or unfeasible. Well yields are typically 1 to 350 gpm in the crystalline and metamorphic rocks with the larger yields located in areas of intensely fractured metamorphic rocks.

Site Geology and Hydrogeology

Based on the data collected during the Tier I Assessment and this assessment, it is apparent that groundwater can be found in several stratified layers or zones at the site. The most shallow water encountered at the site was generally found between 15' - 20' below ground level. This shallow water was very slow to accumulate in the boreholes. Typically it took at least several days to over a week for the water levels to come to equilibrium. It is likely that this most shallow water is present in small volume in the sandy clayey silt due to localized recharge, perching, and soil capillarity. The soils become more clayey (a silty clay) and mostly dry beginning at approximately 25' bgl. The second layer or zone of water encountered in the subsurface was typically found at an approximate depth of 35'-40'. The water in this second water-bearing zone was under significant hydraulic pressure and immediately entered the boreholes and rose upward many feet in the boreholes/wells.

The two layers of water are clearly connected as contamination has been identified at both depths during this Tier II investigation. There appears to be an aquitard comprised of mostly dry silty clay (with a small % of sand) between the two above-described zones of water across the area of study. Because the contaminants have been identified at both depths in and near the source area, there clearly is transmissivity between the two layers. Therefore, the silty clay is not considered a true aquiclude, but is acting at least as a partially confining unit.

Summary of Findings

Field Screening

In order to evaluate the horizontal and vertical extent of the contaminant plume, temporary monitoring wells (TMWs) were drilled to total depths in the most shallow water bearing zone as well as the secondary water bearing zone detailed above. The shallow TMWs were designated TMW-1 through TMW-49 and were generally completed to total depths of approximately 15' to 20' bgs. The TMWs installed in the deeper water bearing zone were, designated TMW-11D, TMW-12D, TMW-14D, TMW-16D, TMW-19D, TMW-23D, TMW-25D through TMW-33D, TMW-40D, TMW-43D through TMW-46D, and TMW-48D through TMW-55D, were generally completed to total depths of approximately 35' to 40' bgs. The TMWs were installed on the subject site and on several off-site properties with a rotary auger drill rig. Dedicated one-inch diameter schedule 40 PVC casing with 0.010 inch gauge PVC screen was placed in each TMW. Each TMW was developed in order to get representative samples. Groundwater samples were collected from each of the TMWs using disposable hand bailers and disposable colorless nylon bailer twine. Each of the groundwater samples was submitted to a laboratory and analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) analysis.

Each of the TMWs was abandoned in accordance with SC Well Standards and Regulations, R.61-71 upon completion.

The location of each temporary monitoring well is indicated on the Site Base Map included as Figure 2. The laboratory analytical results, including chain-of-custody documentation, for the TMW groundwater samples are included in Appendix B. A tabular summary of the TMW screening results, as well as boring logs detailing the temporary wells are included in Appendix D. The SCDHEC 1903 forms are included in Appendix E.

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Free Product delineation

In order to evaluate the horizontal extent of the free phase product observed at the site, sixteen (16) free product delineation points (FPs) were installed at the site. The product delineation points, designated FP-1 through FP-16, were drilled to total depths of 20' bgs. The FPs were installed on the subject site with a rotary auger drill rig. Dedicated one-inch diameter schedule 40 PVC casing with 0.010 inch gauge PVC screen was placed in each FP. Each of the FPs was allowed to sit for approximately one week prior to gauging in order to allow water and product to enter the well. The FPs were gauged for the presence of free product on October 4, 2012 and again on October 12, 2012.

Each of the FPs was abandoned in accordance with SC Well Standards and Regulations, R.61-71.

The location of each free product delineation point is indicated on the Site Base Map included as Figure 2. A tabular summary of the FP gauging results, as well as boring logs detailing the temporary product delineation points are included in Appendix D. The SCDHEC 1903 forms are included in Appendix E.

Monitoring Well Installation

Based on the field screening results and pursuant to approval from the SCDHEC project manager, fifteen (15) additional shallow monitoring wells, designated MW-6A through MW-16A and MW-18A through MW-21A were installed in the most shallow water bearing zone. Sixteen (16) additional monitoring wells, designated MW-6B and MW-8B through MW-22B, were installed into the second water bearing zone in locations designated and/or approved by the project manager. The wells were installed in order to delineate the horizontal extent of the contaminant plume in the two most shallow water bearing zones originating from the Broad River Amoco site.

Three additional permanent telescoping monitoring wells, designated DMW-1 through DMW-3, were installed in order to further evaluate the vertical extent of the contaminant plume.

The monitoring wells were installed by certified Well Drillers in accordance with S.C. Well Standards and Regulations, R.61-71. The wells were developed with a decontaminated surge block and by bailing with disposable hand bailers and disposable colorless nylon bailer twine. The locations and top-of-casing elevations of the new permanent monitoring wells were surveyed after completion. The locations of the monitoring wells associated with the release are indicated on Figure 2 in this report.

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The geological boring logs and monitoring well construction schematics and SCDHEC 1903 Well Completion forms are included in Appendix E.

Recovery Well Installation

Based on the presence of free-phase product and pursuant to approval from the DHEC project manager, five (5) four-inch diameter recovery wells, designated RW-1 through RW-5 were installed in and around the source area at the site.

The recovery wells were installed by certified Well Drillers in accordance with S.C. Well Standards and Regulations, R.61-71. The wells were developed with a decontaminated surge block and by bailing with disposable hand bailers and disposable colorless nylon bailer twine. The locations and top-of-casing elevations of the recovery wells were surveyed after completion. The locations of the recovery wells associated with the release are indicated on Figure 2 in this report. The geological boring logs and recovery well construction schematics and SCDHEC 1903 Well Completion forms are included in Appendix E.

Soil Sampling

Soil samples were collected and field screened during this assessment in order to further define the extent of soil contamination associated with the release. Soil samples were screened during temporary and permanent well installation with a calibrated Mini Rae 3000 photoionization detector (PID). Soil samples were typically colleted at approximately five-foot intervals. Saturated soil samples were not screened.

Soil samples were also collected for grainsize/hydrometer analysis during this assessment. A soil sample was collected from the screened interval of MW-17B at 38.0 feet bgs. A soil sample was also collected from the screened interval of DMW-2 at 62.0 feet bgs.

A Soil CoC Site Map, indicating the soil CoC concentrations at each sampling point from the 2011 Tier I and the estimated extent of elevated soil contamination, is included as Figure 3. The soil analytical results are tabulated in Table 1. CoC detected at concentrations above the RBSLs established by SCDHEC are indicated in bold type.

The complete laboratory analytical results, including chain-of-custody documentation, are included in Appendix B. Boring logs detailing the soil borings an soil screening results at each location are included in Appendix D, and Appendix E.

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Gauging

On March 6, 2013, the sampling crew located and gauged all monitoring wells and recovery wells associated with the release. Prior to the initiation of any gauging, purging or sampling activities, clean plastic sheeting was placed on the ground surface around each well in order to provide a clean work area. Each well was opened and gauged with a decontaminated electronic water level indicator to the nearest 0.01-foot. Fluid levels and total depths of the monitoring wells were recorded on field data sheets in indelible ink. Monitoring wells MW-2, MW-4, and MW-5 contained 1.34 feet, 2.31 feet, and 2.83 feet of free-phase product respectively. Recovery wells RW-1, RW-3, and RW-5 contained 0.15 feet, 0.05 feet, and 0.06 feet of free-phase product, respectively.

MW-13A, MW-15A, and MW-16A were found to contain an insufficient volume of water to collect samples. Therefore, the three shallow wells were allowed to accumulate water for a longer period of time. On March 25, 2013, MW-13A, MW-15A, and MW-16A were again opened and gauged. The three wells did contain sufficient groundwater for sample collection on March 25.

Groundwater flow direction(s) of the water table / perched aquifer and second water bearing zone were determined to be generally toward the northwest. The general groundwater flow direction calculated from the three telescoping deep wells was determined to be toward the north / northeast. The current potentiometric data are summarized in Table 2. Generalized Potentiometric Surface Maps, displaying groundwater elevations at each well and groundwater flow directions for the water table aquifer, second water bearing zone, and telescoping well screened intervals are included as Figure 5A, 5B, and 5C, respectively.

Purging

All of the monitoring wells containing sufficient water were purged prior to sampling. Prior to purging, the well volumes were calculated using the diameter of the well, the static water level and the total depth of the well. The wells were purged with disposable hand bailers and disposable colorless nylon bailer twine. The bailers were lowered slowly into the water column, allowed to fill and carefully withdrawn from the wells.

Temperature, pH, specific conductivity, dissolved oxygen, and turbidity were measured and recorded throughout the purging process and purging continued until these parameters stabilized, typically in three to five well volumes. Stabilization occurs when pH measurements remain constant within 0.1 Standard Unit (SU), or reproducible to within 0.1 (SU), specific conductance varies no more that 10 percent, the temperature is constant for at least three consecutive readings and the turbidity has stabilized.

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Wells purged to dryness were considered sufficiently purged. Samples were collected immediately after the purging process was complete.

Prior to commencement of purging, the purging meters were calibrated according to manufacturer's specifications. Also, the meters' calibration was checked mid-way through and after the purging activities. The calibration checks indicated that the meters remained calibrated within the acceptable ranges of the meters' standards throughout the purging activities. The purging data were recorded on field data sheets in indelible ink. The Purge Meter Calibration Data Sheets and Monitoring Well Purging Data Sheets are included in Appendix B.

Groundwater Sampling

No groundwater samples were collected from MW-2, MW-4, MW-5, RW-1, RW-3, or RW-5 due to the presence of free-phase product. Groundwater samples were collected from the other monitoring and recovery wells associated with the release and placed into pre-labeled, laboratory-prepared sample containers utilizing disposable polyethylene hand bailers with disposable colorless nylon bailer twine. The bailers were slowly lowered into the water column until just filled, and then slowly removed from the wells. The contents were then emptied into the appropriate sample containers.

Purging parameters were again measured and recorded immediately after sample collection at each well. In order to further ensure sample integrity, samples were immediately placed on ice in an insulated cooler upon collection and entered into chain of custody. Field blanks were collected at the completion of each day of sampling activities. Laboratory-prepared trip blanks were included with the insulated sample coolers to ensure cross-contamination did not occur between the collected groundwater samples.

Duplicate samples were collected from monitoring wells MW-20B (Duplicate 1) and DMW-2 (Duplicate 2).

The groundwater samples were submitted to Shealy Environmental Services, Inc., a South Carolina certified laboratory (certification #32010), for analysis of BTEX, naphthalene, MTBE and 1,2-dichloroethane (1,2-DCA) by EPA method 8260B, for EDB by EPA method 8011 and for total lead by EPA method 6010C.

Groundwater samples were also analyzed for the following eight oxygenates: disopropyl ether (DIPE), ethanol, ethyl tert-butyl alcohol (ETBA), ethyl tert-butyl either (ETBE), tert-amyl alcohol (TAA), tert-amyl methyl either (TAME), tert-butyl alcohol (TBA) and tert-butyl formate (TBF).

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The laboratory analytical results from this assessment (current) are tabulated in Table 3. Results from previous groundwater sampling events are tabulated with the data from this assessment (current and historical) in Table 4. CoC detected at concentrations above the RBSLs established by SCDHEC are indicated in bold type. The complete laboratory analytical results, including chain-of-custody documentation, are included as Appendix B. A Groundwater CoC Site Map, indicating the March 2013 CoC concentrations in the groundwater at each monitoring well, is included as Figure 4.

Abandonment

At the request of the DHEC project manager, monitoring wells MW-16A and MW-16B were abandoned upon completion of sampling activities. The two wells were abandoned in accordance with SC Well Standards and Regulations, R.61-71 upon completion

Geological Cross Sections

As requested in the directive for this assessment, Geological Cross Sections showing the lithology of the site, and the known and estimated extent of the contamination, are included with this report. A Geologic Cross Section Base Map is included as Figure 6. Geological cross sections A - A' and B - B' are included as Figures 6A and 6B, respectively.

Aguifer Evaluation

The Bouwer-Rice method was utilized with the computer application AQTESOLV to evaluate the slug test data collected from monitoring wells MW-17B and DMW-2, using an electronic water level meter and a stopwatch. The slug test results indicate that the hydraulic conductivity of the aquifer section bracketed by MW-17B is approximately 2.72 E-7 feet per second and the hydraulic conductivity of the aquifer at a deeper depth (from DMW-2) is approximately 1.01 E-7 feet per second. The estimated seepage velocity of the second water bearing zone was calculated to be 1.07 feet per year. The estimated seepage velocity of the aquifer at a deeper depth was calculated to be 0.13 feet per year. The calculations, equations, data, and AQTESOLV slug test curve-matching graphs are included in Appendix F.

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Free Product Recovery Test

A free product recovery test was also conducted on MW-5 in order to determine the true thickness of free product at the site. A disposable polyethylene hand bailer with disposable colorless nylon bailer twine was utilized to bail the product to a thickness of less than 1 inch and depths to product and water were measured and recorded during recharge. The measured product thickness when the groundwater table began to be suppressed is the estimated true product thickness. MW-5 initially contained 2.97 feet of free product. After the free product recovery test was complete, MW-5 contained 1.94 feet of free product. Approximately 2.0 gallons of free product were removed from MW-1 during the completion of the recovery test. The tabulated results and a graphical representation of the recovery test results are included in Appendix F.

Disposal

A total of 36.5 tons of contaminated soils and decontamination solids were collected during this assessment. The solids were disposed of at TK Tank Services in Sumter, South Carolina.

A total of 110 gallons of contaminated purge water, free product, well development fluids and decontamination fluids were collected during this assessment. The fluids were disposed of at U.S. Water Recovery in Mt. Holly, South Carolina.

Disposal manifests for all of the contaminated soils, purge water, well development fluids and decontamination fluids are included in Appendix G.

Tax Map

A tax map obtained from the Richland County GIS website, along with updated tabulated property owner information, is included as Appendix C.

Local Zoning Regulations

Documentation pertaining to off-site property access to various properties is included as Appendix H.

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Broad River Amoco Tier II Assessment UST Permit #11946; CA #42065

Property Access Documentation

Documentation pertaining to off-site property access to various properties is included as Appendix J. Access to all other private and public properties (SLED property) was granted verbally by their respective property owners to Terry Teate with EnviroTest Services, Inc.

Contractor Checklist

The SCDHEC QAPP Contractor Checklist is included in Appendix K.

Conclusions and Recommendations

Based on the data collected during this assessment, it appears that elevated concentrations of several Chemicals of Concern are present at the site and on adjacent property. Monitoring wells MW-1, MW-17B, DMW-1 and DMW-2, as well as recovery wells RW-2 and RW-4 contain various dissolved-phase CoC, including benzene, toluene, ethylbenzene, xylenes, naphthalene, MTBE, 1,2-DCA, and/or EDB at concentrations greater than their respective RBSLs. Additionally, free-phase product was present in MW-2, MW-4, MW-5, RW-1, RW-3, and RW-5 during this assessment.

Based on the results of this assessment, it appears that the contaminant plume has been defined horizontally in multiple stratigraphic layers. As detailed above, it is apparent that groundwater can be found in several stratified layers or zones at the site. The most shallow groundwater was generally intersected between 15' - 20' bgl and was very slow to accumulate in the boreholes. The soils became more clayey (a silty clay) and mostly dry beginning at approximately 25' bgs. The second layer or zone of water encountered was typically found at an approximate depth of 35'-40' bgl and was under significant hydraulic pressure. There appears to be an aquitard comprised of mostly dry silty clay between the two above-described zones of water across the area of study. Because the contaminants have been identified at both depths in and near the source area, there clearly is transmissivity between the two layers. Therefore, the silty clay is not considered a true aquiclude, but is acting at least as a partially confining unit.

Groundwater appears to be flowing generally to the northwest at the time of this assessment. However, based on the geography of the site and surrounding properties, the significant hydraulic pressure in the second water-bearing zone, and the contaminant distribution, it appears that groundwater and contaminants have migrated toward the west/southwest overall since the release.

If further definition is desired with respect to the vertical extent of contaminants in the source area, then additional and deeper telescoping well installation should be considered. It should be noted, however, that bedrock is likely not much deeper than the total depth of the telescoping wells installed during this assessment.

It is recommended that aggressive fluid vapor recovery (AFVR) events should be completed in order to remove the free-phase product present at the site. Additionally, a sampling program should be instituted at the site in order to monitor the groundwater for natural attenuation and migration of the CoC associated with the release.

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References

Maybin and Nystrom, 1997, revised by Willoughby, Howard and Nystrom, 2005. Generalized Geologic Map of South Carolina; South Carolina Department of Natural Resources Geological Survey.

USGS Open-File Report 2005-1323, Preliminary integrated geologic map databases for the United States: Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina, http://pubs.usgs.gov/of/2005/1323/

FIGURES

Figure 1 – Site Location Map (Topographic)

Figure 2 - Site Base Map

Figure 3 - Soil CoC Map

Figure 4 – Groundwater CoC Map

Figure 5A – Potentiometric Map (Shallow - Zone A)

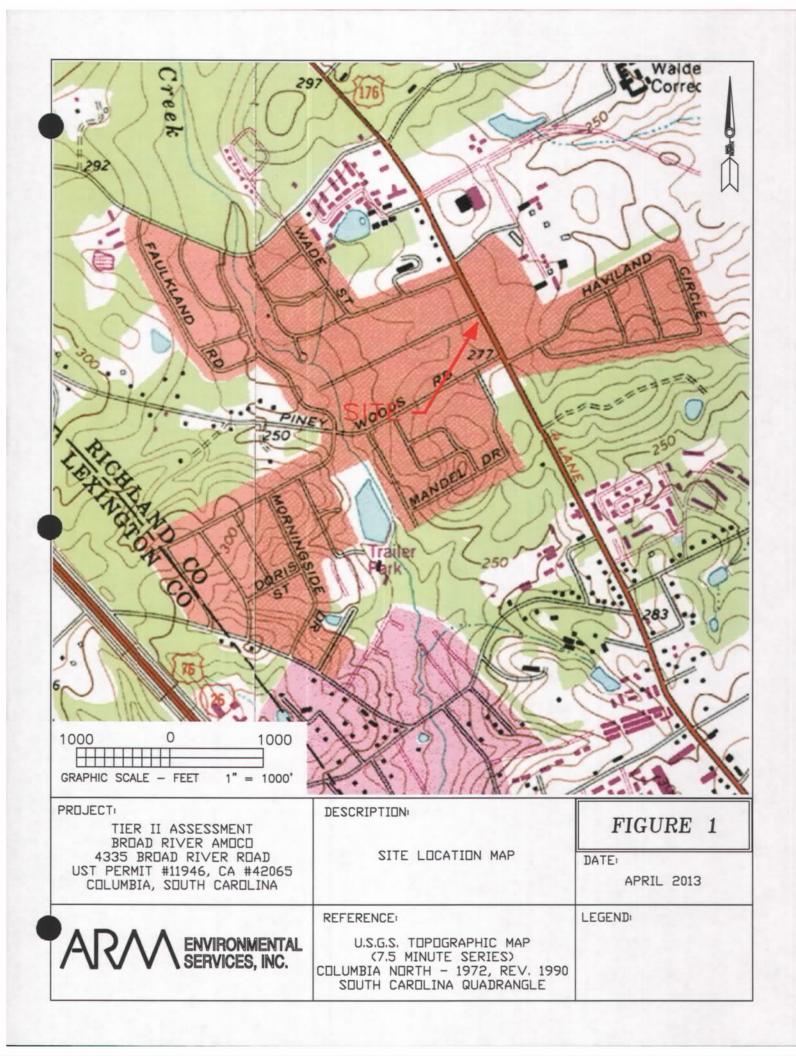
Figure 5B - Potentiometric Map (Shallow - Zone B)

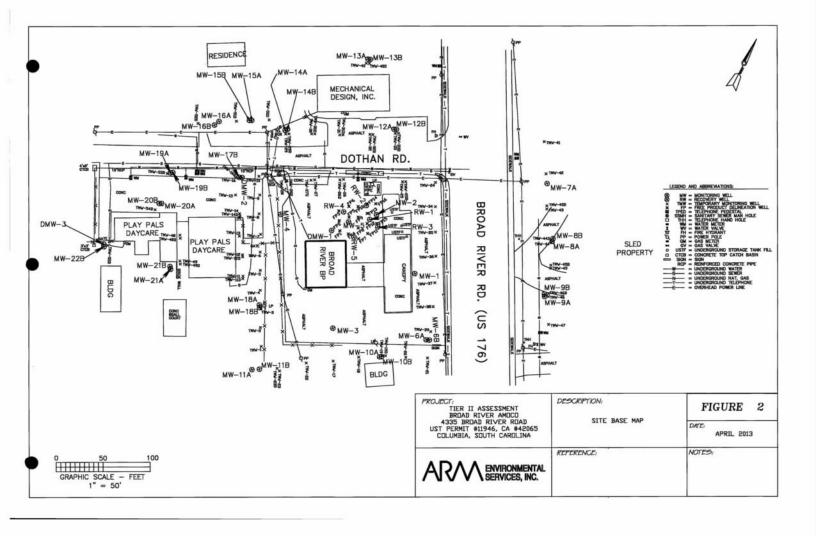
Figure 5C – Potentiometric Map (Deep)

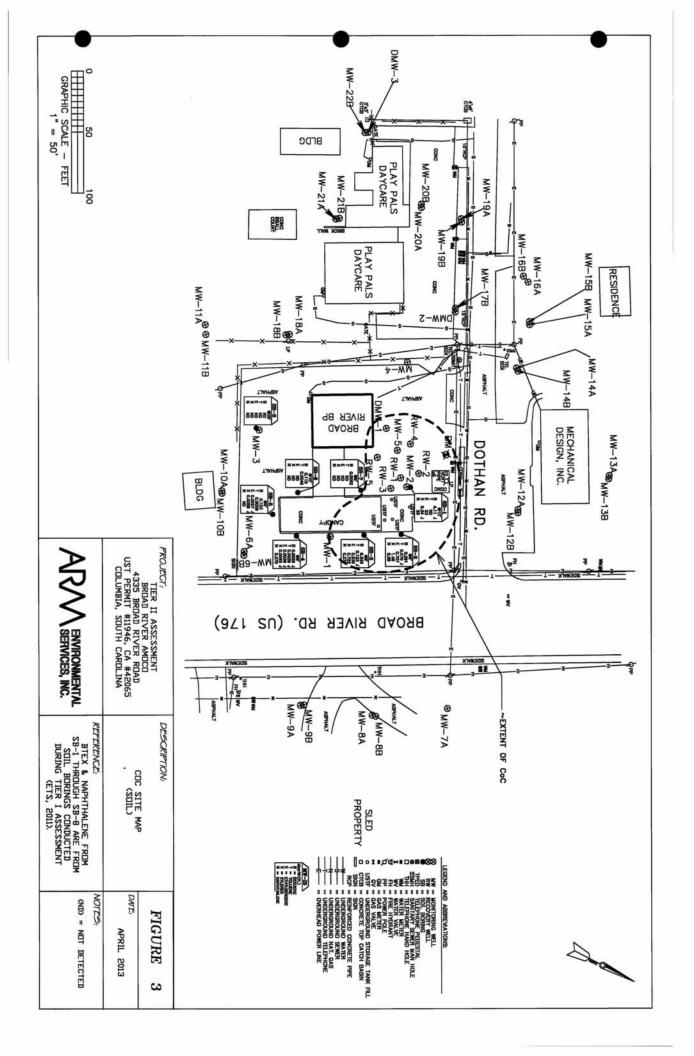
Figure 6 – Geologic Cross Section Base Map

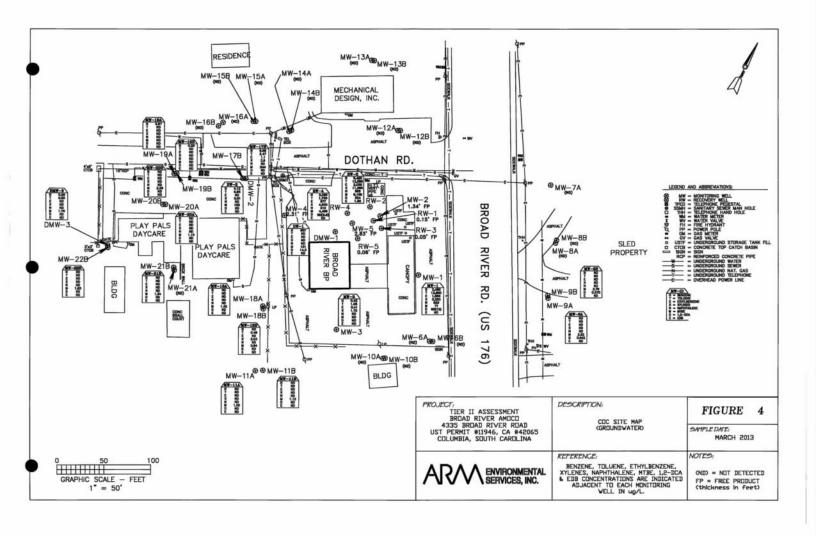
Figure 6A - Geologic Cross Section A-A'

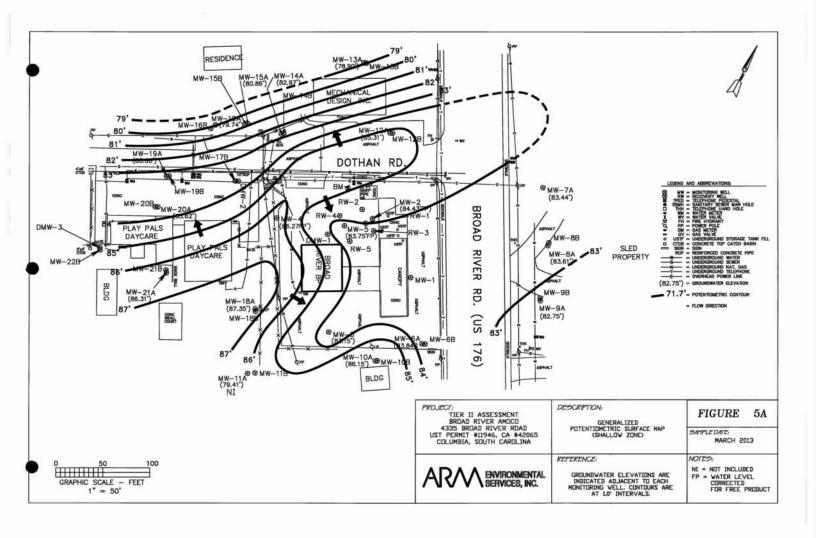
Figure 6B - Geologic Cross Section B-B'

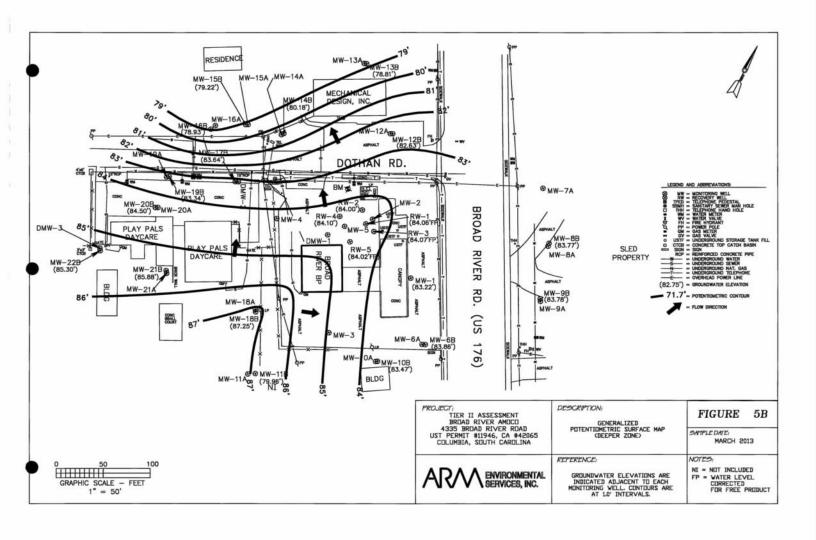


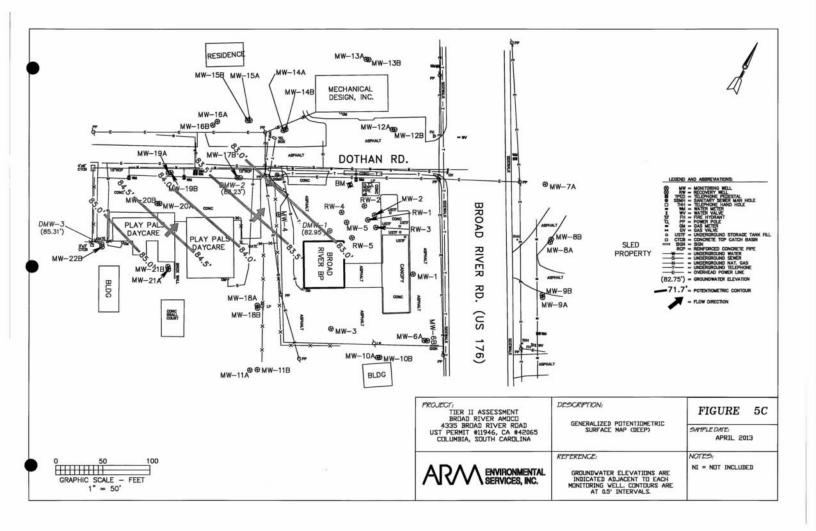


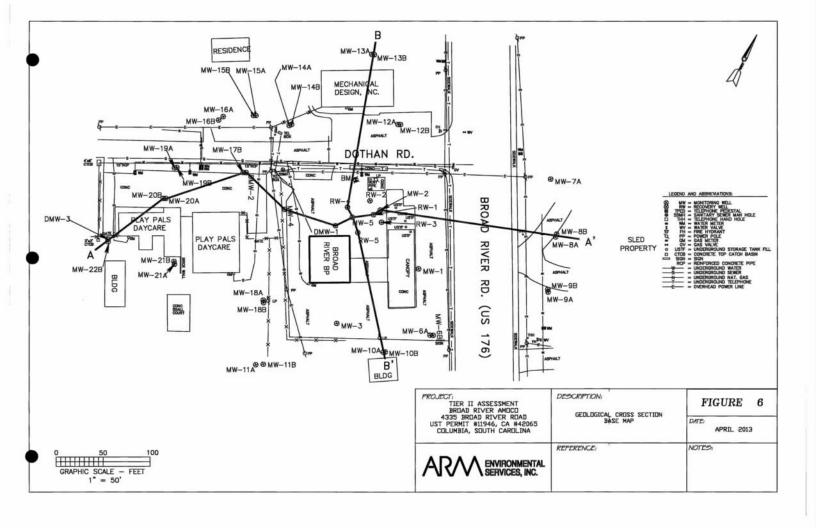


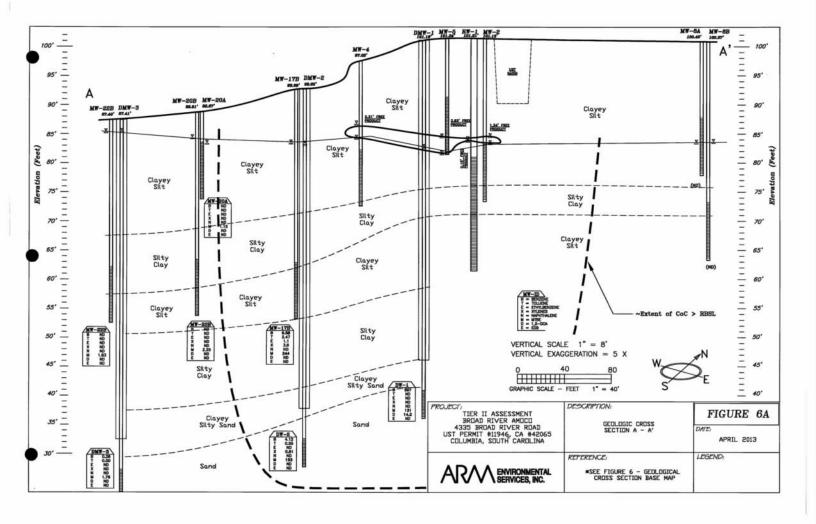


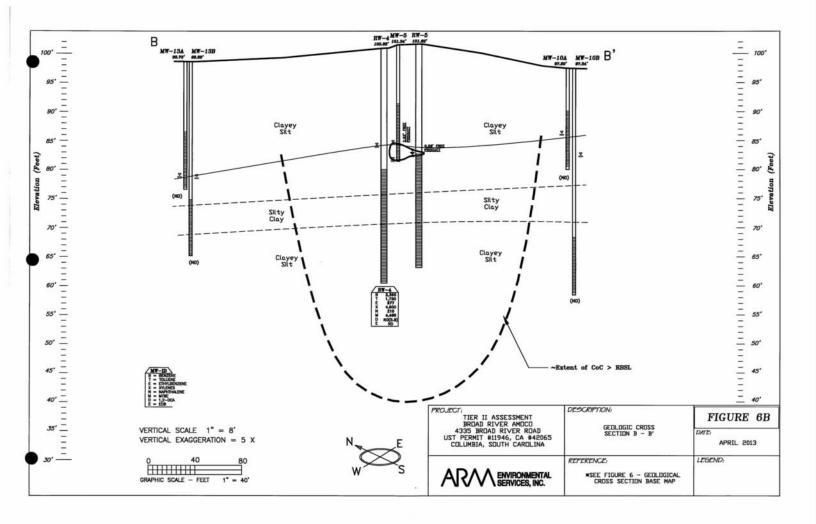












TABLES

Table 1 – Soil Analytical Data

Table 2 – Potentiometric Data

Table 3 – Current Analytical Data

Table 4 - Current & Historical Analytical Data

APPENDICES

- A. Site Survey
- B. Purging Data Sheets & Laboratory Analytical Data
- C. Tax Map
- D. Soil Boring / Field Screening Logs
- E. Well Completion Logs & SCDHEC 1903 Forms
- F. Aquifer Evaluation Results
- G. Disposal Manifest(s)
- H. Local Zoning Regulations
- Not Included
- J. Property Access Documentation
- K. SCDHEC Contractor Checklist

Table 1 - Soil Analytical Data

Soil Boring ID	Sample Depth (ft.)	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene
RBSLs	N/A	N/A	0.187	12.085	1114.5	176.8	0.292
SB-1	10.0	2/24/2011	4.11J	<0.254	23	5.34J	33
SB-2	5.0	2/24/2011	0.291	0.0702J	0.707	1.46	0.35
\$B-3	8.0	2/24/2011	0.343	0.123J	0.536	0.722	0.275
SB-4	6.0	2/24/2011	0.00294J	0.00294J	0.00363J	0.00651J	0.275
SB-5	6.0	2/24/2011	0.103	0.00581	0.00273J	0.00575J	<0.001
SB-6	10.0	2/24/2011	0.115	0.0048	<0.001	<0.001	< 0.001
SB-7	8.0	2/24/2011	0.00617	<0.001	<0.001	<0.001	<0.001
SB-8	35.0	2/24/2011	<0.001	<0.001	<0.001	<0.001	<0.001

All units expressed in mg/kg (PPM) <= Not Detected Above Practical Quantitation Limit (limit in µg/kg) NA - Not Analyzed

Table 2 – Pot ometric Data March 6 and 25, 2013

Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)
MW-1	3/5/2011	40.0	20.0 - 40.0	101.84	14.45	N/A	N/A	N/A	87.39
	3/6/2013	40.0	20.0 - 40.0	101.84	18.62	N/A	N/A	N/A	83.22
MW-2	3/5/2011	28.0	18.0 - 28.0	101.13	13.50	N/A	N/A	N/A	87.63
	3/6/2013	28.0	18.0 - 28.0	101.13	17.66	16.32	1.34	16.70	84.43
MW-3	3/5/2011	31.0	21.0 - 31.0	101.09	13.72	N/A	N/A	N/A	87.37
	3/6/2013	31.0	21.0 - 31.0	101.09	17.94	N/A	N/A	N/A	83.15
MW-4	3/5/2011	25.0	15.0 - 25.0	97.02	9.15	N/A	N/A	N/A	87.87
	3/6/2013	25.0	15.0 - 25.0	97.02	12.41	10.10	2.31	10.75	86.27
MW-5	6/20/2011	20.0	10.0 - 20.0	101.34	14.05	13.75	0.30	13.83	87.51
	3/6/2013	20.0	10.0 - 20.0	101.34	19.63	16.80	2.83	17.59	83.75
MW-6A	3/6/2013	25.5	15.5 - 25.5	101.84	18.00	N/A	N/A	N/A	83.84
MW-6B	3/6/2013	38.5	28.5 - 38.5	101.91	18.05	N/A	N/A	N/A	83.86
MW-7A	3/6/2013	24.0	14.0 - 24.0	100.04	16.60	N/A	N/A	N/A	83.44
A8-WM	3/6/2013	23.0	13.0 - 23.0	100.45	16.84	N/A	N/A	N/A	83.61
MW-8B	3/6/2013	37.5	27.5 - 37.5	100.37	16.60	N/A	N/A	N/A	83.77
Ae-WM	3/6/2013	23.0	13.0 - 23.0	101.36	18.61	N/A	N/A	N/A	82.75
MW-9B	3/6/2013	31.5	21.5 - 31.5	101.38	17.60	N/A	N/A	N/A	83.78
MW-10A	3/6/2013	17.5	7.5 - 17.5	97.20	11.05	N/A	N/A	N/A	86.15
MW-10B	3/6/2013	39.0	29.0 - 39.0	97.34	13.87	N/A	N/A	N/A	83.47
MW-11A	3/6/2013	20.0	10.0 - 20.0	89.93	10.52	N/A	N/A	N/A	79.41
MW-11B	3/6/2013	35.0	29.0 - 39.0	90.26	10.30	N/A	N/A	N/A	79.96
MW-12A	3/6/2013	20.0	10.0 - 20.0	99.26	13.95	N/A	N/A	N/A	85.31
MW-12B	3/6/2013	36.5	26.5 - 36.5	99.35	16.72	N/A	N/A	N/A	82.63
NW-13A	3/25/2013	22.0	12.0 - 22.0	98.70	19.80	N/A	N/A	N/A	78.90
MW-138	3/6/2013	33.5	23.5 - 33.5	98.69	19.88	N/A	N/A	N/A	78.81
MW-14A	3/6/2013	20.0	10.0 - 20.0	97.49	14.52	N/A	N/A	N/A	82.97
MW-148	3/6/2013	38.5	28.5 - 38.5	97.45	17.27	N/A	N/A	N/A	80.18

Note: ** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable NM - Not Measured NL - Not Located

Table 2 – Pot ometric Data March 6 and 25, 2013

Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)
MW-15A	3/25/2013	17.0	7.0 - 17.0	96.87	16.01	N/A	N/A	N/A	80.86
MW-15B	3/6/2013	40.0	30.0 - 40.0	96.82	17.60	N/A	N/A	N/A	79.22
MW-16A	3/25/2013	18.0	8.0 - 18.0	95.95	16.21	N/A	N/A	N/A	79.74
NW-16B	3/6/2013	37.0	27.0 - 37.0	95.68	16.75	N/A	N/A	N/A	78.93
MW-17B	3/6/2013	39.5	29.5 - 39.5	92.69	9.05	N/A	N/A	N/A	83.64
MW-18A	3/6/2013	13.0	3.0 - 13.0	88.20	0.85	N/A	N/A	N/A	87.35
MW-18B	3/6/2013	35.0	25.0 - 35.0	88.30	1.05	N/A	N/A	N/A	87.25
MW-19A	3/6/2013	15.0	5.0 - 15.0	91.63	7.95	N/A	N/A	N/A	83.68
MW-19B	3/6/2013	34.0	24.0 - 34.0	91.69	8.35	N/A	N/A	N/A	83.34
MW-20A	3/6/2013	15.0	5.0 - 15.0	88.67	5.05	N/A	N/A	N/A	83.62
NW-20B	3/6/2013	35.0	25.0 - 35.0	88.61	4.11	N/A	N/A	N/A	84.50
MW-21A	3/6/2013	12.0	2.0 - 12.0	87.16	0.85	N/A	N/A	N/A	86.31
MW-21B	3/6/2013	35.0	25.0 - 35.0	87.23	1.35	N/A	N/A	N/A	85.88
MW-228	3/6/2013	35.0	25.0 - 35.0	87.40	2.10	N/A	N/A	N/A	85.30
RW-1	3/6/2013	40.0	20.0 - 40.0	101.21	17.26	17.11	0.15	17.15	84.06
RW-2	3/6/2013	40.0	20.0 - 40.0	100.96	16.96	N/A	N/A	N/A	84.00
RW-3	3/6/2013	41.0	21.0 - 41.0	101.44	17.41	17.36	0.05	17.37	84.07
RW-4	3/6/2013	40.5	20.5 - 40.5	100.83	16.73	N/A	N/A	N/A	84.10
RW-5	3/6/2013	38.5	18.5 - 38.5	101.62	17.64	17.58	0.06	17.6	84.02
DMW-1	3/6/2013	65.0	60.0 - 65.0	101.16	18.21	N/A	N/A	N/A	82.95
DMW-2	3/6/2013	65.0	60.0 - 65.0	92.63	9.40	N/A	N/A	N/A	83.23
DMW-3	3/6/2013	65.0	60.0 - 65.0	87.41	2.10	N/A	N/A	N/A	85.31

Note:

** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable NM - Not Measured NL - Not Located

Table 3 – Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
MW-1	3/8/2013	2,480	12,800	1,550	5,650	623	70.8 J	ND (11.6)	ND (0.0039)	14 J
MW-2	3/6/2013		7		1.3	34' Free Prod	duct			
MW-3	3/8/2013	0.417 J	1.05	0.408 J	1.72 J	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MVV-4	3/6/2013		7		2.3	1' Free Prod	duct	, ,		(/
MW-5	3/6/2013				2.8	3' Free Prod	duct			7877
MW-6A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	13 J
MW-6B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	19
NW-7A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-8A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	6.8 J
MW-8B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
NW-9A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.62	0.642 J	ND (0.0039)	ND (3.8)
MW-9B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.79	0.675 J	ND (0.0039)	ND (3.8)
MW-10A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-10B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-11A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.00		ND (0.0039)	11 J
MW-11B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.12		ND (0.0039)	ND (3.8)
MW-12A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-12B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-13A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	7.8 J
MW-13B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-14A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
NW-14B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)

Table 3 – Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
MW-15A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	5.3 J
MW-15B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-16A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	35
MW-16B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-17B	3/6/2013	6.58	2.47	1.1 J	3.87 J	ND (0.352	244	ND (0.232)	ND (0.0039)	ND (3.8)
MW-18A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.42		ND (0.0039)	590
MW-18B	3/6/2013	ND (0.111)	0.459 J	ND (0.109)	2.03 J	ND (0.176)	0.841 J	ND (0.116)	ND (0.0039)	ND (3.8)
MW-19A	3/6/2013	0.566 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-19B	3/6/2013	0.253 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-20A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.15		ND (0.0039)	ND (3.8)
MW-20B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.25		ND (0.0039)	8.7 J
MW-21A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	12 J
NW-21B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.34		ND (0.0039)	6.8 J
MW-22B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.83		ND (0.0039)	ND (3.8)
RW-1	3/6/2013				0.1	5' Free Proc	luct			, , , ,
RW-2	3/8/2013	9,420	12,800	2,030	11,000	565 J	9100	224 J	1.65	ND (3.8)
RW-3	3/6/2013			N	0.0	5' Free Prod	luct			
RW-4	3/8/2013	3,390	1,730	977	4,900	210 J	4,460	ND (5.81)	ND (0.0039)	12 J
RW-5	3/6/2013		0.06' Free Product							
DMW-1	3/8/2013	507	ND (1.22)	ND (1.09	ND (0.179)	ND (1.76)	131	14.2 J	ND (0.0039)	ND (3.8)
DMW-2	3/6/2013	4.12	0.548 J	ND (0.109)	0.805 J	ND (0.176)	153	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN COLUMN 1		ND (3.8)
DMW-3	3/6/2013	0.281 J	0.497 J	ND (0.109)	ND (0.179	ND (0.176)	1.76		ND (0.0039)	120

Table 3 – Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
Duplicate 1 (MW-20B)	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.4	ND (0.116)	ND (0.0039)	4.5 J
Duplicate 2 (DMW-2)	3/6/2013	4.62	0.748 J	ND (0.218)	1.05 J	ND (0.352	169	ND (0.232)	ND (0.0039)	ND (3.8)
Field Blank 1	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 2	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 4	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 1	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 2	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 4	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 5	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA

Table 3 – Current Groundwater Analytical Data --8 Oxygenates-March 6 through March 8, 2013

Monitor Well ID	Date Sampled	DIPE	Ethanol	ETBA	ETBE	TAA	TAME	TBA	TBF
RBSLs		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-1	3/8/2013	ND (23.6)	ND (12500)	ND (3760)	ND (23.4)	6340	ND (24)	ND (29)	ND (48.7)
MW-2	3/6/2013				1.34' Free	Product		,	
MW-3	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	30.8	ND (0.24)	ND (0.29)	ND (0.487)
MW-4	3/6/2013				2.31' Free	Product		, ,	
MW-5	3/6/2013				2.83' Free	Product			
MW-6A	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-68	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-7A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
A8-WM	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-88	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-9A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-9B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
NW-10A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-10B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-11A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-11B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-12A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-12B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-13A	3/25/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-13B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
MW-14A	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
NW-14B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)

Note:

Table 3 - Current Groundwater Analytical Data --8 Oxygenates--March 6 through March 8, 2013

Monitor Well ID	Date Sampled	DIPE	Ethanol	ETBA	ETBE	TAA	TAME	TBA	TBF
RBSLs		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-15A	3/25/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-15B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
WW-16A	3/25/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-16B	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-17B	3/6/2013	2.6 J	ND (250)	ND (75.2)	ND (0.468)	244	ND (0.48)	400	ND (0.974
MW-18A	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
NW-18B	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-19A	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	5.8 J	ND (0.487
MW-19B	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
NW-2DA	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-20B	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-21A	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-21B	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
MW-22B	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487
RW-1	3/6/2013	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	No.		0.15' Free	Product	, ,		
RW-2	3/8/2013	72.7 J	ND (25000)	ND (7520)	ND (46.8)	32,100	ND (48)	5,970	ND (97.4)
RW-3	3/6/2013	112274			0.05' Free	Product	, ,		, ,
RW-4	3/8/2013	ND (11.8)	ND (6250)	ND (1880)	ND (11.7)	5,690	ND (12)	2,180	ND (24.3)
RW-5	3/6/2013			,	0.06' Free	Product	200		
DIVIW-1	3/8/2013	ND (2.36)	ND (1250)	ND (376)	ND (2.34)	2,550	ND (2.4)	75.5 J	ND (4.87)
DMW-2	3/6/2013	1.49 J	ND (125)	ND (37.6)	ND (0.234)	141	ND (0.24)	230	ND (0.487
DMW-3	3/6/2013	ND (0.236)	239 J	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487

Note:

Table 3 – Current Groundwater Analytical Data --8 Oxygenates-March 6 through March 8, 2013

Monitor Well ID	Date Sampled	DIPE	Ethanol	ETBA	ETBE	TAA	TAME	TBA	TBF
RBSLs		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Duplicate 1 (MW-20B)	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
Duplicate 2 (DMW-2)	3/6/2013	1.77 J	ND (250)	ND (75.2)	ND (0.468)	163	ND (0.48)	271	ND (0.974)
Field Blank 1	3/6/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
Field Blank 2	3/7/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)	ND (0.29)	ND (0.487)
Field Blank 3	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Field Blank 4	3/25/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Trip Blank 1	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Trip Blank 2	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Trip Blank 3	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Trip Blank 4	3/8/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)
Trip Blank 5	3/25/2013	ND (0.236)	ND (125)	ND (37.6)	ND (0.234)	ND (1.01)	ND (0.24)		ND (0.487)

Note:

Table 4 – Current & Historical Groundwater Analytical Data March 5, 2011 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	МТВЕ	1,2-DCA	EDB	Total Lead		
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MGL)	0.05	15 (Action Level)		
MW-1	3/5/2011	1,760	18,400	1,270	5,140	4,070J	<83.9	<121	<0.0032	18		
	3/8/2013	2,480	12,800	1,550	5,650	623	70.8 J	ND (11.6)	ND (0.0039)	14 J		
MW-2	3/5/2011	1,650	3,230	422	2,190	462J	3,420	<12.1	1.42	<15		
	3/6/2013		Name of the State		1.	34' Free Prod	luct					
MW-3	3/5/2011	<15	10.4	9.52	30.6	4.74J	7.91	<0.121	<0.0032	<15		
	3/8/2013	0.417 J	1.05	0.408 J	1.72 J	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
NIW-4	3/5/2011	1,830	198	1,270	3,160	598	3,100	<12.1	<0.0032	<15		
	3/6/2013		2.31' Free Product									
MW-5	6/20/2011					30' Free Prod		10.400000				
	3/6/2013			11-21	2.0	3' Free Prod	luct					
MW-6A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	13 J		
MW-6B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	19		
NW-7A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-8A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	6.8 J		
MW-8B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-9A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.62		ND (0.0039)	ND (3.8)		
MW-9B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.79		ND (0.0039)	ND (3.8)		
MW-10A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-108	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-11A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.00		ND (0.0039)	11 J		
MW-11B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.12		ND (0.0039)	ND (3.8)		
MW-12A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-12B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-13A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	7.8 J		
MW-13B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-14A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		
MW-14B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)		

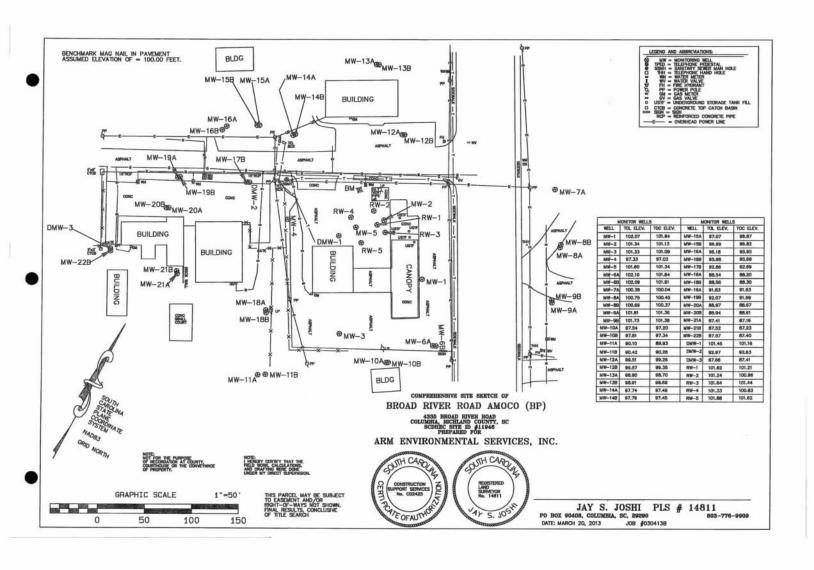
Table 4 – Current & Historical Groundwater Analytical Data March 5, 2011 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5.	1,000	700	10,000	25	40	5 (MGL)	0.05	15 (Action Level)
MW-15A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	5.3 J
MW-15B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-16A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	
MW-16B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-17B	3/6/2013	6.58	2.47	1.1 J	3.87 J	ND (0.352	244	ND (0.232)	ND (0.0039)	ND (3.8)
MW-18A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.42	ND (0.116)	ND (0.0039)	590
MW-18B	3/6/2013	ND (0.111)	0.459 J	ND (0.109)	2.03 J	ND (0.176)	0.841 J		ND (0.0039)	ND (3.8)
MW-19A	3/6/2013	0.566 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	ND (3.8)
MW-19B	3/6/2013	0.253 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-20A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.15		ND (0.0039)	ND (3.8)
MW-20B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.25		ND (0.0039)	
MW-21A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	
MW-218	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.34		ND (0.0039)	
MW-22B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.83		ND (0.0039)	ND (3.8)
RW-1	3/6/2013					5' Free Prod	luct	, , ,		(
RW-2	3/8/2013	9,420	12,800	2,030	11,000	565 J	9100	224 J	1.65	ND (3.8)
RW-3	3/6/2013				0.0	5' Free Prod	luct			10.07
RW-4	3/8/2013	3,390	1,730	977	4,900	210 J	4,460	ND (5.81)	ND (0.0039)	12 J
RW-5	3/6/2013				0.0	6' Free Prod		(/	1 (2.0000)	
DMW-1	3/8/2013	507	ND (1.22)	ND (1.09	ND (0.179)	ND (1.76)	131	14.2 J	ND (0.0039)	ND (3.8)
DMW-2	3/6/2013	4.12	0.548 J	ND (0.109)	0.805 J	ND (0.176)	153		ND (0.0039)	ND (3.8)
DIMW-3	3/6/2013	0.281 J	0.497 J	ND (0.109)	ND (0.179	ND (0.176)	1.76		ND (0.0039)	

Table 4 – Current & Historical Groundwater Analytical Data March 5, 2011 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
Duplicate 1 (MW-20B)	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.4	ND (0.116)	ND (0.0039)	4.5 J
Duplicate 2 (DMW-2)	3/6/2013	4.62	0.748 J	ND (0.218)	1.05 J	ND (0.352	169	ND (0.232)	ND (0.0039)	ND (3.8)
Field Blank 1	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 2	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)		ND (0.176)	ND (0.078)	ND (0.116)	NA NA	NA
Field Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 4	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 1	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 2	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 4	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 5	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA ·	NA

APPENDIX A SITE SURVEY



APPENDIX B PURGING DATA SHEETS & LABORATORY ANALYTICAL DATA



Site Data			
Facility Name: Broad River F	moco	Facility Location: 4335 Brand Riv	er Rd. : Columbia, SC
UST Permit # 11946 Field F	Personnel: Tyle- Fe	elder / Travis Billings Weather: 40°	AM - 53°PM SUN WIND
pH / Specific Conductivity Meter		Dissolved Oxygen Meter	,
(check one) X ThermoScientific	Orion 4 Star - A16729 Orion 4 Star - A16730 f pH/Con 10 Series - 502	Model & Serial #:——YSI 55 Dissolved ((check one)	Oxygen - 09L 100775
		Turbidity Meter	Mygen ook 101003
Initial Calibration		Model & Serial #: Hanna Hi 98703 (check one) S/N 08511753	X Hanna Hi 98703 S/N 08509656
pH Calibration: 4.01 /6.99 / 10.01 pH Standard: 4.01 / 7.00 / 10.01	Spec. Cond. Calibration: 1421 Spec. Cond. 1413 Standard:	Turbidity Calibration: Turbidity > 0.1 15.0 100 750 Standard:	Date: <u>03. 06. 13</u>
Midday Calibration Check			
pH Calibration: 4.03 /7-01 / 10-02 pH Standard: 4.01 / 7.00 / 10.01	Spec. Cond. Calibration: 1418 Spec. Cond. Standard:	Turbidity Calibration: October 14.9 99.9 751 Turbidity > 0.1 15.0 100 750 Standard:	Date: <u>03.66 · 13</u> Time: <u>1210</u>
End-of-Day Calibration Check			
pH Calibration: 4.04 / 7-02 / 10-00 pH Standard: 4.01 / 7.00 / 10.01	Spec. Cond. Calibration: 1414 Spec. Cond. 1413 Standard:	Turbidity Calibration: O-26 / 15.1 / 101 / 749 Turbidity > 0.1 / 15.0 / 100 / 750 Standard:	Date: <u>03.06.13</u> Time: <u>1730</u>



Sile Dala			
Facility Name: Broad River	moco	Facility Location: 4335 Broad Riv	er Rd. ; Columbia, SC
UST Permit # 1(946 Field	Personnel: Tyler Fe	lde Travis Billing Weather: 50°	SUNNY
pH / Specific Conductivity Meter		Dissolved Oxygen Meter	12
(check one) X ThermoScientific	Orion 4 Star — A16729 Orion 4 Star — A16730 of pH/Con 10 Series — 5027	Model & Serial #:——YSI 55 Dissolved (Check one) ——YSI 55 Dissolved (Check one)	Oxygen - 09L 100775
ouxion widesprov	7 pry con 10 Series - 5027	——TSI 33 DISSOIVED C	Oxygen - 08L 101069
Initial Calibration		Turbidity Meter Model & Serial #: Hanna Hi 98703 (check one) S/N 08511753	<u>×</u> Hanna Hi 98703 S/N 08509656
pH Calibration: 4.01 / 7-00 / 10-01 pH Standard: 4.01 / 7.00 / 10.01	Spec. Cond. Calibration: 1442 Spec. Cond. Standard: 1413	Turbidity Calibration: Turbidity > 0.26 (5.0 (00 750	Date: <u>03・07・1</u> 3 Time: <u>0730</u>
Midday Calibration Check			
pH Calibration: pH Standard: 4.02 / 7.01 / 10.01	Spec. Cond. Calibration: 1427 Spec. Cond. Standard: 1473	Turbidity Calibration:	Date: 03.07.13 Time: 12.15
End-of-Day Calibration Check	<u> </u>		
pH Calibration: pH Standard: 4.02 / 6.99 / 10.03 4.01 / 7.00 / 10.01	Spec. Cond. Calibration: Spec. Cond. Standard: 1418 1413	Turbidity Calibration: U.76 15.1 101 749 Standard:	Date: <u>03.07.13</u> Time: <u>1730</u>



Onto Duta			
Facility Name: Broad River A	no 0 0	Facility Location: 4335 Bread R.	iver Pd. Columbia, Sc
UST Permit # 11946 Field Pe	rsonnel: Tyler Feld	er / Travis Billing Weather: 53	3° Sunny
	(full	nameś)	
pH / Specific Conductivity Meter		Dissolved Oxygen Meter	
(check one)ThermoScientific O		Model & Serial #:——YSI 55 Dissolved (check one)YSI 55 Dissolved	Oxygen - 06H2811 Oxygen - 09L 100775
Oakton Waterproof	pH/Con 10 Series - 502789	9	Oxygen - 08L 101069
		Turbidity Meter	CHARLEST STEEL MEDICATE
Initial Calibration	3/12	이 말이라 있으라면 빠리 아이들 때문에 다른 사람이 되었다.	3 <u>X</u> Hanna Hi 98703 S/N 08509656
pH Calibration: 4.04 / 6.99 / 10.03 pH Standard: 4.01 / 7.00 / 10.01	Calibration: 1438 C. Spec. Cond. 1413 Tu	urbidity allibration: 0-27 15-0 [00 750 urbidity > 0.1 15.0 100 750 tandard:	Date: <u>03-08-13</u>
Midday Calibration Check			
pH Calibration: 4.0Z / 7.03 / 10.01 pH Standard: 4.01 / 7.00 / 10.01	Calibration: 1425 C Spec. Cond. 1473 Tu	urbidity allibration: 0.76 / [5.] / 99.8 / 749 urbidity > 0.1 / 15.0 / 100 / 750 tandard:	Date: 03 · 08 · 13
End-of-Day Calibration Check			
pH Calibration: 3.99 / 7.01 / 10.06 pH Standard: 4.01 / 7.00 / 10.01	Calibration: 1421 C	urbidity allibration: 0.26 / 14.9 / (01 / 751 urbidity > 0.1 / 15.0 / 100 / 750 landard:	Date: <u>03 · 08 · (3</u> Time: 1400



Site Data				
Facility Name:	Brad Rive	- Amoco	Facility Location: 433 5 Band Lare	- Rd.) Columbia, 50
UST Permit #1194	6 Field Pe	ersonnel: Todd All		· Sunay
pH / Specific Conductivi	ty Meter		Dissolved Oxygen Meter	
(check one)	ThermoScientific 0	rion 4 Star — A16729 rion 4 Star — A16730 pH/Con 10 Series — 50:	(check one) YSI 55 Dissolved	Oxygen - 06H2B11 Oxygen - 09L 100775
-	Oukton waterproof	phycon to series - 50.		Oxygen - 08L 101069
			Turbidity Meter	
Initial Calibration			Model & Serial #:Hanna Hi 98703 (check one) S/N 08511753	Hanna Hi 98703 S/N 08509656
pH Calibration: 4.01 pH Standard: 4.01	7.00 / 10.01	Spec. Cond. Calibration: 14 20 Spec. Cond. Standard:	Turbidity Calibration: Turbidity Standard: 0.07 15.0 101 750	Date: 3/25/13 Time: (650
Midday Calibration Chec	:k			
pH Calibration: pH Standard: 4,01 /	7.00 / 10.01	Spec. Cond. Calibration: Spec. Cond.	Turbidity Calibration: Turbidity > 0.1 / 15.0 / 100 / 750	Date:
		Standard:	Standard: 750 7 100 7 750	-
End-of-Day Calibration (DIECK			
THE RESIDENCE OF THE PARTY OF T	17.01/10.01	Spec. Cond. Calibration: 1419	Turbidity Calibration: 6.28 / 14.9 / (00 / 749	Date: 3/25/13
pH Standard: 4.01 /	7.00 / 10.01	Spec. Cond. 1413	Turbidity > 0.1 / 15.0 / 100 / 750 Standard:	Time: 1340



Date: 03 - 8 13

cility Name: Bross	1 River	Amoco			Facility Location	: 4335 B.	road River A	ed.; Colmo	abra, SC
T Permit # 11946		i Personnel:	Tyler Fel	der / Tra					
II Data			177	(full names)					/
Il Number: MW - 1 al Depth: 38. Ø		neter (in):	2" 18.62	Well Volume Static Produc	(gal): 3 . t Level:	<i>1</i> 5	2" wel 4" wel	l: 1 well volume : l: 1 well volume :	= (TD - SWL) x 0. = (TD - SWL) x 0. = (TD - SWL) x 0. = (TD - SWL) x 0.
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		3./5	6.30	9.47					
Time (military)								ě.	
pH (standard units)	5.01	4.79	4.57	4.69		10000			4.73
Specific Cond. (µS/cm)	64.7	63.4	58.5	58.8					61.2
		20 1	- 1 6	2/4					22.0
Water Temp (°C)	21.3	220	21.9	21.9					22.0
Water Temp (°C) Turbidity (mild, moderate, strong)	13.1	1000t	600	308					22.0



Site Data

Monitoring Well Purging Data Sheet

Date: 03 · 8 ·/3

	Permit # 11946	l River Fleld	Amsco Personnel:	Tyler Fel	(der / Tr	Facility Location	1: 4335 B.	read River I	ld.; (.lu.	nbra, SC
Well	Data				(in indiana)					
	Number: MW - 3 Depth: 30. Ø	Dlame Static	eter (in):	2" 17.94	n estriction	e (gai):/.		2" we 4" we	I: 1 well volume I: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 = Static Water Level)
Purg	ing Data									
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		1.96	3.92	5.89					
	Time (military)									
	pH (standard units)	5.67	5.80							
	Specific Cond. (µS/cm)	286.5	285.3	1						
v	Water Temp (°C)	20.	19-8	-						
	Turbidity (mild, moderate, strong)	19.5	169							
	Dissolved Oxygen	.78	2-15							
	ple Collection Time:	45	gallo	m. slo	w recov	en e	novch	1+ 20	for s	amples



Date: 03-6 -/3

Data			,	(full names)	U				62000000
Number: MW - 6 Depth: 25.5		eter (in):	2" 18.Ø		e (gal):/.		2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0 = (TD - SWL) x 0 = (TD - SWL) x 0 L = Static Water L
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.22	2.44	3.66					
Time (military)								-	
pH (standard units)	5.25	5.13	5.07						
Specific Cond. (µS/cm)	57-8	54.0	52.7			10		12.12	
Water Temp (°C)	19-1	20-3	19.6			3			
Turbidity (mild, moderate, strong)	8.03	1000t	1000t					5-70 (500)	
Dissolved Oxygen	4.13	3.80	3.46						



Date: <u>03 · 6 ·/3</u>

Permit# 11946		Amoco Personnel:	Tyler Fel	(der / Tr	avis Billing	<u> </u>	Weather: 40	Sunny	windy
Data									`
Number: <u>MW-6</u> I Depth: <u>38.5</u>	15.00	eter (in):	2" 18.05	Well Volum	e (gal):	3.33	2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0. = (TD - SWL) x 0 = (TD - SWL) x 0 L = Statla Water L
Jing Data								-	
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)	161	3.33	6.66	10.0				2 22 11	
Time (military)									
pH (standard units)	5.53	5.11							
Specific Cond. (µS/cm)	284.0	68.1			100				
Water Temp (°C)	17.6	18.4	L			iie)			
Turbidity (mild, moderate, strong)	1000	1000							
Dissolved Oxygen	6.08	4.19							
nple Collection Time: 09		.33 gcl			4.1	urged		Romp	



Date: <u>03 - 7 - /3</u>

Permit # 11946	Fleld	Personnel:	Tyler Fe	(full names)	avis Billing	, v	Veather:5	40 Sv.	nny
Data									
Number: MW - 7	100	eter (in):	?"	Well Volum	e (gal):/	.20			= (TD - SWL) x 0. = (TD - SWL) x 0.
Depth: 24.0	Static	Water Level:	16.6Ø	Static Produ	ıct Level:		4" we	l: 1 well volume	= (TD - SWL) x 0.
ng Data					9		(10 =	Total Depth Swi	Statid Water D
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.20	2.40	3.61					
Time (military)									
pH (standard units)	5,35	5.22	5,71			**			
Specific Cond. (µS/cm)	30.5	27.82	46.						
Water Temp (°C)	19.9	420:3 4000	19.9						
Turbidity (mild, moderate, strong)	3.79	65.3	452						
Dissolved Oxygen	3.89	4.00	3.96						



Date: 03-7 -/3

Site	Data							5-3.0000 (6-3		
Faci	Ity Name: Bross	1 River	Amoco			Facility Locatio	n: 4335 B	road River 1	Rd.; Colu	mbra, SC
UST	Permit# 11946	Flei	d Personnel:	Tyler Fe	(der / Tr (full names)	avis Billing	· /	Weather:5	30 Sur	iny
Well	Data									N
Tota	Number: MW - 8 Depth: Z3. Ø		neter (In):Z	." /6·84	- Paseumenamo	ne (gai):		2" we 4" we	II: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 L = Static Water Level)
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		1.0	2.0	3.0					
	Time (military)						31/2		000	
	pH (standard units)	4.98	5.07							
	Specific Cond. (μS/cm)	42.7	43.2							
	Water Temp (°C)	20.5	20.7	-			*			
	Turbidity (mild, moderate, strong)	4.51	84.3							
	Dissolved Oxygen	3.71	4.44							
Sam	ple Collection Time:	15			H26			-270		
Rem	arks: Dry @	1.0,5	low recon	very e	nough -	or 50	mple	viles.		



Date: 03 - 7 ·/3

	ad River	Amoco	T, C	(der / Tu	Facility Location	n: 4335 B	read River 1	ed.; Colm	mbra, SC
Permit # 11946	Fleid	d Personnel:	Tyler Fe	(full names)	avis Billing	r	Weather:	2 50	nny
I Data							40,00		N.
Number: MW-	8B_ Diam	neter (in):	2"	Well Volum	e (gal):3	.40		l: 1 well volume	
al Depth: 37.5	Static	c Water Level:	16.60		uct Level:		4" wei	I: 1 well volume I: 1 well volume	= (TD - SWL) x (
ging Data		and the state of the subsection as the results of				1322	(TD =	Total Depth SW	. = Static Water I
ging Data									
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		3.40	6.80	10.22					
Time (military)									
pH (standard units)	4.75	4.65							
Specific Cond. (µS/cm)	35.0	36.0							
Water Temp (°C)	20.4	20.9	-						
Turbidity (mild, moderate, strong)	6.60	990							
Dissolved Oxygen	3.85	3.94							Q.



Date: 03 · 7 · 13

ity Name: Broad				/ 5	Facility Location	n: 4335 B.	road River A	ld.; Colm	mbra, SC
Permit# 11946	Flei	d Personnel:	Tyler Fel	der / Tra	wis Billing	у V	Veather:5	20 Sur	my
Data					14.5				,
Number: MW- C Depth: 23.00	· Course	neter (In):	18.61		(gal): C	0.71	2" wel 4" wel	i: 1 well volume i: 1 well volume i: 1 well volume Total Depth SW	= (TD - SWL) x = (TD - SWL) x
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		0.71	1.42	2.14					
Time (military)									
pH (standard units)	4.90	4.77	4.73	4.81					
Specific Cond. (µS/cm)	5.44	53.9	54.2	50.5					,
Water Temp (°C)	20.0	20.1	20.1	20.5					
Turbidity (mild, moderate, strong)	10.5	101	724	1000+				7	
Dissolved Oxygen	3.80	4.48	4.81	4.68					-



Date: 03- 7 -13

acility Name:	road River	Amoco			Facility Location	n: 4335 B	orand River 1	Rd.; Colu	mbra, SC
IST Permit# 11946 Field Personnel: Tyler Felder / Travis Billi						Weather: 51° Sunry			
ell Data				(ruii numes)		818-78-78			/
ell Number: MW otal Depth: 31.5	•	neter (in):2	17.60	,	ne (gal):Z		- 2" we 4" we	il: 1 well volume il: 1 well volume	= (TD - SWL) x 0. = (TD - SWL) x 0. = (TD - SWL) x 0. = (TD - SWL) x 0. IL = Static Water Le
VI	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		2.26	4.52	6.79					
Time (military)									
pH (standard units)	5.44	5.19	7.53				,		1.17
Specific Cond. (µS/cr	m) 58.9	54.8						ACT	
Water Temp (°C)	19.5	20.3						782	
Turbidity (mild, moderate, stron	ng) 5.35	1000 t			4.51				
Dissolved Oxygen	2.44	2.97							
ample Collection Time:		عمار . 5	low rec	overy,	enough	H ² 0	for .	Sample	viles



Date: 03 · 7 · 13

Facili	ty Name: Brass	1 River	Amoco			Facility Location	n: 4335 b	road River 1	ld.; Colu	mbra,SC
JST	Permit# 11946	Fleld	Personnel:	Tyler Fe	(der / Tr	avis Billing	ν	Weather:5	40 Su	nny
Vell	Data				(run numes)					,
	Number: <u>MW - ((</u> Depth: <u>17.5</u> Ø	- V	eter (In):Z	mint conservation		e (gal):/_		2" we	I: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 L = Static Water Level
urgi	ng Data									
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post . Sampling
	Volume Purged (gal)		1.05	2.10	3.15					
	Time (military)	2								
	pH (standard units)	5.60	5.56				X - 27 - 27/2-			
	Specific Cond. (µS/cm)	139.2	140.9				- 10			
	Water Temp (°C)	17.9	17.2				-			
	Turbidity (mild, moderate, strong)	13.3	71.6							
	Dissolved Oxygen	4,44	4.46							
Samp	0	00 1.5	d gals.	, slow	recove	y, eu	ough t	12) f	or Su	ple vil



Date: 03 · 7 · 13

UST Permit# 11946	Fleld	Personnel:	Tyler Fe	(full names)	avis Billing	k .	Weather:5½	* Suni	ny
Vell Data							91 Maria (1944) - 1950 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1851 - 1		
Nell Number: MW - Total Depth: 39.0 Purging Data		eter (in): Water Level:	2" 3.87	L	e (gal):		2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.04 = (TD - SWL) x 0.16 = (TD - SWL) x 0.65 = Static Water Leve
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		4.09	8.18	12.28					
Time (military)							199		
pH (standard units)	6.20	6.03							
Specific Cond. (µS/cm)	150.0								
Water Temp (°C)	18.2	19.1	£		Δ.				
Turbidity (mild, moderate, strong)	181	1000t							
	2.33	1.83							



Date: <u>03 · 7 · 13</u>

Site	Data						100 may 2 2 2 2 may 1 (7 () 2 () 1 () 1 ()			
Faci	lity Name: Broad	d River	Amoco			Facility Location	n: 4335 B	rend River	Rd.; Colu	undra , SC
UST	Permit#11946	Field	Personnel:	Tyler Fe	(der / Tr	avis Billing	· .	Weather:	530 S	miny
Well	Deta				(ruii names)					/
Tota	Number: MW - Depth: 20. Ø	111 C C V C C C C C C C C C C C C C C C	eter (in): Z	<u>"</u> 5. 29	Well Volum	Company of Mariana	-39 10	2" we 4" we	II: 1 well volume	= (TD - SWL) x 0.04 = (TD - SWL) x 0.16 = (TD - SWL) x 0.65 L = Static Water Level
	3	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		2.39	4.78	7.19					
	Time (military)						7.			
	pH (standard units)	5.85	5.90							
	Specific Cond. (µS/cm)	318.0	286.0				300 5- 4			
	Water Temp (°C)	14.8	16.7	k)			/*	100		
	Turbidity (mild, moderate, strong)	29.1	358							
	Dissolved Oxygen	2.96	3.87							:
Sam	ple Collection Time:							,	7771	
Rem	arks: Dy O	2.39	garls., e	nough	H29 +	or san	ples.	Slow r.	Covin	



Date: 03 · 7 ·/3

JST	Permit# 11946		Amaco Personnel:		(der / Tr (full names)	avis Billing	r	Weather: 5	30 50	wera, JC
/ell otal	Number: MW- Depth: 35. 9		eter (in):	z" 0·3¢	Well Volum Static Produ	. (3).	-0Z	2" we 4" we	li: 1 well volume li: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.1 = (TD - SWL) x 0.6 L = Static Water Lov
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		4.02	8.04	12.07					
	Time (military)									
	pH (standard units)	5.48	5.47					-		
	Specific Cond. (µS/cm)	120,9	119.6							
	Water Temp (°C)	15.3	7.6	-			,			
	Turbidity (mild, moderate, strong)	452	29-1							
	Dissolved Oxygen	2.81	2,52			21				
	ole Collection Time:	4.02	5/0~	recon	eng, lu	ough (120 fi	or San	ydes.	



Date: 03 · 7 · 13

UST	ty Name:		Amsco d Personnel:		(full names)	Facility Location	n: 4335 B	Veather: 4	Rd.; Colu	mbra, SC
Well I	Number: MW-12 Depth: ZO·Ø		neter (in):2		Well Volum Static Produ	- 107-).98	2" we 4" we	ii: 1 well volume ii: 1 well volume	= (TD - SWL) x 0.04 = (TD - SWL) x 0.16 = (TD - SWL) x 0.65 L = Statla Water Level
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		0.98	1.96	2.95		*1			
	Time (military)									
	pH (standard units)	5.15	5.10	5.21						
	Specific Cond. (µS/cm)	57.0	51.3	60.4						
	Water Temp (°C)	21.7	21.9	21.4						
	Turbidity (mild, moderate, strong)	62.9	183	1000 T						
	Dissolved Oxygen	456	4.66	5.18						
Samp Rema	ole Collection Time:	30 2.5	gals. s	low reco	very	eno us	H°O	for s	amples	



Date: 03 - 7 º 13

JST Permit# 194	Flei	d Personnel:	Tyler Fe	(der / Tr	avis Billing	r	Veather:	5000	ny
/ell Data									
Vell Number: MW otal Depth: 36	- HOUSE - HI - HI - HI	neter (in): c Water Level: _			e (gal):3 uct Level:	.22	2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.1 = (TD - SWL) x 0.6 = Static Water Le
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (ga	0 .	3.22	6.44	9.67					
Time (military)									
pH (standard units)	5.52	5.41							
Specific Cond. (μS/	cm) 59.2	56.8							
Water Temp (°C)	21.6	22.1	-						
	ong) 40.7	1000 ^t							
Turbidity (mild, moderate, str				1 100					



Site Data

Monitoring Well Purging Data Sheet

Date: 03-7-13

Facilit	y Name: Brane	1 River	Amaco			Facility Location	n: 4335 B.	read River N	ld.; Colu	mbra, SC
UST F	Permit#11946	Fleld	d Personnel:	Tyler Fe	Ider / Tr (full names) dd Allved /	-avis Billing	γ <u> </u>	Veather:	57° SU	mý
Well E	Deta			т.	dd Allred /	Take Ropor	3/25/13			,
	lumber: MW^{-1}		neter (in):	2"	Well Volum	ne (gal):	25.		: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163
Total (Depth:	Stati	c Water Level: _	19.80	Static Produ	uct Level:		4" wel	: 1 well volume Total Depth SW	= (TD - SWL) x 0.653 L = Static Water Level)
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		0.35	0.70	1.07					
ĺ	Time (military)									
Ì	pH (standard units)									
	Specific Cond. (µS/cm)									
	Water Temp (°C)			-					12	
	Turbidity (mild, moderate, strong)									
	Dissolved Oxygen									
Sampl	11		420 25	for , c	il sa	ung le	viles:	3/2	grab	Samples
_		J/)4						onl	4



Site Data

Monitoring Well Purging Data Sheet

Date: 03 · 7 · 13

II Data	2 12		2"						78 F
Il Number: MW 1 al Depth: 33.50		neter (In):	2" 19.88		e (gal): uct Level:		2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.0 = (TD - SWL) x 0.0 L = Static Water Le
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		2.22	4.44	6.66					
Time (military)									
pH (standard units)	6.73	6.96							
Specific Cond. (µS/cm)	114.D	115.3							
Water Temp (°C)	19.4	19.1	-						
Turbidity (mild, moderate, strong)	50.8	990							
Dissolved Oxygen	3.39	3.04							



Date: 03- 7 ·13

Permit #11946	Fleld	Personnel:	lyler te	(der / Tr (full names)	avis Billing	<u>ب</u> ۷	Veather: 45	Sunn	- 4
Data					W-11-V-4-	and the same			
Number: MW- Depth: 20.0		eter (in):	z" 14.52		e (gal):C		2" wel 4" wel	i: 1 well volume i: 1 well volume i: 1 well volume Total Depth SW	= (TD - SWL) x (= (TD - SWL) x (
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		0.89	1.78	2.67					
Time (military)					Mean :				
pH (standard units)	6.41	6.04							
Specific Cond. (µS/cm)	133-2	106.4							
Water Temp (°C)	19.8	20,1	-			646		7.11	
Turbidity (mild, moderate, strong)	16.0	33.7							
Dissolved Oxygen	4.90	4.90	1000	sideral and a second			20		



Date: 03 · 7 · 13

Permit # 1946			1900	(full names)	Diffit of	· ·	- 17	sonny	
Number: MW- 1 Depth: 38.5	-	eter (in):	2" 17.29	7	e (gal):		2" wel 4" wel	l: 1 well volume l: 1 well volume l: 1 well volume Total Depth SWI	= (TD - SWL) x (
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		3.46	6.92	10.38					
Time (military)								V = 10	
pH (standard units)	5.88	5.67							
Specific Cond. (µS/cm)	180.9	175.1							
Water Temp (°C)	18.5	18.72	-					,	
Turbidity (mild, moderate, strong)	10.4	432					1		
Dissolved Oxygen	2.47	1.72							



Site Data

Monitoring Well Purging Data Sheet

Date: 03 - 13

Facility Name:	ad River	Amoco			Facility Location	n: 4335 B.	read River 1	ld.; Colm	mbra, SC
UST Permit # 1194-6	ad River	Personnel:	Tyler Feli	der / Tr	avis Billing	vv	Veather: 38	0 Sunny	•
Well Data				Todal Al	lved Sake	Roper 3/2	r	,	
Well Number: MW- Total Depth: 17.0 Purging Data		eter (ln):				5.01 ³ləs	2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 L = Static Water Level)
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)			1930					25.00.000.00	
Time (military)									
pH (standard units)									
Specific Cond. (µS/cm)						**			
Water Temp (°C)			-						
Turbidity (mild, moderate, strong)									
Dissolved Oxygen									
Sample Collection Time:	130		b sample	ouly		*			



Monitoring Well Purging Data Sheet

Date: 03 - 7 -13

acility Name:	, 0,	Λ			F	1775 0		. (1	
ST Permit # 11946		Amoco Personnel:	Tyler Fe	(full names)	-avis Billing	r 4333 K	Neather: 39	SUNI	mbra, SC
ell Data ell Number: MW* tal Depth: 40.9		eter (in):			uct Level:		2" wei 4" wei	i: 1 well volume i: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.1 = (TD - SWL) x 0.0 L = Static Water Le
77H - 1	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		3.65	7.30	10.95					
Time (military)									
pH (standard units)	5.58	5.40	5.18	5.12					5.26
Specific Cond. (µS/cm)	129.2	131.3	122.5	118.2					119.3
Water Temp (°C)	15.1	19.0	19.2	19.5		1.0			19.3
Turbidity (mild, moderate, strong)	3.83	34.6	69.9	67.3					68.7
Dissolved Oxygen	1.87	2.16	2.38	2.44	120				2,26

Sample Collection Time: _	0800			
Remarks:				
	ALL REPORTS AND THE PROPERTY OF THE PROPERTY O	*		



Date: 03 · 25 · 13

ST Permit # 11946	d River Fleid	Personnel:	Tyler Felo	ler / Tr (full names) Todd U	Facility Location	1: 4335 B.	rend River I Weather:	ld.; Colu	mbra, SC
ell Data ell Number: MW / 10 tal Depth: 18 · 0		ter (In):	2"	Well Volume	e (gal):	-V= n ₀ 550	1" wel 2" wel 4" wel	l: 1 well volume l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.0- = (TD - SWL) x 0.1 = (TD - SWL) x 0.6 L = Static Water Lev
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)	73	0.29							
Time (military)	1309	1316							
pH (standard units)	5.98	6.01							
Specific Cond. (µS/cm)	142.0	138.3							
Water Temp (°C)	19.8	20.0	1			1.00			
Turbidity (mild, moderate, strong)	18.7	49.2							
Dissolved Oxygen	2.31	2.48							
ample Collection Time:	1329 NSWATERIONS	wher	for	unguly ;	collect	L sande			



Date: 63. 7 ·13

Facility Name: Broad	d River			lder / Ti	Facility Location	n: 4335 B	rand River 1	Rd.; Colm	mbra, SC
Well Data	·	r disolilion	iguer 1º	(full names)	CAND DITTE	<i>y</i> \	weather: 70	JUNNY	
Well Number: MW - 10 Total Depth: 37. 9 Purging Data		15416 555	2" 16.75		ne (gal):3 uct Level:		2" wel 4" wel	I: 1 well volume I: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.1 = (TD - SWL) x 0.6 = (TD - SWL) x 0.6 L = Statle Water Lev
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		3.30	6.60	9.90					
Time (military)									
pH (standard units)	5.95	6.05							
Specific Cond. (µS/cm)	188.3	193.7							
Water Temp (°C)	19.3	19.8	-						
Turbidity (mild, moderate, strong)	5.11	250							
Dissolved Oxygen	2.66	3.64							
Sample Collection Time:	45					for son		N2000	



Monitoring Well **Purging Data Sheet**

Date: 03 - 6 -13

ility Name: R	d River	A			Facility Location	: 433C P	0 0:	e. · ().	.1- 50
T Permit # 1946	Field	Personnel:	Tyler Fel	der / Tra (full names)	wir Billing	r	Weather: 52	O Sunny	i breeze
I Data									
Number: MW-1 al Depth: 39.5		eter (in):2	9.05	. survices a amusi	(gal):		2" we 4" we	ii: 1 weil volume	= (TD - SWL) x (= (TD - SWL) x (= (TD - SWL) x (L = Static Water)
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		4.96	9.92	14.89					
Time (military)							0.51		
pH (standard units)	5.81	5.70	5.79	5.63					5.69
Specific Cond. (µS/cm)	200.2	201.1	212.9	204.9	300				206.5
Water Temp (°C)	19.6	21.2	21.6	21.4					20.4
Turbidity (mild, moderate, strong)	2.86	45.4	666	1000 t					1000+
			1	1					1

Sample Collection Time:	1635	
Remarks:		
	(17)	



Date: 03-6 -13

Site Data Facility Name: Brass	1 8	1			Facility I amend	1775	2	n (1	
	d River	Amoco	<i>T. C</i>	11 10	- Facility Locatio	n: 4333 A	Srand River	Rd.; Colu	whra, SC windy
UST Permit# 11946	Fleic	d Personnel:	Tyler fe	(full names)	ravis Billing	ν	Weather: 49	Sunny	Windy
Well Data									/
Well Number: MW-	18A Dlam	neter (in):	2"	Well Volum	ne (gal):/.	98	1" we	ll: 1 well volume	= (TD - SWL) x 0.04
Total Depth: 13.4	8 Static	Water Level:			uct Level:		_ 2" we	II: 1 well volume	= (TD - SWL) x 0.16 = (TD - SWL) x 0.6
			0 0 0		uot L5v6i		— (TD =	Total Depth SW	/L = Static Water Lev
Purging Data									
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.98	201		10.10	0111011	Sar voi.	741 401.	Sampling
Time (military)		1.78	3.96	5.94					
pH (standard units)	5.99	5,97							
Specific Cond. (µS/cm)	376	364				100			
Water Temp (°C)	14.2	15.0							
Turbidity (mild, moderate, strong)	4.58	1000 t							
Dissolved Oxygen	1.47	2.06							
Sample Collection Time:	00						•		
Remarks: Slew re	Lovery	dry (1.98	gals.	enough	H20	for 5	ample 1	iles



Date: 03-6 -13

acility Name:	d River	Amoco			Facility Locatio	n: 4335 B	road River	Rd.; Colu	mbra, SC
ST Permit # 11946	Fleic	d Personnel:	Tyler Fel	(der / Tr	avis Billing	y	Weather:	7º Sunny	i Wino
ell Data				(ruit names)			Market State Control of the Control	0.	
rell Number: MW - / Soutal Depth: 35. 9 urging Data		neter (in): <u>Z'</u> c Water Level: _	The second secon		e (gal):5.	53	2" we 4" we	II: 1 well volume	= (TD - SWL) x 0 = (TD - SWL) x 0 = (TD - SWL) x 0 L = Statla Water L
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		5.53	11.06	16.60					
Time (military)									10.0
pH (standard units)	6.33	6.46	6.44						
Specific Cond. (µS/cm)	427	429	431		i in an				
Water Temp (°C)	14.8	17.3	17.7						
Turbidity (mild, moderate, strong)	51.1	11.8	38.7						
Dissolved Oxygen	1.37	2.38	2.02						
ample Collection Time:	235		0	Chargh	420	for so	wples.		



Date: 03- 6 -13

ity Name: Broad	d River	Amoco			Facility Location	n: 4335 B	road River 1	Rd.; Colon	mbra, SC
Permit# 11946	Fleld	Personnel:	Tyler Fel	der / Tr	aus Billing	r v	Weather: _5/	10 50 nu	y
Data				, ,,				a	
Number: MW - 10 Depth: 15.0		eter (in):2		Well Volum Static Produ		14	2" wel 4" wel	l: 1 well volume l: 1 well volume l: 1 well volume Total Depth SWI	= (TD - SWL) x = (TD - SWL) x
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.14	2.28	3.44					
Time (military)							100	98 - 1811 P	
pH (standard units)	5.71	5.70	5.54						
Specific Cond. (μS/cm)	101.6	95.1	80.8						
Water Temp (°C)	18.9	19.2	19.3			*			2111
Turbidity (mild, moderate, strong)	16.2	50,3	126						
	4.25	4.93	4.66						

Dry @ 2.28 gals, enough HO for Jumple vials.



Date: 03 · 6 · 13

UST Permit # 11946	Flei	d Personnel:	Tyler Fe	(full names)	avis Billing	<u>, </u>	Veather: 5	10 Sunn)
Well Data									
Well Number: MW - 10 Total Depth: 34. Ø		neter (in):2 c Water Level:			ne (gal): 4. /		2" we 4" we	II: 1 well volume II: 1 well volume	= (TD - SWL) x 0.04: = (TD - SWL) x 0.16: = (TD - SWL) x 0.65: L = Static Water Level
×	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		4.18	8.36	12.54					
Time (military)									
pH (standard units)	6.19	6.16							
Specific Cond. (µS/cm)	361	367							
Water Temp (°C)	20.6	21.0	-					*	
Turbidity (mild, moderate, strong)	23.8	114							
Dissolved Oxygen	2.02	1.64					•		
Sample Collection Time:	435					10			
	135		agls, e	Cha by L	120 fu	~ 54 m	ples.		



Date: 03-6 -13

ST Permit# 1946	Flei	d Personnel:	Tyler Fe	(full names)	avis Billing	r v	Veather:5(00 Suna	1
ell Data									
ell Number: MW-		neter (in):	2"	Well Volum	e (gal):/.	98	1" wel	l: 1 well volume	= (TD - SWL) x 0.0
otal Depth:	Stati	c Water Level:	2.80	Static Produ	uct Level:	- 80	4" wel	l: 1 well volume	= (TD - SWL) x 0.1 = (TD - SWL) x 0.6
urging Data				8		47	, (15 =	rotal Depth SW	L = Static Water Lev
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.98	3.96	5.96					
Time (military)							V		
pH (standard units)	5.67	5.74							
Specific Cond. (µS/cm)	151.9	160.9							
Water Temp (°C)	17.3	16.6	file and the second						
Turbidity (mild, moderate, strong)	4.52	1000+							
Dissolved Oxygen	3.96	5.15							
	O		The services						



Date: 03- 6 -13

Facility Name:	0 1 1								
	Broad K	liver Amaco			Facility Location	: 4335	Brand River K	ed.; Colu	mbra, SC
UST Permit #	1946	Fleid Personnel:	Tyler Feld	ler / Tr (full names)			Weather: 50		10.0
Well Data				(iai iainoo)				/	7 22
Well Number:	N-20B	Diameter (in): 2	."	Well Volume	e (gal):	.03			= (TD - SWL) x 0.047
Total Depth:	35.Ø	Static Water Level:	4.11	Static Produ	ct Level:		4" well	: 1 well volume	= (TD - SWL) x 0.163 = (TD - SWL) x 0.653 L = Static Water Level)
Purging Data				u u			(10 -	total bepth Sw	L = Static Water Level)
		Initial 1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling

000 00000000000000000000000000000000000	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		5.03	10.06	15.10	20 C C C C C C C C C C C C C C C C C C C				8
Time (military)						200			
pH (standard units)	6.09	5.99	5.63	5.48					5.51
Specific Cond. (µS/cm)	109,0	106.0	103.0	101.7					100.9
Water Temp (°C)	15.6	18.9	19.4	19.7					20.1
Turbidity (mild, moderate, strong)	4.58	66.9	264	221					218
Dissolved Oxygen	1.32	2.01	1.51	1.58				31 - 73	1.56

Sample Collection Time: 13:25 / Dup 1 @ 13:30

Remarks: PXCellent recovery



Turbidity (mild, moderate, strong)

Dissolved Oxygen

3.89

4.81

325

Monitoring Well Purging Data Sheet

Date: 03- 6 -13

564

Site Data									
Facility Name: Br	and River	Amoco	llase.		Facility Location	n: 4335 B	rand River K	ed.: Colu	umbra SC
UST Permit # 11946		Personnel:	Tyler Fel	(der / Tr					
Well Data				(rail frames)					
Well Number: MW- Total Depth: 12.4 Purging Data	d	eter (in):	2" 0·85		e (gal):/.	. 8/	2" wel 4" wel	l: 1 well volume l: 1 well volume	e = (TD - SWL) x 0.047 e = (TD - SWL) x 0.163 e = (TD - SWL) x 0.653 WL = Static Water Level)
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		1.81	3.62	5.45					
Time (military)									
pH (standard units)	5.56	5,53	5.30	5.33					5.32
Specific Cond. (µS/cm)	107.0	110.8	88.3	88.5					87.1
Water Temp (°C)	12.8	13.9	914.9	15.3		1.0			15.2

Sample Collection Time: ____/200

Remarks: ______

570

5.28

4.58



Date: <u>63 - 6</u> -13

Site D	ata							-		
Facility	Name: Broad	1 River	Amoco			Facility Locatio	n: 4335 /	Broad River	Rd.: Colu	unbra SC
UST P	ermit# 11946	Fle	ld Personnel:	Tyler Fe	(full names)	-avis Billing	ş	Weather: <u>i17</u>	Sunny	¿ windy
Well D	ata				V				/	. (
Well No	26 4		meter (in):	Tel (1985) - 1975	Well Volun	ne (gal):5	5.48	2" we 4" we	ll: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 /L = Static Water Level)
-		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampli:
	Volume Purged (gal)		5.48	16.96	16.45					
	T (

	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampli:
Volume Purged (gal)		5.48	16.96	16.45					
Time (military)									
pH (standard units)	6-41	6.01	5.95	5.98					6.03
Specific Cond. (µS/cm)	111.3	103.9	99.6	95.4					96.8
Water Temp (°C)	13.5	16.6	18.4	18.5		*		Sa 12 17 Cre-	18.1
Turbidity (mild, moderate, strong)	19.6	21.7	574	257	123 5				236
Dissolved Oxygen	3.81	2.60	3.35	3.44	S				3.48

Sample Collection Time: 11 35			
Remarks:			
	4		



Date: 03- 6 -13

Site	Data			V				Agricological Communication Communication			
Facil	ity Name: Broa	d River	Amoco			Facility Location	n: 4335 B	read River 1	ld.; Col-	umbia SC	
UST	Permit# 11946	Fleid	d Personnel:	Tyler Fe	lder / Tr	avis Billing	٧	Weather: 45	Josunn	y è win	3
Well	Data	***		37	(ruii names)					1	(
Total	Number: MW-2 Depth: 35.4		e Water Level:			e (gal):S		2" we 4" we	II: 1 well volume	0 = (TD - SWL) x 0.0 0 = (TD - SWL) x 0.0 0 = (TD - SWL) x 0.0 0 = (TD - SWL) x 0.0 WL = Statia Water Le	163 653
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling	
	Volume Purged (gal)		5.36	10.72	16.08						
	Time (military)										
	pH (standard units)	5.69	5.95	5.94	5.90					5.93	
	Specific Cond. (µS/cm)	199,3	203.1	199.5	193.4					196.9	
	Water Temp (°C)	12.4	14.6	16.4	17.7					18-1	
	Turbidity (mild, moderate, strong)	140	170	196	241					253	

Sample Collection Time:/0_30								
Remarks:								
		160	117		7.71E-7.71C			_

1.22

1.05

1.38

2.16

Dissolved Oxygen



Site Data

Monitoring Well Purging Data Sheet

Date: 03.8 · 13

	ty Name:	d River	Amoco d Personnel:	Tyler Fe	(der / Tr	Facility Location	1: 4335 B	read River No Weather: 34	ld.; Colu	mbra, sc
Well	Data				Ç-ai manisəy		200			•
Total	Number: DMW - Depth: 65.0	Section 1997	neter (in):c Water Level: _	z" 18.21		e (gal): 7.		2" wel 4" wel	l: 1 well volume l: 1 well volume	= (TD - SWL) x 0.047 = (TD - SWL) x 0.163 = (TD - SWL) x 0.653 L = Static Water Level)
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		7.62	15.24	22.88					
	Time (military)								The second secon	
	pH (standard units)	7.65	7.17							
	Specific Cond. (µS/cm)	428	584							
523	Water Temp (°C)	17.0	18.2							
	Turbidity (mild, moderate, strong)	3.33	17.5							
	Dissolved Oxygen	2.81	1.33							
Samp	ole Collection Time: 08 arks: Puv gd Dry	with }	pailer			. 420		Sample		



Date: 03. 6 · 13

Volume Purged (gal) 9.06 18.12 27.18 Time (military) pH (standard units) Specific Cond. (µS/cm) 255.8 257.1 256.113 Water Temp (°C) Turbidity (mild, moderate, strong) Dissolved Oronger 2.157.0 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	Site D	21	. 0		•			477.5			
Well Number: DMW - Z Diameter (in): Z" Well Volume (gal): 9-06 1° well: 1 well volume = (TD - SWL) 2° well: 1 well volume = (TD - SWL) 4° well: 1 well volume 4° well: 1 well vol		Prbas				72					
Total Depth: 65.6 Static Water Level: 9.40 Static Product Level: 2*well: 1 well volume = (TD - SWL) 4*well: 1 well volume = (TD - SWL) (TD = Total Depth SWL = Stotic Water Level: 9.40 Static Product Level: 4*well: 1 well volume = (TD - SWL) (TD = Total Depth SWL = Stotic Water Level: 9.40 Static Product Level: 5th vol. 5th vol. 5th vol. 7th vol. Sampling Volume Purged (gal) 9.06 18.12 27.18 Volume Purged (gal) 9.06 18.12 27.18	Well D	ata				(full names)	273		-) /		
Initial 1st vol. 2nd vol. 3rd vol. 4th vol. 5th vol. 6th vol. 7th vol. Sampling	Total D	Depth: 65.0		()				06	2" we 4" we	i: 1 well volume i: 1 well volume	= (TD - SWL) x 0.163 = (TD - SWL) x 0.653
Time (military) pH (standard units) [0.32			initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Time (military) pH (standard units) [0,32		Volume Purged (gal)		9.06	18.12	27.18					
Specific Cond. (µS/cm) 255. 257. 1 256-173 Water Temp (°C) 20.1 20.9 20.775 Turbidity (mild, moderate, strong) 1.06 106 217-6 Dissolved Operan 2.457 2.457 2.45		Time (military)								157	
Water Temp (°C) 20.1 20.9 20.77p Turbidity (mild, moderate, strong) 1.0(0 106 217 p		pH (standard units)	10,32	10.56	10.56		7/2-1				
Turbidity (mild, moderate, strong) 1.06 106 217 is		Specific Cond. (µS/cm)	255.8	257.1	256/11						
Turbidity (mild, moderate, strong) 1.06 106 217 (mild, moderate, strong) 2.767 2.76		Water Temp (°C)	20.1	20.9	20.7						
Dissolved Oxygen 7.47 7 11 144 - a			-,'	106	217						
[] A. 1.1 A. 1.1 [[] [] [] [] [] [] [] [] []		Dissolved Oxygen	2.47	2.11	1.4678						
Sample Collection Time: 1545/ DUP2 @ 1555 Remarks: Dry @ 10.0 gals. Slow recovery enough #20 for Samples Purged with bailer		ks: Dy @ 1	0.0 ga	15. 510			novst	HZ°	for	Samples	



Site Data

Monitoring Well Purging Data Sheet

Date: 63 · 6 · 13

Number: DMW - 65. Ø		meter (ln):Z lc Water Level: _	130		e (gal):/C		2" wel 4" wel	i: 1 well volume i: 1 well volume i: 1 well volume Total Dapth SWI	= (TD - SWL) x = (TD - SWL) x
V2	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		10.25	20.5	30.95					
Time (military)									-//
pH (standard units)	11.80	11-81	11-86						
Specific Cond. (µS/cm)	718	708	704						
Water Temp (°C)	14.8	17.8	16.6				- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		
Turbidity (mild, moderate, strong)	123	1000+	1000+						
Dissolved Oxygen	4.46	2.13	1.59						



Site Data

Monitoring Well Purging Data Sheet

Date: 63. 188.13

ell Data			•	(full names)			•		/
ell Number: RW - 2 otal Depth: 40 · C		neter (in):	4" 16 ·96		e (gal): <i>15</i> uct Level:		2" we 4" we	II: 1 well volume II: 1 well volume	= (TD - SWL) x 0.0 = Statle Water Le
	Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
Volume Purged (gal)		15.04	30.08	45.13					
Time (military)					3)10				
pH (standard units)	5.53	5.46							
Specific Cond. (µS/cm)	175.6	175.2				2			
Water Temp (°C)	21-2	23.0	-						
Turbidity (mild, moderate, strong)	38.1	51.2							
Dissolved Oxygen	2-28	1.68							



Date: 03 · 8 · 13

	ty Name: Brown Permit # 11946	7/2000 PG	Amsco Personnel:	Tyler Fel	der /Tr		n: 4335 B			
ell	Data				(full names)				-	/
otal	Number: RW - 4 Depth: 40.5	and the	eter (in):	2" 16.73	Well Volume		·5 2	2" we	II: 1 well volume	= (TD - SWL) x 0.0 = (TD - SWL) x 0.1 = (TD - SWL) x 0.6 L = Static Water Lev
		Initial	1st vol.	2nd vol.	3rd vol.	4th vol.	5th vol.	6th vol.	7th vol.	Post Sampling
	Volume Purged (gal)		15.52	31.04	46.56					
	Time (military)						0. 0.			
	pH (standard units)	5.54	5.38	5.29				1- 11-		
	Specific Cond. (µS/cm)	231.8	184.6	183.9				170		
	Water Temp (°C)	18.7	21.2	22.5						
	Turbidity (mild, moderate, strong)	72.4	80.4	152						
	Dissolved Oxygen	2.51	2.44	2.47		Ty Table				
O11130 F	^	900 with	Pump -	Ory @	35 gal	15, 5 lon	recovery	lasoch	H2° f	· · · · · · · · · · · · · · · · · · ·



ANALYTICAL REPORT

CLIENT

ARM 1210 1st Street Columbia, SC 29209

ATTENTION

Michael Faris

PROJECT ID

06-414.1-12

LABORATORY REPORT NUMBER

213031121

DATE

03/20/2013

Primary Data Review By

1.11

Curtis Ekker Data Validation Manager, GCAL Secondary Data Review By

Ashley B. Amick

Project Manager, Access Analytical, Inc. aamick@accessanalyticalinc.com

PLEASE NOTE:

- Unless otherwise noted, all analysis on this report performed at Gulf Coast Analytical Labs (GCAL), 7979 GSRI Avenue, Baton Rouge, LA 70820.
- GCAL is SCDHEC certified laboratory # 73006, NCDENR certified lab # 618, GA certified lab # LA-01955, NELAP certified laboratory # 01955
- Local support services for this project are provided by Access Analytical, Inc.. Access Analytical is a representative of GCAL serving clients in the SC/NC/GA areas. All questions regarding this report should be directed to your local Access Analytical representative at 803.781.4243 or toll free at 888.315.4243.

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC. 7979 GSRI Avenue Baton Rouge, LA 70820

Report Date 03/20/2013

GCAL Report 213031121



Deliver To ARM

1210 1st Street Columbia, SC 29209 803-783-3314

Attn Michael Faris

Project 06-414.1-12

CASE NARRATIVE

Client: Access Analytical Report: 213031121

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the SW-846 8260B analysis, sample 21303112137 (ID 11946-DUP-2) had to be diluted due to the presence of non-target background. This dilution is reflected in the elevated reporting limits.

In the SW-846 8260B - Gas Additives analysis, samples 21303112131 (ID 11946-DMW-1), 21303112134 (ID 11946-RW-2) and 21303112101 (ID 11946-MW-1) had to be diluted due to the presence of non-target background. This dilution is reflected in the elevated reporting limits.

In the SW-846 8260B - Gas Additives analysis, samples 21303112121 (ID 11946-MW-17B) and 21303112137 (ID 11946-DUP-2) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the SW-846 8260B analysis, samples 21303112121 (ID 11946-MW-17B), 21303112131 (ID 11946-DMW-1), 21303112135 (ID 11946-RW-4), 21303112134 (ID 11946-RW-2) and 21303112101 (ID 11946-MW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

METALS

In the SW-846 6010C analysis, a chemical or physical interference necessitated a dilution for sample 21303112122 (ID 11946-MW-18A). This is reflected in the elevated reporting limits.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND Indicates the result was Not Detected at the specified RDL

DO Indicates the result was Diluted Out

MI Indicates the result was subject to Matrix Interference Indicates the result was Too Numerous To Count

SUBC Indicates the analysis was Sub-Contracted

FLD Indicates the analysis was performed in the Field

PQL Practical Quantitation Limit
MDL Method Detection Limit
RDL Reporting Detection Limit

00:00 Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J Indicates the result is between the MDL and RDL

U Indicates the compound was analyzed for but not detected

B Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Robyn Migues Technical Director

GCAL REPORT 213031121

THIS REPORT CONTAINS U PAGES

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21303112101	ID 11946-MW-1	Water	03/08/2013 11:30	03/09/2013 09:45
21303112102	ID 11946-MW-3	Water	03/08/2013 11:45	03/09/2013 09:45
21303112103	ID 11946-MW-6A	Water	03/06/2013 09:30	03/09/2013 09:45
21303112104	ID 11946-MW-6B	Water	03/06/2013 08:00	03/09/2013 09:45
21303112105	ID 11946-MW-7A	Water	03/07/2013 15:00	03/09/2013 09:45
21303112106	ID 11946-MW-8A	Water	03/07/2013 14:15	03/09/2013 09:45
21303112107	ID 11946-MW-8B	Water	03/07/2013 13:45	03/09/2013 09:45
21303112108	ID 11946-MW-9A	Water	03/07/2013 13:30	03/09/2013 09:45
21303112109	ID 11946-MW-9B	Water	03/07/2013 13:00	03/09/2013 09:45
21303112110	ID 11946-MW-10A	Water	03/07/2013 17:00	03/09/2013 09:45
21303112111	ID 11946-MW-10B	Water	03/07/2013 16:30	03/09/2013 09:45
21303112112	ID 11946-MW-11A	Water	03/07/2013 16:00	03/09/2013 09:45
21303112113	ID 11946-MW-11B	Water	03/07/2013 15:30	03/09/2013 09:45
21303112114	ID 11946-MW-12A	Water	03/07/2013 11:30	03/09/2013 09:45
21303112115	ID 11946-MW-12B	Water	03/07/2013 11:00	03/09/2013 09:45
21303112116	ID 11946-MW-13B	Water	03/07/2013 12:00	03/09/2013 09:45
21303112117	ID 11946-MW-14A	Water	03/07/2013 10:30	03/09/2013 09:45
21303112118	ID 11946-MW-14B	Water	03/07/2013 09:45	03/09/2013 09:45
21303112119	ID 11946-MW-15B	Water	03/07/2013 08:00	03/09/2013 09:45
21303112120	ID 11946-MW-16B	Water	03/07/2013 08:45	03/09/2013 09:45
21303112121	ID 11946-MW-17B	Water	03/06/2013 16:35	03/09/2013 09:45
21303112122	ID 11946-MW-18A	Water	03/06/2013 13:00	03/09/2013 09:45
21303112123	ID 11946-MW-18B	Water	03/06/2013 12:35	03/09/2013 09:45
21303112124	ID 11946-MW-19A	Water	03/06/2013 15:05	03/09/2013 09:45
21303112125	ID 11946-MW-19B	Water	03/06/2013 14:35	03/09/2013 09:45
21303112126	ID 11946-MW-20A	Water	03/06/2013 14:00	03/09/2013 09:45
21303112127	ID 11946-MW-20B	Water	03/06/2013 13:25	03/09/2013 09:45
21303112128	ID 11946-MW-21A	Water	03/06/2013 12:00	03/09/2013 09:45
21303112129	ID 11946-MW-21B	Water	03/06/2013 11:30	03/09/2013 09:45
21303112130	ID 11946-MW-22B	Water	03/06/2013 10:30	03/09/2013 09:45
21303112131	ID 11946-DMW-1	Water	03/08/2013 08:30	03/09/2013 09:45
21303112132	ID 11946-DMW-2	Water	03/06/2013 15:45	03/09/2013 09:45
21303112133	ID 11946-DMW-3	Water	03/06/2013 11:00	03/09/2013 09:45
21303112134	ID 11946-RW-2	Water	03/08/2013 10:00	03/09/2013 09:45
21303112135	ID 11946-RW-4	Water	03/08/2013 09:00	03/09/2013 09:45
21303112136	ID 11946-DUP-1	Water	03/06/2013 13:30	03/09/2013 09:45
21303112137	ID 11946-DUP-2	Water-	03/06/2013 15:50	03/09/2013 09:45
21303112138	ID 11946-FB-1	Water	03/06/2013 12:05	03/09/2013 09:45
21303112139	ID 11946-FB-2	Water	03/07/2013 12:10	03/09/2013 09:45
21303112140	ID 11946-TB	Water	02/27/2013 00:00	03/09/2013 09:45
21303112141	ID 11946-TB	Water	02/27/2013 00:00	03/09/2013 09:45
21303112142	ID 11946-TB	Water	02/27/2013 00:00	03/09/2013 09:45
21303112143	ID 11946-TB	Water	02/27/2013 00:00	03/09/2013 09:45
21303112144	ID 11946-FB-3	Water	03/08/2013 12:30	03/09/2013 09:45

Summary of Compounds Detected

GCAL ID 21303112101	the interest to the control of the c	atrix Collect Date/Time /ater 03/08/2013 11:30	EPSPER BERKER RETURNS TO BE SEED OF THE SECOND	celve Date/Time 09/2013 09:45	
SW-846 601	0C				
CAS#	Parameter	Result	RDL	MDL	Un
7439-92-1	Lead	0.014J	0.015	0.0038	m
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Un
75-85-4	tert-amyl alcohol (TAA)	6340	2000	101	uç
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Un
71-43-2	Benzene	2480	100	11.1	uç
108-88-3	Toluene	12800	100	12.2	ug
100-41-4	Ethylbenzene	1550	100	10.9	ug
1330-20-7	Xylene (total)	5650	300	17.9	пí
91-20-3	Naphthalene	623	500	17.6	ug
1634-04-4	tert-Butyl methyl ether (MTBE)	70.8J	100	7.77	ug
GCAL ID	Client ID M	atrix Collect Date/Time	Red	ceive Date/Time	29.0
21202112102	ID 41076 MAY 2000	ntor	0.0211	00/2012 00/45	
21303112102 SW 846 826	AND OUTE AND THE PERSON NAMED IN THE PERSON NA	ater 03/08/2013 11:45	03/0	09/2013 09:45	
SW-846 826	0B		18)	aleitais on a shan air an an an an an	
SW-846 826 cas#	OB Parameter	Result	RDL	MDL	Un
SW-846 826 cas# 75-85-4	OB Parameter tert-amyl alcohol (TAA)		18)	aleitais on a shan air an an an an an	Un ug
SW-846 826 cas# 75-85-4 SW-846 826	OB Parameter tert-amyl alcohol (TAA) OB	Result 30.8	RDL 20.0	MDL 1.01	uç
SW-846 826 CAS# 75-85-4 SW-846 826 CAS#	OB Parameter tert-amyl alcohol (TAA) OB Parameter	Result 30.8 Result	RDL 20.0 RDL	MDL 1.01 MDL	uç Un
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene	Result 30.8 Result 0.417J	RDL 20.0 RDL 1.00	MDL 1.01 MDL 0.111	uç Un uç
SW-846 826 CAS# 75-85-4 SW-846 826 CAS#	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene Toluene	Result 30.8 Result 0.417J 1.05	RDL 20.0 RDL 1.00 1.00	MDL 1.01 MDL 0.111 0.122	Un Ug Ug
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2 108-88-3	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene	Result 30.8 Result 0.417J	RDL 20.0 RDL 1.00	MDL 1.01 MDL 0.111	Un Un ug ug
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2 108-88-3 100-41-4 1330-20-7	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene Toluene Ethylbenzene Xylene (total)	Result 30.8 Result 0.417J 1.05 0.408J 1.72J atrix Collect Date/Time	RDL 20.0 RDL 1.00 1.00 1.00	MDL 1.01 MDL 0.111 0.122 0.109	Un Ug Ug Ug
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2 108-88-3 100-41-4 1330-20-7	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene Toluene Ethylbenzene Xylene (total)	Result 30.8 Result 0.417J 1.05 0.408J 1.72J	RDL 20.0 RDL 1.00 1.00 1.00	MDL 1.01 MDL 0.111 0.122 0.109 0.179	Un Un ug ug
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2 108-88-3 100-41-4 1330-20-7	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene Toluene Ethylbenzene Xylene (total) Client ID M ID-11946-MW-5A	Result 30.8 Result 0.417J 1.05 0.408J 1.72J atrix Collect Date/Time	RDL 20.0 RDL 1.00 1.00 1.00	MDL 1.01 MDL 0.111 0.122 0.109 0.179	Un Un ug ug
SW-846 826 CAS# 75-85-4 SW-846 826 CAS# 71-43-2 108-88-3 100-41-4 1330-20-7 GCALID: 2//303112103	OB Parameter tert-amyl alcohol (TAA) OB Parameter Benzene Toluene Ethylbenzene Xylene (total) Client ID M ID-11946-MW-5A	Result 30.8 Result 0.417J 1.05 0.408J 1.72J atrix Collect Date/Time	RDL 20.0 RDL 1.00 1.00 1.00	MDL 1.01 MDL 0.111 0.122 0.109 0.179	57575

Summary of Compounds Detected (con't)

	2000								
GCAL ID 21303112104	Client ID: Mai ID 11946-MW-6B We	ecological and control of the contro	PASCINEUS SESOUR RESIDENCE	celVe Date/Time 09/2013 09:45					
SW-846 6010C									
CAS#	Parameter	Result	RDL	MDL	Units				
7439-92-1	Lead	0.019	0.015	0.0038	mg/L				
GCAL.ID 21303112106	Client ID Mat ID 11946-MW-8A Wa	The second of the contraction of the second of the second	KNSSOMOONMADD HACKING O	celve Date/Time 09/2013 09:45					
SW-846 601	0C	THE PROPERTY OF STREET,	STORE OF DEPARTMENT ASSOCIATION	10.000 Ptg Pro Trocky Index 2000	Oralidade in Property				
CAS#	Parameter	Result	RDL	MDL	Units				
7439-92-1	Lead	L8900.0	0.015	0.0038	mg/L				
GCAL (ID 21/3031/12108	Client ID Mat	A STATE OF THE PROPERTY OF THE PARTY OF THE	99235N995E955555996A66cx	ceive Date/Time					
SW-846 826	Carlot Solder Saldes Rolls 17 14 15 15 15 15 15 15 15 15 15 15 15 15 15		S. Street, and S. Ren.	<u> </u>	TET HALLAN				
CAS#	Parameter	Result	RDL	MDL	Units				
1634-04-4	tert-Butyl methyl ether (MTBE)	2.62	1.00	0.078	ug/L				
107-06-2	1,2-Dichloroethane	0.642J	5.00	0.116	ug/L				
GCAL ID 213037,12109	Client ID Mat ID 11946-MW-9B Wat	Turing the property of the pro	DESIGNATION OF THE PROPERTY OF	ceive Date/Time 09/2013 09:45					
SW-846 826	0B			2, 2003/14/2019/01/14/20	en all designations				
CAS#	Parameter	Result	RDL	MDL	Units				
1634-04-4	tert-Butyl methyl ether (MTBE)	2.79	1.00	0.078	ug/L				
107-06-2	1,2-Dichloroethane	0.675J	5.00	0.116	ug/L				
GCAL ID 21303.112112	Client ID Mat	Elizabeth 1961 (1961) (1962) de més ha inna de l'elizabeth de l'elizabeth (1964)	SECREPART OF SECRE	eive Date/Time					
SW-846 601	0C				SECTION SECTIO				
CAS#	Parameter	Result	RDL	MDL	Units				
7439-92-1	Lead	0.011J	0.015	0.0038	mg/L				
SW-846 8260B									
CAS#	Parameter	Result	RDL	MDL	Units				
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00	1.00	0.078	ug/L				

SCALID 21303112113	Client ID ID 11946-MW-11B	Matrix Collect Date/Time Water 03/07/2013 15:30	ACTOR OF THE PARTY	celve Date/Time 09/2013 09:45	
SW-846 826	0B	a minoritada arcestada a securin il uso e 100 de arcesta arcesta arcesta de ordenes su		an lastic and second description of the	
CAS#	Parameter	Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	1.12	1.00	0.078	ug/l
CALID 1303112121	Client ID ID 11946-MW-17B	Matrix Collect Date/Time Water 03/06/2013 16:35	The second second second	ceive Date/Time 09/2013 09:45	
SW-846 826	0B	Euros an Parlamente programme de la companya de la	MAN DE LOS COM EMPORAS	Chicago de la companya del companya della companya	
CAS#	Parameter	Result	RDL	MDL	Unit
75-65-0	t-Butanol (TBA)	400	20.0	0.580	ug/
108-20-3	diisopropyl Ether (DIPE)	2.60J	10.0	0.472	ug/
75-85-4	tert-amyl alcohol (TAA)	244	40.0	2.03	ug/
SW-846 8260	OB .				
CAS#	Parameter	Result	RDL	MDL	Unit
71-43-2	Benzene	6.58	2.00	0.222	ug/
108-88-3	Toluene	2.47	2.00	0.244	ug/
100-41-4	Ethylbenzene	1.10J	2.00	0.218	ug/
1330-20-7 1634-04-4	Xylene (total) tert-Butyl methyl ether (MTBE)	3.87J 244	6.00 2.00	0.358	ug/
1007-01-4	tert-butyr metrryr edier (MTBE)	244	2.00	0.155	ug/l
1303112122	Client ID ID 11946-MW-18A	Matrix Collect Date/Fime Water 03/06/2013 13:00	SECURITY	pelve Date/Time 09/2013 09:45	
SW-846 6010	OC				
CAS#	Parameter	Result	RDL	MDL	Unit
7439-92-1	Lead	0.59	0.030	0.0075	mg/l
SW-846 8260	OB .				
CAS#	Parameter	Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	1,42	1.00	0.078	ug/l
ICAL ID 1303112123	Client ID ID:11946-MW-18B	Matrix Collect Date/Time Water 03/06/2013 12:35	A CONTROL OF THE STATE OF THE S	elve Date/Time	
SW-846 8260	TO A SECURITION OF THE PROPERTY OF THE PROPERT				Medal Cale
CAS#	Parameter	Result	RDL	MDL	Unit
108-88-3	Toluene	0.459J	1.00	0.122	ug/l
		VITOUS	1.00	0.122	
1330-20-7	Xylene (total)	2.03J	3.00	0.179	ug/

GCAL ID 21303112124	Client ID ID:11946-MW-19A	Matrix Water	Collect Date/Time 03/06/2013 15:05	定位的 在中心地震和中视中的影響中在45	celve Date/Time /09/2013 09:45	
SW-846 826	60B				The second secon	S. Call and a Common Manager
CAS#	Parameter		Result	RDL	MDL	Units
75-65-0	t-Butanol (TBA)		5.80J	10.0	0.290	ug/L
SW-846 826	60B					
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.566J	1.00	0.111	ug/L
GCALID 21303112125	Client ID ID 11946-MW-19B	Matrix Water	Collect Date/Time 03/06/2013 14:35	AND THE SECOND SECOND SECOND SECOND	ceive Date/Time	
SW-846 826		vvale	803/00/2013 1.4.33	900/	09/2013 09:45	
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.253J	1.00	0.111	ug/L
CAL ID	Client ID	Matrix	Collect Date/Time	Red	celve Date/Time	
21303112126	ID 11946-MW-20A	Water	03/06/2013 14:00		09/2013 09:45	
SW-846 826	0B					
CAS#	Parameter		Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)		1.15	1.00	0.078	ug/L
CAL ID	Client ID	Matrix	Collect Date/Time	Rec	elve Date/Time	
1303112127	ID 11946-MW-20B	Water	03/06/2013 13:25	03/	09/2013 09:45	
SW-846 601	OC					
CAS#	Parameter		Result	RDL	MDL	Units
7439-92-1	Lead		0.0087J	0.015	0.0038	mg/L
SW-846 826	0B					
CAS#	Parameter		Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)		2.25	1.00	0.078	ug/L
GCAL ID	Client ID	Matrix	Collect Date/Time	ACTIVITY OF COURT OF COURT OF THE PARTY OF T	elve Date/Time	
21303112128	ID 11946-MW-21A	Water	03/06/2013 12:00	06/0	09/2013 09:45	A PORT
SW-846 601						
CAS#	Parameter		Result	RDL	MDL	Units
7439 -9 2-1	Lead		0.012J	0.015	0.0038	mg/L

	939	E-100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
GCAL ID 21303112129	Client ID ID 11946-MW-21B	Matrix Collect Date/Time Water 03/06/2013 11:30	SUPERIOR POSSESSED CONTRACTOR	ceive Date/Time 09/2013 09:45	
SW-846 601	0C				AND DESCRIPTION OF THE PARTY OF
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.0068J	0.015	0.0038	mg/L
SW-846 826	0B			a de la composição de l	
CAS#	Parameter	Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	1.34	1.00	0.078	ug/L
GCALID	Client-ID	Matrix Collect Date/Time	Rec	elve Date/Time	hojenijesti (2005) Pokulijusti
21/3031/12130	ID 11946-MW-22B	Water 03/06/2013 10:30	03/0	09/2013 09:45	
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	1.83	1.00	0.078	ug/L
GCALID	Client ID	Matrix Collect Date/Time.	Rec	eive Date/Time	生 有.有.
21303112131	IDH1946-DMW-1	Water 03/08/2013 08:30	03/0	9/2013 09:45	
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Units
71-43-2	Benzene	507	10.0	1.11	ug/L
1634-04-4 107-06-2	tert-Butyl methyl ether (MTBE) 1,2-Dichloroethane	131	10.0	0.777	ug/L
	•	14.2J	50.0	1.16	ug/L
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Units
75-65-0	t-Butanol (TBA)	75.5J	100	2.90	ug/L
75-85-4	tert-amyl alcohol (TAA)	2550	200	10.1	ug/L
GCALID	Client ID	Matrix Collect Date/Time	Rec	elve Date/Time	
213031121321	ID/11946-DMW-2	Water 03/06/2013;15;45	03/0	9/2013 09:45	
SW-846 826	0B		•		
CAS#	Parameter	Result	RDL	MDL	Units
71-43-2	Benzene	4.12	1.00	0.111	ug/L
108-88-3	Toluene	0.548J	1.00	0.122	ug/L
1330-20-7 1634-04-4	Xylene (total) tert-Butyl methyl ether (MTBE)	0.805J 153	3.00 1.00	0.179 0.078	ug/L ug/L
	saryi monyi onici (m i sa)	100	1.00	0.070	ugr

GCALID	ClientID	atrix Collect Date/Time			N. SHOWEN SHOPE
1303112132	Control of the Contro	latrix Collect Date/Filme /ater 03/06/2013 15:45		ceive Date/Time /09/2013 09:45	in West
W-846 826	0B			and a colonia, also a second and a colonia a	
CAS#	Parameter	Result	RDL	MDL	Un
75-65-0	t-Butanol (TBA)	230	10.0	0.290	u
108-20-3	dilsopropyl Ether (DIPE)	1.49J	5.00	0.236	u
75-85-4	tert-amyl alcohol (TAA)	141	20.0	1.01	u
CAL ID 1303112133		atrix Collect Date/Time /ater 03/06/2013 11:00		ceive Date/Time 09/2013 09:45	
SW-846 601	0C				新兴 德烈李米伯克
CAS#	Parameter	Result	RDL	MDL	Un
7439-92-1	Lead	0.12	0.015	0.0038	m
W-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Ur
71-43-2	Benzene	0.281J	1.00	0.111	u
108-88-3	Toluene	0.497J	1.00	0.122	u
1634-04-4	tert-Butyl methyl ether (MTBE)	1.76	1.00	0.078	u
W-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Un
64-17-5	Ethanol	239J	1000	125	uç
CAL ID 1303112134	Black for the first of the second of the sec	atrix Collect Date/Time.	CONTROL OF THE PROPERTY OF THE	ceive Date/Time	
W-846 826	THE PROPERTY OF THE PROPERTY O	Section 40 Section section (Confidence of the Confidence of the Co			
CAS#	Parameter	Result	RDL	MDL	Un
71-43-2	Benzene	9420	200	22.2	ug
108-88-3	Toluene	12800	200	24.4	u
100-41-4	Ethylbenzene	2030	200	21.8	uç
1330-20-7	Xylene (total)	11000	600	35.8	ug
91-20-3	Naphthalene	565J	1000	35.2	ug
1634-04-4	tert-Butyl methyl ether (MTBE)	9100	200	15.5	u
107-06-2	1,2-Dichloroethane	224J	1000	23.2	u
W-846 801	1				
CAS#	Parameter	Result	RDL	MDL	Un
106-93-4	1,2-Dibromoethane	1.65	0.010	0.00390	ug

GCAL ID 21303112134	Client ID + ID 11945-RW-2	Matrix Collect Date/Tin Water 03/08/2013 10:00	Q.E.R.C.C.D.G.I.G.C.C.G.C.C.G.C.C.C.C.C.C.C.C.C.C.C	ceive Date/Time /09/20/13 09:45	
SW-846 826	60B				
CAS#	Parameter	Result	RDL	MDL	Units
75-65-0	t-Butanol (TBA)	5970	2000	58.0	ug/L
108-20-3	disopropyl Ether (DIPE)	72.7J	1000	47.2	ug/L
75-85-4	tert-amyl alcohol (TAA)	32100	4000	203	ug/L
GCAL ID 21/303112135	Client ID. ID:11946-RW-4	Matrix Collect Date/Tin Water 03/08/2013.09:00	1-2000000000000000000000000000000000000	celve Date/Time 09/2013:09:45	
booths alcoholosobs have	ZASTAN MODELLA KIND PAREST TEXADIBLE SANTEN	, , , , , , , , , , , , , , , , , , ,	A North Control	03/2010/03/40	
SW-846 601	NEWSON CONTRACTOR	=0.0140			
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.012J	0.015	0.0038	mg/L
SW-846 826	60B	Υ.			
CAS#	Parameter	Result	RDL	MDL	Units
71-43-2	Benzene	3390	50.0	5.55	ug/L
108-88-3	Toluene	1730	50.0	6.09	ug/L
100-41-4	Ethylbenzene	977	50.0	5.45	ug/L
1330-20-7	Xylene (total)	4900	150	8.94	ug/L
91-20-3	Naphthalene	210J	250	8.81	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	4460	50.0	3.89	ug/L
SW-846 826	60B				
CAS#	Parameter	Result	RDL	MDL	Units
75-65-0	t-Butanol (TBA)	2180	500	14.5	ug/L
75-85-4	tert-amyl alcohol (TAA)	5690	1000	50.7	ug/L
GCALID 21303112136	Client ID. ID 11946-DUP-1	Matrix Collect Date/Tim		ceive Date/Time	
SW-846 601		Water 03/06/2013 13:30	03/	09/2013 09:45	
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.0045J	5 F T U C 2 F T T	0.0038	52.0
		U.UU46J	0.015	0.0038	mg/L
SW-846 826	60B				
CAS#	Parameter	Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	2.40	1.00	0.078	ug/L

GCALID 21303112137	Client ID Mat	AND COMPANY OF THE PROPERTY OF	PS A STORY TO BE SOURCE TO STORY TO STORY	elve Date/Time 09/2013:09:45	
SW-846 826	OB	ACCURATE OF THE SEAR ON THE SEA TO BE DESCRIBED AS		420000000000000000000000000000000000000	SOM CHARLES IN COMMENTERS AND COMMEN
CAS#	Parameter	Result	RDL	MDL	Units
71-43-2	Benzene	4.62	2.00	0.222	ug/L
108-88-3	Toluene	0.748J	2.00	0.244	ug/L
1330-20-7	Xylene (total)	1.05J	6.00	0.358	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	169	2.00	0.155	ug/L
SW-846 826	0B				
CAS#	Parameter	Result	RDL	MDL	Units
75-65-0	t-Butanol (TBA)	271	20.0	0.580	ug/L
108-20-3	dilsopropyl Ether (DIPE)	1.77J	10.0	0.472	ug/L
75-85-4	tert-amyl alcohol (TAA)	163	40.0	2.03	ug/L

TO THE RESIDENCE OF THE PROPERTY OF THE PROPER	
GCALID Client ID Matrix Collect Date/Time Receive Date/Time	326
	55
21303112101 ID 11946-MW-1 Water 03/08/2013 11:30 03/09/2013 09:45	5年
	855

Prep Date	Prep Batch	Prep Method	Dilution 100	Analyzed 03/17/2013 00:31	By Analy CEK 5032	ytical Batch 63
CAS#	Parameter		Result	RDL	MD	L Units
71-43-2	Benzene		2480	100	11	.1 ug/l
108-88-3	Toluene		12800	100	12	.2 ug/l
100-41-4	Ethylbenzene		1550	100	10	.9 ug/l
1330-20-7	Xylene (total)		5650	300	17	.9 ug/l
91-20-3	Naphthalene		623	500	17	.6 ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	70.8J	100	7.7	77 ug/L
107-06-2	1,2-Dichloroethane		11.6U	500	11	.6 ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	5000	5040	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	5000	4800	ug/L	96	77 - 127
2037-26-5	Toluene d8	5000	4840	ug/L	97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	5000	4950	ug/L	99	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 100	Analyzed 03/17/2013 00:31	By CEK	Analytical Batc 503262	h
CAS#	Parameter		Result	RDL	V/1/2	MDL	Units
994-05-8	t-amyl methyl ether (TAME)		24.0U	500		24.0	ug/L
75-65-0	t-Butanol (TBA)		29.0U	1000		29.0	ug/L
108-20-3	diisopropyl Ether (DIPE)		23.6U	500		23.6	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE	:)	23.4U	500		23.4	ug/L
624-95-3	ethyl tert-butanol (ETBA)		3760U	10000		3760	ug/L
64-17-5	Ethanol		12500U	100000		12500	ug/L
75-85-4	tert-amyl alcohol (TAA)		6340	2000		101	ug/L
762-75-4	tert-butyl formate (TBF)		48.7U	5000		48.7	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy Re	c Limits
460-00-4	4-Bromofluorobenzene	5000	5040	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	5000	4800	ug/L		96	77 - 127
2037-26-5	Toluene d8	5000	4840	ug/L		97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	5000	4950	ug/L		99	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	Bv	Analytical Batch	
03/18/2013 12		SW-846 8011	1	03/18/2013 17:54	TLS	503444	
CAS#	Parameter	50.00	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112101 ID 11946-MW-1 Water 03/08/2013 11:30 03/09/2013:09:45
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Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/15/2013 23:45	By BAM	Analytical Batch 503212	
CAS#	Parameter	100 100 100 100 100 100 100 100 100 100	Result	RDL	711	MDL	Units
7439-92-1	_ead		0.014J	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112102 ID 11946-MW-3 Water 03/08/2013 11:45 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/17/2013 00:53	By Analytica CEK 503263	al Batch
CAS#	Parameter	77	Result	RDL	MDL	Units
71-43-2	Benzene		0.417J	1.00	0.111	ug/L
108-88-3	Toluene		1.05	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.408J	1.00	0.109	ug/L
1330-20-7	Xylene (total)		1.72J	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.6	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	50.4	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.6	ug/L	97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/17/2013 00:53	By CEK	Analytical Bate 503262	ch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TA	ME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE	· ·	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA	A)	37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAX	A)	30.8	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Red	covery R	ec Limits
460-00-4	4-Bromofluorobenzene	50	50.6	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	50.4	ug/L		101	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L		99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.6	ug/L		97	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 18:15	By TLS	Analytical Batch 503444	
CAS# F	Parameter		Result	RDL		MDL	Units
106-93-4 1	,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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21303112102 ID 11946-MW-3 Water 03/08/2013 11:45 03/09/2013	09:45%到5%的特征的产品的5%5%
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Prep Date 03/12/2013 1	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/15/2013 23:53	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112103 ID 11946-MW-6A Water 03/06/2013 09:30 03/09/2013 09:45
21303112103 ID 11946-MW-6A Water 03/06/2013 09:30 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:05		nalytical Bat 02928	ch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/L
108-88-3	Toluene		0.122U	1.00		0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/L
1634-04-4	tert-Butyl methyl ether (I	MTBE)	0.078U	1.00		0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recove	ry R	ec Limits
460-00-4	4-Bromofluorobenzene	50	50.7	ug/L	1	01	78 - 130
1868-53-7	Dibromofluoromethane	50	49	ug/L		98	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	1	01	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L		95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:05	By LBH	Analytical B 502927	atch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAM	IE)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETI	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.7	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	49	ug/L		98	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L		101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L		95	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 18:37	By TLS	Analytical Batch 503444	
CAS# I	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

Prep Date 03/12/2013 15	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:15	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.013J	0.015		0.0038	mg/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
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21303112104 ID 11946-MW-6B Water 03/06/2013 08:00 03/09/2013 09:45
21303112104 ID 11946-MW-6B Water 03/06/2013 08:00 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:27	By Analytic LBH 502928	cal Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (MT	BE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.8	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	49.2	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	47.9	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.1	ug/L	92	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:27	By Analytic LBH 502927	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
994-05-8	t-amyl methyl ether (TAME)	(i)	0.240U	5.00	0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00	0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/L
64-17-5	Ethanol		125U	1000	125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.8	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	49.2	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	47.9	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.1	ug/L	92	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 18:58	By TLS	Analytical Batch 503444	
CAS# I	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	3777-14574-1450-1450-1451
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21303112104 ID-11946-MW-6B Water 03/06/2013 08:00 03/09/2013 09:45	SOURCE STORY AND THE
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Prep Date 03/12/2013 15:0	Prep Batch 0 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:22	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.019	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112105 ID 11946 MW-7 A Water 03/07/2013 15:00 03/09/2013 09:45
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:49	By Analytic LBH 502928	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.9	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	51.1	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	49.6	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L	98	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 02:49	By LBH	Analytical Ba 502927	atch
CAS#	Parameter		Result	RDL	1200	MDL	Units
994-05-8	t-amyl methyl ether (TAM	IE)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETI	3E)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.9	ug/L		104	78 - 130
1868-53-7	Dibromofluoromethane	50	51.1	ug/L		102	77 - 127
2037-26-5	Toluene d8	50	49.6	ug/L		99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L		98	71 - 127

Prep Date 03/18/2013 1	Prep Batch 2:00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 19:20	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCALID Client ID Matrix Collect Date/Time Receive Date/Time	
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2/303/1/2105 ID 11946-MW-7A Water 03/07/2013 15:00 03/09/2013 09:45	
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Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:29	By BAM	Analytical Batch 503212	
CAS# F	Parameter		Result	RDL		MDL	Units
7439-92-1 L	.ead		0.0038U	0.015		0.0038	mg/L

GCALIDE Client ID Matrix Collect Date/Time. Receive Date/Time
21303112106 ID 11946-MW-8A Water 03/07/2013/14:15 03/09/2013/09/45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:12	By Analytica LBH 502928	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	ITBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.7	ug/L	97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:12	By LBH	Analytical Ba 502927	atch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAN	IE)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L		100	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.7	ug/L		97	71 - 127

Prep Date 03/18/2013 1	Prep Batch 2:00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 19:41	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112106 ID 11946-MW-8A Water 03/07/2013 14:15 \$ 03/09/2013 09:45	

Prep Date 03/12/2013 18	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:37	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0068J	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 2/303/1/2107 ID 1/1946-MW-8B Water 03/07/2013 13:45 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:35	By Analytica JCK 502928	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.1	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	49	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.1	ug/L	98	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:35	By JCK	Analytical Bate 502927	h
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME	≣)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETB	E)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	covery R	ec Limits
460-00-4	4-Bromofluorobenzene	50	51.1	ug/L		102	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L		100	77 - 127
2037-26-5	Toluene d8	50	49	ug/L		98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.1	ug/L		98	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 20:02	By TLS	Analytical Batch 503444	
CAS#	Parameter	7.0 mm - 3.00	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCALID Client ID Matrix Collect Date/Time	Receive Date/Time
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21303112107 ID 11946-MW-8B Water 03/07/2013 13:45	03/09/2013 09:45
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Prep Date 03/12/2013 15:	Prep Batch :00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:44	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	10156766779631
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21303112108 ID 11946-MW-9A Water 03/07/2013 13:30 03/09/2013 09:45	23/40/23/2020
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:58	By LBH	Analytical B 502928	atch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether	(MTBE)	2,62	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.642J	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.3	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	50.2	ug/L		100	77 - 12
2037-26-5	Toluene d8	50	48.5	ug/L		97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50	ug/L		100	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 03:58	10.000	Analytical B 502927	atch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAM	E)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETE	BE) .	0.234U	5.00		0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.3	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	50.2	ug/L		100	77 - 127
2037-26-5	Toluene d8	50	48.5	ug/L		97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50	ug/L		100	71 - 127

Prep Date 03/18/2013 12:	Prep Batch :00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 20:45	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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21303112108 ID 11946-MW-9A Water 03/07/2013 13:30 03/09/2013 09:45	GOTHER POST SPECI
	SW302/34 205005
	AND DESCRIPTION

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/18/2013 17:00	By BAM	Analytical Batch 503366	32.00
CAS# F	Parameter	900 000 c	Result	RDL	194153	MDL	Units
7439-92-1 L	ead		0.0038U	0.015		0.0038	mg/L

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GCALID ClientiD Matrix Collect Date/Time Receive Date/Time
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21303112109 ID 11946-MW-9B Water 03/07/2013 13:00 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 04:21	By Analytic	cal Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether ((MTBE)	2.79	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.675J	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.5	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	48.9	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	47.5	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.3	ug/L	97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 04:21	By LBH	Analytical 502927	Batch
CAS#	Parameter		Result	RDL	2 (MDL	Units
994-05-8	t-amyl methyl ether (TA	ME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00		0.234	ug/l
624-95-3	ethyl tert-butanol (ETB/	A)	37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.5	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	50	48.9	ug/L		98	77 - 127
2037-26-5	Toluene d8	50	47.5	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.3	ug/L		97	71 - 127

SW-846 8011

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 21:06	By TLS	Analytical Batch 503444	
CAS#	Parameter	T.	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112109 ID:11946-MW-9B Water 03/07/2013:13:00 # 03/09/2013:09:45	

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:51	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	ead		0.0038U	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
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21303112110 ID 11946-MW-10A Water 03/07/2013 17:00 03/09/2013 09:45
21303112100 ID 11946-MW-10A Water 03/07/2013 17:00 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed .03/13/2013 04:43	By Analyti LBH 502928	cal Batch
CAS#	Parameter	2007-81880-010-12-1	Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/I
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	ITBE)	0.078U	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane	Stand Con *	0.116U	5.00	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.2	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	49.5	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	47.2	ug/L	94	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L	96	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 04:43	By LBH	Analytical Bato 502927	h
CAS#	Parameter	SI TERMONESETTION	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME) [0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE	:)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very R	ec Limits
460-00-4	4-Bromofluorobenzene	50	49.2	ug/L		98	78 - 130
1868-53-7	Dibromofluoromethane	50	49.5	ug/L		99	77 - 127
2037-26-5	Toluene d8	50	47.2	ug/L		94	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L		96	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 21:27	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 00:58	By BAM	Analytical Batch 503212	
CAS# I	Parameter		Result	RDL		MDL	Units
7439-92-1	-ead		0.0038U	0.015		0.0038	mg/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	101000000000000000000000000000000000000
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21303112111 ID 11946-MW-10B Water 03/07/2013 16:30 03/09/2013 09:45	CONTROL OF THE PERSON
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:07	By Analytica LBH 502928	al Batch
CAS#	Parameter		Result	· RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (N	MTBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.5	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	50.4	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	47.9	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L	98	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:07	1837/A 181	nalytical B 02927	latch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAM	E)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETI	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recove	ry	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.5	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	50	50.4	ug/L	1	01	77 - 127
2037-26-5	Toluene d8	50	47.9	ug/L		96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L		98	71 - 127

Prep Date 03/18/2013 12:0	Prep Batch 00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 21:48	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL	-11 16	MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCALID Client ID: Matrix Collect Date/Time Receive Date/Time	
213031/12111 ID 11946-MW-10B Water 03/07/2013 16:30 03/09/2013 09:45	

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:05	By BAM	Analytical Batch 503212	
CAS#	Parameter	district and the second	Result	RDL		MDL	Units
7439-92-1	ead		0.0038U	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time 21303112112 ID 11946-MW-11A Water 03/07/2013 16:00 03/09/2013 09:45	Complete
21303112112 ID 11946-MW-11A Water 03/07/2013 16:00 03/09/2013 09:45	À

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:29	By Analyti LBH 502928	ical Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	
1330-20-7	Xylene (total)		0.179U	3.00	0.179	
91-20-3	Naphthalene		0.176U	5.00	0.176	30 X ()
1634-04-4	tert-Butyl methyl ether	(MTBE)	1.00	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane	5	0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.6	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	49.2	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L	99	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:29	10.71	Analytical E 502927	Batch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME	≣)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETB	E)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	егу	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.6	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L		103	77 - 127
2037-26-5	Toluene d8	50	49.2	ug/L		98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L		99	71 - 127

Prep Date 03/18/2013 12:	Prep Batch 00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 22:09	By TLS	Analytical Batch 503444	
CAS# Parameter		Result	RDL		MDL	Units	
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112112 ID 11945-MW-11A Water 03/07/2013 16:00 03/09/2013 09:45

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:13	By BAM	Analytical Batch 503212	
CAS#	Parameter	31000000	Result	RDL		MDL	Units
7439-92-1	_ead		0.011J	0.015		0.0038	mg/L

	and the second
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112113 ID 11946-MW-11B Water 03/07/2013.15-30 03/09/2013.09:45	C1210601045555555555555
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:52	By Analytica LBH 502928	Il Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether	(MTBE)	1.12	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.6	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	48.5	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	49.1	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.4	ug/L	95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 05:52	By LBH	Analytical 502927	Batch
CAS#	Parameter	100 100 100 100 100 100 100 100 100 100	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)	Y.	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)	141	0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.6	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	48.5	ug/L		97	77 - 127
2037-26-5	Toluene d8	50	49.1	ug/L		98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.4	ug/L		95	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 22:30	By TLS	Analytical Batch 503444	
CAS# I	Parameter	1501 22 - 10 - 10 VC	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
1303112113 ID 11946-MW-11B Water 03/07/2013 15:30 3 09:45	
1303112113 ID 11946-MW-11B Water 03/07/2013 15:30 03/09/2013 09:45	

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:19	By BAM	Analytical Batch 503212	T-0
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	_ead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112114 ID 11946-MW-12A Water, 03/07/2013 11.30 03/09/2013 09:45
2/3031/21/4 ID 11946-MVV-12A Water, 103/07/2013 11/30 3 05/09/2013 US/45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 06:16		Analytical Bate 02928	ch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recove	ry R	ec Limits
460-00-4	4-Bromofluorobenzene	50	47.6	ug/L		95	78 - 130
1868-53-7	Dibromofluoromethane	50	50.1	ug/L	1	00	77 - 127
2037-26-5	Toluene d8	50	47.6	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.4	ug/L		93	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 06:16	-	Analytical Bat 502927	tch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ETBE	E)	0.234U	5.00		0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/l
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	ery F	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.6	ug/L		95	78 - 130
1868-53-7	Dibromofluoromethane	50	50.1	ug/L		100	77 - 127
2037-26-5	Toluene d8	50	47.6	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.4	ug/L		93	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 22:52	By TLS	Analytical Batch 503444	
CAS#	Parameter	3000 0000000000000000000000000000000000	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 2/303/1/2114 ID 11946-MW-12A Water 03/07/2013 11:30 03/09/2013 09:45
21303112114 ID 11946-MW-12A Water 03/07/2013 11:30 03/09/2013 09:45

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:41	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	_ead		0.0038U	0.015		0.0038	mg/L

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21303112115 ID 11946-MW-12B Water 03/07/2013 11:00 03/09/2013 09:45	1
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 06:39	By Analy LBH 50292	rtical Batch 28
CAS#	Parameter		Result	RDL	MDL	. Unit
71-43-2	Benzene		0.111U	1.00	0.11	1 ug/l
108-88-3	Toluene		0.122U	1.00	0.12	
100-41-4	Ethylbenzene		0.109U	1.00	0.10	내일 경영화가
1330-20-7	Xylene (total)		0.179U	3.00	0.17	TOTAL CONTROL
91-20-3	Naphthalene		0.176U	5.00	0.17	
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.07	8 ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.11	6 ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.8	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	48.1	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.1	ug/L	96	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 06:39	By Analyti LBH 502927	cal Batch
CAS#	Parameter	- A. 1986	Result	RDL	MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00	0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)		0.234U	5.00	0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/L
64-17-5	Ethanol		125U	1000	125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.8	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	48.1	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.1	ug/L	96	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 23:13	By TLS	Analytical Batch 503444	
CAS#	Parameter	2 20020	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112115 ID 11946-MW-12B Water 03/07/2013 11:00 03/09/2013 09:45
21303112115 ID 11946-MW-12B Water 03/07/2013 11:00 03/09/2013 09:45

Prep Date 03/12/2013 15	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:49	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time
21303112116 ID-11946-MW-13B Water 03/07/2013 12:00 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 07:01	By Analytic LBH 502928	cal Batch
CAS#	Parameter		Result	RDL	MDL	Unit
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M7	TBE)	0.078U	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	48.5	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.9	ug/L	96	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 07:01	By LBH	Analytical Bate 502927	ch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy R	ec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	50	48.5	ug/L		97	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.9	ug/L		96	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 23:34	By TLS	Analytical Batch 503444	
CAS#	AS# Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112116 ID 11946-MW-13B Water 03/07/2013 12:00 03/09/2013 09:45	

Prep Date 03/12/2013 18	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 01:56	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/T	Ime Receive Date/Time
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21303112117 ID 11946-MW-14A Water 03/07/2013 10:	30 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:10	By LBH	Analytical Bat 502965	ch
CAS#	Parameter		Result	RDL		MDL	Unite
71-43-2	Benzene		0.111U	1.00		0.111	ug/L
108-88-3	Toluene		0.122U	1.00		0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M7	TBE)	0.078U	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy R	ec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	50	48.1	ug/L		96	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.9	ug/L		94	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:10	By Analytic LBH 502964	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
994-05-8	t-amyl methyl ether (TAN	NE)	0.240U	5.00	0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00	0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)) ~	37.6U	100	37.6	ug/L
64-17-5	Ethanol		125U	1000	125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	48.1	ug/L	96	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.9	ug/L	94	71 - 127

Prep Date 03/18/2013 1	Prep Batch 2:00 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/18/2013 23:55	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCALID Client ID Matrix Collect Date/Time	Receive Date/Time
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21303112117 ID 11946-MW-14A Water 03/07/2013 10:30	03/09/2013 09:45

Prep Date 03/12/2013 15:00	Prep Batch 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 02:03	By BAM	Analytical Batch 503212	end.
CAS#	Parameter		Result	RDL	21211	MDL	Units
7439-92-1	_ead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCALID Client ID Matrix Collect Date/Time Receive Date/Time
21303112118 ID:11946-MW-14B Water 03/07/2013.09:45 03/09/2013.09:45
21303112118 ID 11946-MW-14B Water 03/07/2013.09:45 03/09/2013.09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:33	By Analytica LBH 502965	ll Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53.6	ug/L	107	78 - 130
1868-53-7	Dibromofluoromethane	50	49.1	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	. 50	48.3	ug/L	97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:33	By Analy LBH 50296	rtical Batch 34
CAS#	Parameter	0 0.0074	Result	RDL	MDI	L Unite
994-05-8	t-amyl methyl ether (TA	ME)	0.240U	5.00	0.24	0 ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.29	0 ug/l
108-20-3	diisopropyl Ether (DIPE	E)	0.236U	5.00	0.23	6 ug/l
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00	0.23	4 ug/l
624-95-3	ethyl tert-butanol (ETB/	A)	37.6U	100	37.	
64-17-5	Ethanol		125U	1000	12	5 ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.0	1 ug/l
762-75-4	tert-butyl formate (TBF))	0.487U	50.0	0.48	7 ug/l
CAS#	Surrogate	. Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53.6	ug/L	107	78 - 130
1868-53-7	Dibromofluoromethane	50	49.1	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.3	ug/L	. 97	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 00:38	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL-ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112118 ID.11946-MW-14B Water 03/07/2013 09:45 03/09/2013 09:45
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21303112118 ID.11946-MW-14B Water 03/07/2013 09:45 03/09/2013 09:45

Prep Date 03/12/2013 15	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 02:10	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112119 ID 11946-MW-15B Water 03/07/2013 08:00 03/09/2013 09:45
21303112119 ID:11946-MW-15B Water 03/07/2013 08:00 03/09/2013 09:45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:55	By Analytic LBH 502965	cal Batch
CAS#	Parameter		Result	RDL	MDL	· Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (N	MTBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L	95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 13:55	By Analyti LBH 502964	cal Batch
CAS#	Parameter		Result	RDL	MDL	Unit
994-05-8	t-amyl methyl ether (TAME	Ē)	0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)	NT	0.290U	10.0	0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)	74	0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ETB)	E)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	47.7	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L	95	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 00:59	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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Prep Date 03/12/2013 15:0	Prep Batch 00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 02:18	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112120 ID 11946-MW-16B Water 03/07/2013 08:45 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 14:17	By Analytica LBH 502965	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	ITBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.4	ug/L	105	78 - 130
1868-53-7	Dibromofluoromethane	50	51.9	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	. 50	49.3	ug/L	99	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 14:17	By Analyt LBH 502964	ical Batch t
CAS#	Parameter	3 5A 7540	Result	RDL	MDL	Unite
994-05-8	t-amyl methyl ether (TAI	ME)	0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ET	TBE)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)	37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.4	ug/L	105	78 - 130
1868-53-7	Dibromofluoromethane	50	51.9	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L	99	71 - 127

Prep Date 03/18/2013 12:00	Prep Batch 503007	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 01:21	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time	32000
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21303112120 ID 11946-MW-16B Water 03/07/2013 08:45 03/09/2013 09:45	

Prep Date 03/12/2013 15	Prep Batch 5:00 502858	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 02:25	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

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Superior and control of the superior of the su	te/Time Receive Date/Time
21303112121 ID 11946-MW-17B Water 03/06/2013	16:35 03/09/2013 09:45

Prep Date	Prep Batch Prep Method		Dilution	Analyzed	Ву	Analytical Batc	h
r rep Date	riep batcii	гтер мешоа	2	03/13/2013 16:12	LBH	502965	
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		6.58	2.00		0.222	ug/L
108-88-3	Toluene		2.47	2.00		0.244	ug/L
100-41-4	Ethylbenzene		1.10J	2.00		0.218	ug/L
1330-20-7	Xylene (total)		3.87J	6.00		0.358	ug/L
91-20-3	Naphthalene		0.352U	10.0		0.352	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	244	2.00		0.155	ug/L
107-06-2	1,2-Dichloroethane		0.232U	10.0		0.232	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy Re	ec Limits
460-00-4	4-Bromofluorobenzene	100	103	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	100	105	ug/L		105	77 - 127
2037-26-5	Toluene d8	100	94.1	ug/L		94	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	97	ug/L		97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 2	Analyzed 03/13/2013 16:12	By LBH	Analytical Batc 502964	h
CAS#	Parameter	· · · · · · · · · · · · · · · · · · ·	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.480U	10.0		0.480	ug/L
75-65-0	t-Butanol (TBA)		400	20.0		0.580	ug/L
108-20-3	disopropyl Ether (DIPE)		2.60J	10.0		0.472	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE		0.468U	10.0		0.468	ug/L
624-95-3	ethyl tert-butanol (ETBA)		75.2U	200		75.2	ug/L
64-17-5	Ethanol		250U	2000		250	ug/L
75-85-4	tert-amyl alcohol (TAA)		244	40.0		2.03	ug/L
762-75-4	tert-butyl formate (TBF)		0.974U	100		0.974	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very Re	c Limits
460-00-4	4-Bromofluorobenzene	100	103	ug/L		103	78 - 130
1868-53-7	Dibromofluoromethane	100	105	ug/L		105	77 - 127
2037-26-5	Toluene d8	100	94.1	ug/L		94	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	97	ug/L		97	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 02:46	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time 21303112121 ID 11946-MW-17B Water 03/06/2013 16:35 03/09/2013 09:45
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Prep Date 03/12/2013 16:0	Prep Batch 0 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 03:38	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	1
21303112122 ID 11946-MW-18A Water 03/06/2013 13:00 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 16:35	By Analytica LBH 502965	al Batch
CAS#	Parameter	0.070.101	Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (MTBE)	1.42	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.3	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	46.3	ug/L	93	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.6	ug/L	97	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/13/2013 16:35	By Analyti LBH 502964	cal Batch
CAS#	Parameter		Result	RDL	MDL	Units
994-05-8	t-amyl methyl ether (TAN	ME)	0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.3	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	46.3	ug/L	93	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.6	ug/L	97	71 - 127

Prep Date 03/18/2013 0	Prep Batch 9:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 03:07	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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21303112122 ID 11946-MW-18A Water 03/06/2013 13:00 03/09/2013:09:45	1
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Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 2	Analyzed 03/18/2013 17:33	By BAM	Analytical Batch 503366	
CAS#	Parameter		Result	RDL	1001100	MDL	Units
7439-92-1 I	_ead		0.59	0.030		0.0075	mg/L

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21303112123 ID 11946-MW-18B Water 03/06/2013 12:35 03/09/2013 09:45
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:47		Analytical B 503068	atch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.459J	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		2.03J	3.00		0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether (N	ITBE)	0.841J	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	ery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.1	ug/L		96	78 - 130
1868-53-7	Dibromofluoromethane	50	44.9	ug/L		90	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L		96	71 - 12

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:47	By LBH	Analytical Ba 503069	ntch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.1	ug/L		96	78 - 130
1868-53-7	Dibromofluoromethane	50	44.9	ug/L		90	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L		96	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 03:29	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	and the
21303112123 ID 11946-MW-18B Water 03/06/2013 12:35 03/09/2013 09:45	CE CE

Prep Date 03/12/2013 16	Prep Batch 5:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 03:51	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

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CAL ID Glient ID Matrix Collect Date/Time Receive Date/Time	
1303112124 ID 11946-MW-19A Water 03/06/2013 15:05 03/09/2013 09:45	1

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 11:51	By Analytic LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.566J	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	44.7	ug/L	89	78 - 130
1868-53-7	Dibromofluoromethane	50	48.4	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	52.9	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L	95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 11:51	By LBH	Analytical Bato 503069	ch
CAS#	Parameter	2.2	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		5.80J	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)		0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very R	ec Limits
460-00-4	4-Bromofluorobenzene	50	44.7	ug/L		89	78 - 130
1868-53-7	Dibromofluoromethane	50	48.4	ug/L		97	77 - 127
2037-26-5	Toluene d8	50	52.9	ug/L		106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L		95	71 - 127

SW-846 8011

Prep Date 03/18/2013 09:0	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 03:50	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 03:58	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	_ead		0.0038U	0.015		0.0038	mg/L

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CALID Client ID Matrix Collect Date/Time Receive Date/Time	M160
CAL ID Client ID Matrix Collect Date/Time Receive Date/Time	4004
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303112125 ID:11946-MW-19B Water 03/06/2013 14:35 03/09/2013 09:45	4504
	4909
CAL-ID Collect Date/Time Receive Date/Time I303112125 ID/11946-MW-19B Water 03/06/2013 14:35 03/09/2013 09:45	C200

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:13	By Analytica LBH 503068	l Batch
CAS#	Parameter	*	Result	RDL	MDL	Units
71-43-2	Benzene		0.253J	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)	*	0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	ΓBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	46.6	ug/L	93	78 - 130
1868-53-7	Dibromofluoromethane	50	47.2	ug/L	94	77 - 127
2037-26-5	Toluene d8	50	54.4	ug/L	109	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.7	ug/L	91	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:13	By LBH	Analytical Batc 503069	h
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	overy Re	c Limits
460-00-4	4-Bromofluorobenzene	50	46.6	ug/L		93	78 - 130
1868-53-7	Dibromofluoromethane	50	47.2	ug/L		94	77 - 127
2037-26-5	Toluene d8	50	54.4	ug/L		109	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.7	ug/L		91	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 04:33	By TLS	Analytical Batch 503444	
CAS# I	Parameter	,	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390⊍	0.010		0.00390	ug/L

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GCALID Client ID Matrix Collect Date/Time Receive Date/Time
21303112125 ID 11946-MW-19B Water 03/06/2013 14:35 03/09/2013 09:45
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Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:06	By BAM	Analytical Batch 503212	-
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	_ead		0.0038U	0.015		0.0038	mg/L

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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:36		Analytical 503068	Batch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/L
91-20-3	Naphthalene		0.176U	- 5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether (MTBE)	1.15	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	rery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	50	45.5	ug/L		91	77 - 127
2037-26-5	Toluene d8	50	59.1	ug/L		118	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45	ug/L		90	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:36	By LBH	Analytical 503069	Batch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (T.	AME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIP	E)	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (I	ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETE	BA)	37.6U	100		37.6	ug/L
64-17-5	Ethanol	2	125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)	1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF	=)	0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	50	45.5	ug/L		91	77 - 127
2037-26-5	Toluene d8	50	59.1	ug/L		118	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45	ug/L		90	71 - 127

Prep Date 03/18/2013 0	Prep Batch 9:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 04:55	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 02:46	By BAM	Analytical Batch 503212	
CAS#	Parameter	N V 200000	Result	RDL		MDL	Units
7439-92-1	ead		0.0038U	0.015		0.0038	mg/L

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21303112127 ID 11946-MW-20B Water 03/06/2013 13:25 03/09/2013 09:45	
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21303112127 ID 11946-MW-20B Water 03/06/2013 13:25 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:59	By Analytica LBH 503068	l Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether	(MTBE)	2.25	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane	PR 141001P-4 DP 1	0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.1	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	47.2	ug/L	94	77 - 127
2037-26-5	Toluene d8	50	57.2	ug/L	114	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L	96	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 12:59	By LBH	Analytical 503069	Batch
CAS#	Parameter	MINE 0.5M2	Result	RDL	9.00000	MDL	Units
994-05-8	t-amyl methyl ether (TA	ME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE	E)	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETB/	A)	37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.1	ug/L		98	78 - 130
1868-53-7	Dibromofluoromethane	50	47.2	. ug/L		94	77 - 127
2037-26-5	Toluene d8	50	57.2	ug/L		114	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.8	ug/L		96	71 - 127

Prep Date 03/18/2013 09	Prep Batch 0:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 05:16	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112127 ID 11946-MW-20B Water 03/06/2013 13:25 03/09/2013 09:45
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Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:13	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Unit
7439-92-1 I	.ead		0.0087J	0.015		0.0038	mg/l

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	2008
GCALID Client ID Matrix Collect Date/Time Receive Date/Time	250154
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21303112128 ID 11946-MW-21A Water 03/06/2013 12:00 03/09/2013 09:45	(0.55L)
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 13:22	By Analytica LBH 503068	l Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.7	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	45.9	ug/L	92	77 - 127
2037-26-5	Toluene d8	50	56.5	ug/L	113	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.5	ug/L	91	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 13:22	By Analy LBH 5030	ytical Batch 69
CAS#	Parameter	192	Result	RDL	. MD	L Units
994-05-8	t-amyl methyl ether (T.	AME)	0.240U	5.00	0.24	10 ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.29	
108-20-3	diisopropyl Ether (DIP	E)	0.236U	5.00	0.23	36 ug/L
637-92-3	Ethyl tert-butyl ether (I	ETBE)	0.234U	5.00	0.23	34 ' ug/L
624-95-3	ethyl tert-butanol (ETE	A)	37.6U	100	37	.6 ug/L
64-17-5	Ethanol		125U	1000	12	25 ug/L
75-85-4	tert-amyl alcohol (TAA)	1.01U	20.0	1.0)1 ug/L
762-75-4	tert-butyl formate (TBF	·)	0.487U	50.0	0.48	37 ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.7	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	45.9	ug/L	92	77 - 127
2037-26-5	Toluene d8	50	56.5	ug/L .	113	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.5	ug/L	91	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 05:37	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL	STATE OF	MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
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21303112128 ID.11946-MW-21A Water 1 03/06/2013 12:00 03/09/2013 09:45

Prep Date 03/12/2013 16	Prep Batch 5:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:35	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.012J	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112129 ID 11946-MW-21B Water 03/06/2013/11:30 55 508/09/2013/09/2013/09/2013

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 13:45	19.50 to 19	nalytical 03068	Batch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether	(MTBE)	1.34	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recove	ry	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.3	ug/L	!	95	78 - 130
1868-53-7	Dibromofluoromethane	50	44.3	ug/L		89	77 - 127
2037-26-5	Toluene d8	50	56.1	ug/L	1	12	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.2	ug/L		94	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 13:45		alytical Batch 8069
CAS#	Parameter		Result	RDL	M	DL Units
994-05-8	t-amyl methyl ether (TAI	ME)	0.240U	5.00	0.	240 ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.	290 ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.	236 ug/L
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00	0.	234 ug/L
624-95-3	ethyl tert-butanol (ETBA)	37.6U	100	:	37.6 ug/L
64-17-5	Ethanol		125U	1000		125 ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01 ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.	487 ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	/ Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.3	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	44.3	ug/L	89	77 - 127
2037-26-5	Toluene d8	50	56.1	ug/L	112	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.2	ug/L	94	71 - 127

Prep Date 03/18/2013 0	Prep Batch 9:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 05:59	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time	Receive Date/Time
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21303112129 ID-11946-MW-21B Water 03/06/2073 11:30	03/00/2013 00-25

Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:42	By BAM	Analytical Batch 503212	Water
CAS# I	Parameter		Result	RDL		MDL	Units
7439-92-1 I	ead		0.0068J	0.015		0.0038	mg/L

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:08	By Analytica LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Unite
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.83	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.9	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	47.9	ug/L	96	77 - 127
2037-26-5	Toluene d8	50	54.9	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.7	ug/L	93	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:08	By LBH	Analytical 503069	Batch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (T/	AME)	0.240U	5.00		0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/l
108-20-3	diisopropyl Ether (DIPI	≣)	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00		0.234	ug/l
624-95-3	ethyl tert-butanol (ETB	A)	37.6U	100		37.6	ug/l
64-17-5	Ethanol	71	125U	1000		125	ug/l
75-85-4	tert-amyl alcohol (TAA))	1.01U	20.0		1.01	ug/l
762-75-4	tert-butyl formate (TBF)	0.487U	50.0		0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.9	ug/L		98	78 - 130
1868-53-7	Dibromofluoromethane	50	47.9	ug/L		96	77 - 127
2037-26-5	Toluene d8	50	54.9	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.7	ug/L		93	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 06:20	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112130 ID 11946-MW-22B Water 03/06/2013 10:30 03/09/2013 09:45
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Prep Date 03/12/2013 16:	Prep Batch :00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:49	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112131 ID 11946-DMW-1 Water 03/08/2013/08:30 03/09/2013/09:45	

Prep Date	Prep Batch	Prep Method	Dilution 10	Analyzed 03/15/2013 17:34	By Analytica LBH 503068	l Batch
CAS#	Parameter	am William and a second a second and a second a second and a second a second and a second and a second and a	Result	RDL	MDL	Units
71-43-2	Benzene		507	10.0	1.11	ug/L
108-88-3	Toluene		1.22U	10.0	1,22	ug/L
100-41-4	Ethylbenzene		1.09U	10.0	1.09	ug/L
1330-20-7	Xylene (total)		1.79U	30.0	1.79	ug/L
91-20-3	Naphthalene		1.76U	50.0	1.76	ug/L
1634-04-4	tert-Butyl methyl ether	(MTBE)	131	10.0	0.777	ug/L
107-06-2	1,2-Dichloroethane		14.2J	50.0	1.16	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	457	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	500	468	ug/L	94	77 - 127
2037-26-5	Toluene d8	500	540	ug/L	108	76 - 134
17060-07-0	1,2-Dichloroethane-d4	500	481	ug/L	96	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 10	Analyzed 03/15/2013 17:34	By LBH	Analytical 503069	Batch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAI	ME)	2.40U	50.0		2.40	ug/l
75-65-0	t-Butanol (TBA)		75.5J	100		2.90	ug/l
108-20-3	diisopropyl Ether (DIPE)		2.36U	50.0		2.36	ug/l
637-92-3	Ethyl tert-butyl ether (ET	BE)	2.34U	50.0		2.34	ug/l
624-95-3	ethyl tert-butanol (ETBA)	376U	1000		376	ug/l
64-17-5	Ethanol .		1250U	10000		1250	ug/l
75-85-4	tert-amyl alcohol (TAA)	2550	200		10.1	ug/l
762-75-4	tert-butyl formate (TBF)		4.87U	500		4.87	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	500	457	ug/L		91	78 - 130
1868-53-7	Dibromofluoromethane	500	468	ug/L		94	77 - 127
2037-26-5	Toluene d8	500	540	ug/L		108	76 - 134
17060-07-0	1,2-Dichloroethane-d4	500	481	ug/L		96	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 06:42	By TLS	Analytical Batch 503444	
CAS#	Parameter	3.	Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
.21303112131 ID 11946-DMW-1. Water 9 03/08/2013 08:30 03/09/2013 08:45	

Prep Date 03/12/2013 16	Prep Batch 5:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 04:57	By BAM	Analytical Batch 503212	
CAS#	Parameter	***************************************	Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

CAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
CAL ID Client ID Matrix Collect Date/Time Receive Date/Time	
303112132 ID 11946-DMW-2 Water 03/06/2013 15:45 03/09/2013 09:45	
303112132 ID 11946-DMW-2 Water 03/06/2013 15:45 03/09/2013 09:45	
1000117210721101110411040-0110117-20112	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:30	- 10 Mars - 10 Mars	alytical Batch 3068
CAS#	Parameter		Result	RDL	N	IDL Unit
71-43-2	Benzene		4.12	1.00	0.	.111 ug/l
108-88-3	Toluene		0.548J	1.00	0.	.122 ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.	.109 ug/l
1330-20-7	Xylene (total)		0.805J	3.00	0.	.179 ug/l
91-20-3	Naphthalene		0.176U	5.00	0.	.176 ug/l
1634-04-4	tert-Butyl methyl ether (I	MTBE)	153	1.00	0.	.078 ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.	.116 ug/
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	y Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.3	ug/L	99	9 78 - 130
1868-53-7	Dibromofluoromethane	50	45.7	ug/L	9	1 77 - 127
2037-26-5	Toluene d8	50	57.8	ug/L	116	6 76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.8	ug/L	92	2 71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:30	By LBH	Analytical 503069	Batch
CAS#	Parameter		Result	RDL		MDL	Unit
994-05-8	t-amyl methyl ether (T/	AME)	0.240U	5.00		0.240	ug/
75-65-0	t-Butanol (TBA)		230	10.0		0.290	ug/
108-20-3	diisopropyl Ether (DI	PE)	1.49J	5.00		0.236	ug/
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00		0.234	ug/
624-95-3	ethyl tert-butanol (ETB	A)	37.6U	100		37.6	ug/
64-17-5	Ethanol		125U	1000		125	ug/
75-85-4	tert-amyl alcohol (TA	A)	141	20.0		1.01	ug/
762-75-4	tert-butyl formate (TBF)	0.487U	50.0		0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limit
460-00-4	4-Bromofluorobenzene	50	49.3	ug/L		99	78 - 13
1868-53-7	Dibromofluoromethane	50	45.7	ug/L		91	77 - 12
2037-26-5	Toluene d8	50	57.8	ug/L		116	76 - 13
17060-07-0	1,2-Dichloroethane-d4	50	45.8	ug/L		92	71 - 12

Prep Date 03/18/2013 0	Prep Batch 99:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 07:03	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID. Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
21303112132: ID 11946-DMW-2 Water 03/06/2013 15:45 03/09/2013 09:45

Prep Date 03/12/2013 16	Prep Batch 6:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:04	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time	
.21303112133 ID:11946-DMW-3 Water 03/06/2013 11:00 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:53	By Analytica LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Unite
71-43-2	Benzene		0.281J	1.00	0.111	ug/L
108-88-3	Toluene		0.497J	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether	(MTBE)	1.76	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane	• (co. 1579-6570• •)	0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	44.5	ug/L	89	78 - 130
1868-53-7	Dibromofluoromethane	50	46.4	ug/L	93	. 77 - 127
2037-26-5	Toluene d8	50	52.3	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.7	ug/L	95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 14:53	By LBH	Analytical Batc 503069	h
CAS#	Parameter		Result	RDL	9 6	MDL	Units
994-05-8	t-amyl methyl ether (TAME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE	E)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		239J	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy Re	c Limits
460-00-4	4-Bromofluorobenzene	50	44.5	ug/L		89	78 - 130
1868-53-7	Dibromofluoromethane	50	46.4	ug/L		93	77 - 127
2037-26-5	Toluene d8	50	52.3	ug/L		105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.7	ug/L		95	71 - 127

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 07:24	By TLS	Analytical Batch 503444	
CAS#	arameter		Result	RDL		MDL	Units
106-93-4	,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112133 ID 11946-DMW-3 Water 03/06/2013 11:00 \$203/09/2013 09:45	
21303112133 ID 11946-DMW-3 Water 03/06/2013 11:00 03/09/2013 09:45	

Prep Date 03/12/2013 16	Prep Batch 5:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:11	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.12	0.015		0.0038	mg/L

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303/112134 ID 11946-RW-2 Water 03/08/2013 10:00 03/09/2013 09:45
233001112755 IID 13540-104-2 Waler 03/08/2013 03/08/2013 09:40

Prep Date	Prep Batch	Prep Batch Prep Method		Analyzed 03/15/2013 17:57	By Analytica LBH 503068	al Batch
CAS#	Parameter	S (1	Result	RDL	MDL	Units
71-43-2	Benzene		9420	200	22.2	ug/L
108-88-3	Toluene		12800	200	24.4	ug/L
100-41-4	Ethylbenzene		2030	200	21.8	ug/L
1330-20-7	Xylene (total)		11000	600	35.8	ug/L
91-20-3	Naphthalene		565J	1000	35.2	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	9100	200	15.5	ug/L
107-06-2	1,2-Dichloroethane		224J	1000	23,2	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	10000	9630	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	10000	9540	ug/L	95	77 - 127
2037-26-5	Toluene d8	10000	10900	ug/L	109	76 - 134
17060-07-0	1,2-Dichloroethane-d4	10000	9490	ug/L	95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 200	Analyzed 03/15/2013 17:57	3155 m ** 1659	alytical Batch 069
CAS#	Parameter		Result	RDL	M	DL Unit
994-05-8	t-amyl methyl ether (TAM	IE)	48.0U	1000	4	l8.0 ug/l
75-65-0	t-Butanol (TBA)		5970	2000		58.0 ug/l
108-20-3	dilsopropyl Ether (DIPE	E)	72.7J	1000	4	7.2 ug/l
637-92-3	Ethyl tert-butyl ether (ETI	BE)	46.8U	1000	4	6.8 ug/l
624-95-3	ethyl tert-butanol (ETBA)		7520U	20000	7	520 ug/
64-17-5	Ethanol		25000U	200000	25	000 ug/l
75-85-4	tert-amyl alcohol (TAA)		32100	4000		203 ug/l
762-75-4	tert-butyl formate (TBF)		97.4U	10000	9	7.4 ug/l
CAS#	Surrogate	Conc. Splked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	10000	9630	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	10000	9540	ug/L	95	77 - 12
2037-26-5	Toluene d8	10000	10900	ug/L	109	76 - 134
17060-07-0	1,2-Dichloroethane-d4	10000	9490	ug/L	95	71 - 127

SW-846 8011

Prep Date 03/18/2013 0	Prep Batch 9:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 07:46	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		1.65	0.010		0.00390	ug/L

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21303112134 ID 11946-RW-2 Water 03/08/2013 10:00 03/09/2013 09:45	
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SW-846 6010C

Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:17	By BAM	Analytical Batch 503212	
CAS# I	Parameter	Year Old America Andrews	Result	RDL	01-01	MDL	Units
7439-92-1	ead		0.0038U	0.015		0.0038	mg/L

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GCAL ID Client ID Matrix	Collect Date/Time Receive Date/Time
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THE COUNTY OF THE COUNTY AND THE COUNTY OF T	
21303112135 ID 11946-RW-4 Water	03/08/2013 09:00 03/09/2013 09:45
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Prep Date	Prep Batch	Prep Method	Dilution 50	Analyzed 03/15/2013 18:20	By CEK	Analytical Batc 503068	h
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		3390	50.0		5.55	ug/l
108-88-3	Toluene	ž.	1730	50.0		6.09	ug/l
100-41-4	Ethylbenzene		977	50.0		5.45	ug/l
1330-20-7	Xylene (total)		4900	150		8.94	ug/l
91-20-3	Naphthalene		210J	250		8.81	ug/l
1634-04-4	tert-Butyl methyl ether (I	MTBE)	4460	50.0		3.89	ug/l
107-06-2	1,2-Dichloroethane		5.81U	250		5.81	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy Re	c Limits
460-00-4	4-Bromofluorobenzene	2500	2480	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	2500	2390	ug/L		96	77 - 127
2037-26-5	Toluene d8	2500	2760	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	2500	2380	ug/L		95	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 50	Analyzed 03/15/2013 18:20	By CEK	Analytical 503069	l Batch
CAS#	Parameter		Result	RDL	200	MDL	Units
994-05-8	t-amyl methyl ether (TAM	ME)	12.0U	250		12.0	ug/l
75-65-0	t-Butanol (TBA)		2180	500		14.5	ug/L
108-20-3	diisopropyl Ether (DIPE)		11.8U	250		11.8	ug/L
637-92-3	Ethyl tert-butyl ether (ET	BE)	11.7U	250		11.7	ug/L
624-95-3	ethyl tert-butanol (ETBA)	1880U	5000		1880	ug/L
64-17-5	Ethanol		6250U	50000		6250	ug/L
75-85-4	tert-amyl alcohol (TAA))	5690	1000		50.7	ug/L
762-75-4	tert-butyl formate (TBF)		24.3U	2500		24.3	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	2500	2480	ug/L		99	78 - 130
1868-53-7	Dibromofluoromethane	2500	2390	ug/L		96	77 - 127
2037-26-5	Toluene d8	2500	2760	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	2500	2380	ug/L		95	71 - 127

SW-846 8011

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 08:28	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCAL:ID Client:ID Matrix Collect:Date/Time Receive:Date/Time 21303112135 ID 11946-RW-4 Water 03/08/2013/09:00 03/09/2013/09:45
21303112135 ID 11946-RW-4: Water 03/08/2013 09:00 03/09/2013 09:45

SW-846 6010C

Prep Date 03/12/2013 16	Prep Batch 6:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:25	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.012J	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time 21303112136 ID-1946-DUP-1 Water 03/06/2013 13:30 03/09/2013 09:45
2/(303/1/2/30 ID-) 1940-DUF-1 Water 03/06/2013/3300 03/09/2013/09/45

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 15:15	By Analytica LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	. ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (MTBE)	2,40	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane	7.9	0.116U	5.00	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.5	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	48.3	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	56.3	ug/L	113	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.9	ug/L	92	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 15:15	US73 10	Analytical Bato 503069	:h
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)		0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	very R	ec Limits
460-00-4	4-Bromofluorobenzene	50	47.5	ug/L		95	78 - 130
1868-53-7	Dibromofluoromethane	50	48.3	ug/L		97	77 - 127
2037-26-5	Toluene d8	50	56.3	ug/L		113	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.9	ug/L		92	71 - 127

SW-846 8011

Prep Date 03/18/2013 09	Prep Batch 9:00 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 08:50	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL	20000144	MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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SW-846 6010C

Prep Date 03/12/2013 16	Prep Batch 3:00 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:32	By BAM	Analytical Batch 503212	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0045J	0.015		0.0038	mg/L

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GCALID Client ID Matrix Collect Date/Time Receive Date/Time	
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22/303/1/2137 ID-11946-DUP-2 Water 03/06/2013 15:50 03/09/2013 09:45	

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed		alytical Batch
			2	03/15/2013 17:10	LBH 503	068
CAS#	Parameter		Result	RDL	M	DL. Units
71-43-2	Benzene		4.62	2.00	0.:	222 ug/l
108-88-3	Toluene		0.748J	2.00	0.:	244 ug/l
100-41-4	Ethylbenzene		0.218U	2.00	0.3	218 ug/l
1330-20-7	Xylene (total)		1.05J	6.00	0.:	358 ug/l
91-20-3	Naphthalene		0.352U	10.0	0.3	352 ug/l
1634-04-4	tert-Butyl methyl ether (I	(TBE)	169	2.00	0.	155 ug/l
107-06-2	1,2-Dichloroethane		0.232U	10.0	0.3	232 ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	96.5	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	100	90.5	ug/L	91	77 - 127
2037-26-5	Toluene d8	100	110	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	91.7	ug/L	92	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 2	Analyzed 03/15/2013 17:10	By Analy LBH 50306	tical Batch 9
CAS#	Parameter		Result	RDL	MDI	. Units
994-05-8	t-amyl methyl ether (TAMI	Ξ)	0.480U	10.0	0.48	0 ug/l
75-65-0	t-Butanol (TBA)		271	20.0	0.58	0 ug/L
108-20-3	disopropyl Ether (DIPE)		1.77J	10.0	0.47	2 ug/L
637-92-3	Ethyl tert-butyl ether (ETB	E)	0.468U	10.0	0.46	8 ug/L
624-95-3	ethyl tert-butanol (ETBA)		75.2U	200	75.	2 ug/L
64-17-5	Ethanol		250U	2000	25	0 ug/L
75-85-4	tert-amyl alcohol (TAA)		163	40.0	2.0	3 ug/L
762-75-4	tert-butyl formate (TBF)		0.974U	100	0.97	4 ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	96.5	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	100	90.5	ug/L	91	77 - 127
2037-26-5	Toluene d8	100	110	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	91.7	ug/L	92	71 - 127

SW-846 8011

Prep Date 03/18/2013 09:00	Prep Batch 503008	Prep Method SW-846 8011	Dilution 1	Analyzed 03/19/2013 09:11	By TLS	Analytical Batch 503444	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

21303112137/ ID 11946-DUP-2 Water 03/06/2013/15:50 03/09/2013/09:45

SW-846 6010C

Prep Date 03/12/2013 16:00	Prep Batch 502859	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/16/2013 05:39	By BAM	Analytical Batch 503212	
CAS#	Parameter	-2000-00-00-00-00-00-00-00-00-00-00-00-0	Result	RDL		MDL	Units
7439-92-1	Lead		0.0038U	0.015		0.0038	mg/L

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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 15:38	By LBH	Analytical E 503068	Batch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/l
1634-04-4	tert-Butyl methyl ether (N	ITBE)	0.078U	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.6	ug/L		97	78 - 130
1868-53-7	Dibromofluoromethane	50	47.8	ug/L		96	77 - 127
2037-26-5	Toluene d8	50	55.3	ug/L		111	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.2	ug/L		94	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 15:38	By Analyst LBH 50306	tical Batch 9
CAS#	Parameter		Result	RDL	MDL	Unit
994-05-8	t-amyl methyl ether (TAME	=)	0.240U	5.00	0.240) ug/
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290) ug/
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	s ug/l
637-92-3	Ethyl tert-butyl ether (ETB)	Ε)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	s ug/l
64-17-5	Ethanol		125U	1000	125	5 ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	l ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.6	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	47.8	ug/L	96	77 - 12
2037-26-5	Toluene d8	50	55.3	ug/L	111	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.2	ug/L	94	71 - 12

GCALID Client ID: Matrix Collect Date/Time Receive Date/Time
21303112139 ID 11946-FB-2 Water 03/07/2013 12:10 03/09/2013 09:45
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:01	By Analytic LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Unit
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.7	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	46.2	ug/L	92	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.7	ug/L	95	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:01	By Analyti LBH 50306	tical Batch
CAS#	Parameter		Result	RDL	MDL	Units
994-05-8	t-amyl methyl ether (TAME	E)	0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBI	Ξ)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/L
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.7	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	46.2	ug/L	92	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.7	ug/L	95	71 - 127

GCAL ID ID 11946-TB Matrix Collect Date/Time Receive Date/Time 21303112140 ID 11946-TB Water 11 02/27/2013 00:00 03/09/2013 09:45	
21303112140 ID 11946-TB	

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 15:18	1994 March 2011	nalytical 02892	Batch
CAS#	Parameter		Result	RDL	1	MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/
108-88-3	Toluene		0.122U	1.00	1	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	1	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	1	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	1	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (N	TTBE)	0.078U	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	1	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recove	ry	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.7	ug/L	1	01	78 - 130
1868-53-7	Dibromofluoromethane	50	49.3	ug/L	!	99	77 - 127
2037-26-5	Toluene d8	50	50.5	ug/L	10	01	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L		99	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed 03/12/2013 15:18	By Analyti LBH 502890	cal Batch
CAS#	Parameter		Result	RDL	MDL	Unit
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ETBE)	ĺ	0,234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.7	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	49.3	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	50.5	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L	99	71 - 127

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21303112141 ID 11946-TB Water 02/27/2013 00:00 03/09/2013 09:45	CO.
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 15:41	By Analytica LBH 502892	al Batch
CAS#	Parameter	H.W. (6.5)	Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane	1001.4	0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.5	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	49.4	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49	ug/L	98	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 15:41	By Analytic LBH 502890	al Batch
CAS#	Parameter		Result	RDL	MDL	Unit
994-05-8	t-amyl methyl ether (TA	ME)	0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/l
108-20-3	disopropyl Ether (DIPE)	0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (E	TBE)	0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA	()	37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limite
460-00-4	4-Bromofluorobenzene	50	50.5	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	49.4	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49	ug/L	98	71 - 127

GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time 21303112142 ID 11946-TB Water 02/27/2013 00:00 03/09/2013 09:45
2/3/06/12/12 ID 1/1940-1B 9/416/ 02/2//20/3 00/00 105/09/20/3 09/40

Prep Date	Prep Batch			Analyzed 03/12/2013 16:03	By Analytica LBH 502892	il Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.5	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	48.3	ug/L	97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49	ug/L	98	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 16:03	1,0000	Analytical 502890	l Batch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (T.	AME)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIP	E)	0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (E	ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETE	BA)	37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)	1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF	5)	0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recov	ery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.5	ug/L		101	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L		102	77 - 127
2037-26-5	Toluene d8	50	48.3	ug/L		97	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49	ug/L		98	71 - 127

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GCALID Client ID Matrix Collect Date/Time Receive Date/Time	
21303112143 ID 11946-TB Water 02/27/2013:00:00 03/09/2013:09:45	362
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Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 16:27	By Analytica LBH 502892	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	47.6	ug/L	95	77 - 127
2037-26-5	Toluene d8	50	49.8	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.4	ug/L	91	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/12/2013 16:27	By Analyt LBH 502890	ical Batch
CAS#	Parameter		Result	RDL	MDL	Unite
994-05-8	t-amyl methyl ether (TAME)		0.240U	5.00	0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0	0.290	ug/l
108-20-3	dilsopropyl Ether (DIPE)		0.236U	5.00	0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ETBE)		0.234U	5.00	0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100	37.6	ug/l
64-17-5	Ethanol		125U	1000	125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0	1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0	0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	47.6	ug/L	95	77 - 127
2037-26-5	Toluene d8	50	49.8	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.4	ug/L	91	71 - 127

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21303112144 ID 11946-FB-3 Water 03/08/2013 12:30 03/09/2013 09:45	Second

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:24	By Analytic LBH 503068	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/L
108-88-3	Toluene		0.122U	1.00	0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	1.00	0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.3	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	46.4	ug/L	93	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L	110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.2	ug/L	90	71 - 127

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/15/2013 16:24	By LBH	Analytical Bat 503069	ch
CAS#	Parameter	- 1-10-0x-5-3-67945	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAN	NE)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy R	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.3	ug/L		97	78 - 130
1868-53-7	Dibromofluoromethane	50	46.4	ug/L		93	77 - 127
2037-26-5	Toluene d8	50	55.1	ug/L		110	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.2	ug/L		90	71 - 127

Analytical Bat	tch 502892	Client ID	MB502892			LCS502892			LCSD502892			
Prep Bat	tch N/A	GCAL ID	1170351			1170352			1170353			
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/12/2013 14:55			03/12/2013 13:23	ř.		03/12/2013 13:46			
	Matrix		Water			Water		Water				
SW-846 8260B		Units Result	ug/L RDL	Spike Added	Result	%R	Control Limits % R	Result	% R	RPD	RPD Limit	
107-06-2	1,2-Dichloroet	thane	0.116U	0.116	50.0	- 52.8	106	71 - 129	53.4	107	1	30
100-41-4	Ethylbenzene		0.109U	0.109	50.0	52.1	104	74 - 126	48.3	97	8	30
1634-04-4	tert-Butyl met	hyl ether (MTBE)	0.078U	0.078	50.0	51.4	103	71 - 125	51.6	103	0.4	30
1330-20-7	Xylene (total)		0.179U	0.179	150	158	105	74 - 127	144	96	9	30
91-20-3	Naphthalene		0.176U	0.176	50.0	59,5	119	57 - 138	56.7	113	5	35
71-43-2	Benzene		0.111U	0.111	50.0	49.4	99	70 - 129	46.9	94	5	20
108-88-3	Toluene		0.122U	0.122	50.0	50.9	102	72 - 120	51.3	103	0.8	20
Surrogate			1,1,20,000,00			140	500000	5000 130000	.600000	750120	VACCES.	1000
460-00-4	4-Bromofluorobenzene		47.7	95	50	50.5	101	78 - 130	49.5	99		
1868-53-7	Dibromofluoromethane		51.7	103	50	. 50.1	100	77 - 127	49.8	100		
2037-26-5	Toluene d8		48.9	98	50	49.6	99	76 - 134	51.2	102		
17060-07-0	1,2-Dichloroet	thane-d4	50.4	101	50	50.7	101	71 - 127	49.6	99		

Analytical Batch 502928 Client ID Prep Batch N/A GCAL ID Sample Type Analytical Date Matrix			MB502928 1170523 Method Blank 03/12/2013 23:21 Water			LCS502928 1170524 LCS 03/12/2013 22:12 Water			LCSD502928 1170525 LCSD 03/12/2013 22:36 Water	6.		
SW-846 8260B		Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit	
107-06-2	1,2-Dichloroet	hane	0.116U	0.116	50.0	45.4	91	71 - 129	43.6	87	4	30
100-41-4	Ethylbenzene	77 M 1 (2)	0.109U	0.109	50.0	54.7	109	74 - 126	51.0	102	7	30
1634-04-4	tert-Butyl meti-	yl ether (MTBE)	0.078U	0.078	50.0	49.3	99	71 - 125	47.2	94	4	30
1330-20-7	Xylene (total)		0.179U	0.179	150	160	107	74 - 127	144	96	11	30
91-20-3	Naphthalene		0.176U	0.176	50.0	49.5	99	57 - 138	52,4	105	6	35
71-43-2	Benzenė		0.111U	0.111	50.0	52.0	104	70 - 129	47.9	96	В	20
108-88-3 Surrogate	Toluene		0.122U	0.122	50.0	54.7	109	72 - 120	48.8	98	11	20
460-00-4	4-Bromofluorobenzene		51.2	102	50	53.3	107	78 - 130	51.1	102		1
1868-53-7	Dibromofluoro	methane	45.6	91	50	48.4	97	77 - 127	49.3	99		
2037-26-5	Toluene d8		48.6	97	50	51.3	103	76 - 134	50.8	102		
17060-07-0	1,2-Dichloroet	hane-d4	43.7	87	50	45.1	90	71 - 127	46.3	93		

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Analytical Bat	tch 502965	Client ID	MB502965			LCS502965			LCSD502965			
Prep Bat	tch N/A	GCAL ID	1170636			1170637	1170638					
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/13/2013 12:03			03/13/2013 09:40			03/13/2013 10:04			
		Matrix	Water			Water			Water			
SW-846 8260B		Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD Limit	
107-06-2	1,2-Dichloroe	1,2-Dichloroethane		0.116	50.0	57.7	115	71 - 129	58.5	117	1	30
100-41-4	Ethylbenzene		0.109U	0.109	50.0	51.0	102	74 - 126	50.3	101	1	30
1634-04-4	tert-Butyl met	hyl ether (MTBE)	0.078U	0.078	50.0	55.3	111	71 - 125	57.4	115	4	30
1330-20-7	Xylene (total)		0.179U	0.179	150	153	102	74 - 127	149	99	3	30
91-20-3	Naphthalene		0.176U	0.176	50.0	53.0	106	57 - 138	54.3	109	2	35
71-43-2	Benzene		0.111U	0.111	50.0	53.9	108	70 - 129	52.1	104	3	20
108-88-3	Toluene		0.122U	0.122	50.0	48.7	97	72 - 120	48.5	97	0.4	20
Surrogate			2620-02636	13.9000000000000000000000000000000000000	seede.	70	1,000,000	1.462.00 (0.17.00)	5-77-K-654-01	1	VADED.	
460-00-4	4-Bromofluorobenzene		52.6	105	50	51.1	102	78 - 130	52.1	104		
1868-53-7	7 Dibromofluoromethane		48.7	97	50	50,6	101	77 - 127	50.9	102		
2037-26-5	Toluene d8		48.2	96	50	46.6	93	76 - 134	47.1	94		
17060-07-0	1,2-Dichloroe	thane-d4	48.7	97	50	51	102	71 - 127	53	106		

Analytical Ba	tch 503068	Client ID	MB503068			LCS503068	.01 (2		LCSD503068			
Prep Ba	tch N/A	GCAL ID	1171063			1171064			1171065			
		Sample Type	Method Blank			LCS		18	LCSD			
		Analytical Date	03/15/2013 11:28			03/15/2013 09:55			03/15/2013 10:19			
		Matrix	Water			Water			Water			
	SW-846 82	260B	Units Result	ug/L RDL	Spike Added	Result	%R	Control Limits % R	Result	%R	RPD	RPD
107-06-2	1,2-Dichloroe	thane	0.116U	0.116	50.0	41.6	83	71 - 129	41.4	83	0.5	30
100-41-4	Ethylbenzene	1	0.109U	0,109	50.0	50.8	102	74 - 126	49.5	99	3	30
1634-04-4	tert-Butyl me	thyl ether (MTBE)	0.078U	0.078	50.0	41.7	83	71 - 125	40.9	82	2	30
1330-20-7	Xylene (total)		0.179U	0.179	150	153	102	74 - 127	152	101	0.7	30
91-20-3	Naphthalene	1 5	0.176U	0.176	50.0	59.8	120	57 - 138	59.6	119	0.3	35
71-43-2	Benzene		0.111U	0.111	50.0	40.1	80	70 - 129	38.5	77	4	20
108-88-3	Toluene		0.122U	0.122	50.0	49.9	100	72 - 120	50.0	100	0.2	20
Surrogate											3.0	~
460-00-4	4-Bromofluor	obenzene	46	92	50	47.4	95	78 - 130	48	96		
1868-53-7	Dibromoffuor	omethane	45	90	50	46.8	94	77 - 127	45.9	92	5	
2037-26-5	Toluene d8	D 001801/2012	57.6	115	50	54.4	109	76 - 134	56.3	113	ľ	1
17060-07-0	1,2-Dichloroe	thane-d4	46.5	93	50	1000000	96	71 - 127	48.2	96		1

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Analytical Bat Prep Bat		Client ID GCAL ID Sample Type Analytical Date Matrix	MB503263 1171915 Method Blank 03/16/2013 22:58 Water	1161		LCS503263 1171916 LCS 03/16/2013 21:26 Water			LCSD503263 1171917 LCSD 03/16/2013 21:50 Water	365 92		
	SW-846 82	260B	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD Limit
107-06-2			0.116U	0.116	50.0	56.1	112	71 - 129	54.6	109	3	30
100-41-4	Ethylbenzene	,	0.109U	0.109	50.0	51.9	104	74 - 126	54.7	109	5	30
1634-04-4	tert-Butyl met	thyl ether (MTBE)	0.078U	0.078	50.0	54.8	110	71 - 125	54.1	108	1	30
1330-20-7	Xylene (total)	6	0.179U	0.179	150	159	106	74 - 127	172	115	8	30
91-20-3	Naphthalene		0.176U	0.176	50.0	54.5	109	57 - 138	51.4	103	6	35
71-43-2	Benzene		0.111U	0.111	50.0	56.8	114	70 - 129	57.1	114	0.5	20
108-88-3	Toluene		0.122U	0.122	50.0	53.1	106	72 - 120	53.9	108	1	20
Surrogate		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/11/0-20/21/20-0	6847667666		G-sons	2040000	3952/AV 3ARVES	10000011	1000000		
460-00-4	4-Bromofluor	obenzene	48.5	97	50	48.3	97	78 - 130	49.2	98		
1868-53-7	Dibromofluore	omethane	50.6	101	50	52.3	105	77 - 127	51.2	102		
2037-26-5	Toluene d8	4	47.9	96	50	47.3	95	76 - 134	48.6	97		
17060-07-0	1,2-Dichloroe	thane-d4	51.6	103	50	53.7	107	71 - 127	51.3	103		

Analytical Bat Prep Bat		Client ID GCAL ID Sample Type Analytical Date Matrix	MB502890 1170347 Method Blank 03/12/2013 14:55 Water			LCS502890 1170348 LCS 03/12/2013 13:23 Water			LCSD502890 1170349 LCSD 03/12/2013 13:46 Water			
	,		Units Result	ug/L RDL	Spike Added	Result	: % R	Control Limits % R	Result	%R	RPD	RPD Limit
994-05-8	t-amyl methyl e	ther (TAME)	0.240U	0.240	50.0	53.0	106	50 - 150	50.9	102	4	50
75-65-0	t-Butanol (TBA))	0.290U	0.290	50.0	49.6	99	. 50 - 150	52.8	106	6	50
108-20-3	diisopropyl Eth	er (DIPE)	0.236U	0.236	50.0	53.3	107	50 - 150	48.7	97	9	50
637-92-3	Ethyl tert-butyl	ether (ETBE)	0.234U	0.234	50.0	. 51.4	103	50 - 150	52.8	106	3	50
624-95-3	ethyl tert-butan	ol (ETBA)	37.6U	37.6	2550	2310	91	50 - 150	2480	97	7	50
64-17-5	Ethanol	22 (2	125U	125	25200	22600	. 90	50 - 150	24500	97	В	50
75-85-4	tert-amyl alcoh	ol (TAA)	1.01U	1.01	200	. 187	94	50 - 150	190	95	2	50
762-75-4	tert-butyl forma	te (TBF)	0.487U	0.487	50.0	54.3	109	50 - 150	53.0	106	2	50
Surrogate		UNISCI (6130)		STORES I		5	2250	9500000	35.0	100	_ ~	"
460-00-4	4-Bromofluorob	enzene	47.7	95	50	. 50.5	-101	78 - 130	49.5	99	l	
1868-53-7	Dibromofluoron	nethane	51.7	103	50	. 50.1	100	77 - 127	49.8	100	l	
2037-26-5	Toluene d8		48.9	98	50	49.6	. 99	76 - 134	51.2	102	l	1
17060-07-0	1,2-Dichloroeth	ane-d4	50.4	101	50	50.7	101	71 - 127	49.6	99	1	

Analytical Bat Prep Bat		Client ID GCAL ID Sample Type Analytical Date Matrix	MB502927 1170520 Method Blank 03/12/2013 23:21 Water			LCS502927 1170521 LCS 03/12/2013 22:12 Water	*		LCSD502927 1170522 LCSD 03/12/2013 22:36 Water			
	SW-846 8260B 05-8 t-amyl methyl ether (TAME)		Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD
994-05-8	t-amyl methyl	ether (TAME)	0.240U	0.240	50.0	52,4	105	50 - 150	48.1	96	9	50
75-65-0	t-Butanol (TB	A)	0.290U	0.290	50.0	49.6	99	50 - 150	43.6	87	13	50
108-20-3	diisopropyl Et	her (DIPE)	0.236U	0.236	50.0	48.5	97	50 - 150	44.1	88	10	50
637-92-3	Ethyl tert-buty	l ether (ETBE)	0.234U	0.234	50.0	49.7	99	50 - 150	45.1	90	10	50
624-95-3	ethyl tert-buta	inol (ETBA)	37.6U	37.6	2550	2300	90	50 - 150	2210	87	4	50
64-17-5	Ethanol		125U	125	25200	22200	88	50 - 150	23200	92	4	50
75-85-4	tert-amyl alco	hol (TAA)	1.01U	1.01	200	198	99	50 - 150	184	92	7	50
762-75-4	tert-butyl form	nate (TBF)	0.487U	0.487	50.0	47.2	94	50 - 150	41.8	84	12	50
Surrogate				- 0.000			1000	S08 1555	37.757.6			"
460-00-4	4-Bromofluor	obenzene	51.2	102	50	53.3	107	78 - 130	51.1	102		
1868-53-7	Dibromofluore	omethane	45.6	91	50	48.4	97	77 - 127	49.3	99		

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Analytical Bate	h 502927	Client ID	MB502927			LCS502927			LCSD502927			
Prep Bate	h N/A	GCAL ID	1170520			1170521			1170522			
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/12/2013 23:21			03/12/2013 22:12			03/12/2013 22:36			
		Matrix	Water			Water			Water			
:	SW-846 82	60B	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD
2037-26-5	Toluene d8		48.6	97	50	51.3	103	76 - 134	50.8	102		
17060-07-0	1,2-Dichloroe	thane-d4	43.7	87	50	45.1	90	71 - 127	46.3	93		

Analytical Batc		Client ID	MB502964			LCS502964			LCSD502964			
Prep Batc	h N/A	GCAL ID	1170633			1170634			1170635			
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/13/2013 12:03			03/13/2013 09:40			03/13/2013 10:04			
		Matrix	Water			Water			Water			
	SW-846 82	60B	Units Result	ug/L RDL	Spike Added	Result	%R	Control Limits % R	Result	%R	RPD	RPD
994-05-8	t-amyl methyl	ether (TAME)	0.240U	0.240	50.0	54.9	110	50 - 150	55.5	111	1	50
75-65-0	. t-Butanol (TBA	()	0.290U	0.290	50.0	54.6	109	50 - 150	60.2	.120	10	50
108-20-3	3. The state of th		0.236U	0.236	50.0	55.5	111	50 - 150	56.6	113	2	50
637-92-3	Ethyl tert-butyl	ether (ETBE)	0.234U	0.234	50.0	55.1	110	50 - 150	55.0	110	0.2	50
624-95-3	ethyl tert-butar	nol (ETBA)	37.6U	37.6	2550	2640	104	50 - 150	2650	104	0.4	50
64-17-5	Ethanol	35 /1	125U	125	25200	29800	118	50 - 150	29500	117	1	50
75-85-4	tert-arnyl alcoh	nol (TAA)	1.01U	1.01	200	217	109	50 - 150	235	118	8	50
762-75-4 ·	tert-butyl form	ate (TBF)	0.487U	0.487	50.0	57.1	114	50 - 150	56.2	112	2	50
Surrogate	EA (0) AV							13.4.0. 13				
460-00-4	4-Bromofluoro	benzene	52.6	105	50	51.1	102	78 - 130	52.1	104		
1868-53-7	Dibromofluoro	methane	48.7	97	50	50.6	101	77 - 127	50.9	102		
2037-26-5	Toluene d8		48.2	96	50	46.6	93	76 - 134	47.1	94		
17060-07-0	1,2-Dichloroet	hane-d4	48.7	97	50	51	102	71 - 127	53	106		

Analytical Bat Prep Bat		Client ID GCAL ID Sample Type Analytical Date Matrix	MB503069 1171068 Method Blank 03/15/2013 11:28 Water			LCS503069 1171069 LCS 03/15/2013 09:55 Water			LCSD503069 1171070 LCSD 03/15/2013 10:19 Water			
	SW-846 82	260B	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD Limit
994-05-8	t-amyl methyl	ether (TAME)	0.240U	0.240	50.0	41.8	84	50 - 150	42.1	84	0.7	50
75-65-0	t-Butanol (TBA)		0.290U	0.290	50.0	44.2	88	50 - 150	48.5	97	9	50
108-20-3	dilsopropyl El	ther (DIPE)	0.236U	0.236	50.0	43.0	86	50 - 150	39.1	78	10	50
637-92-3	Ethyl tert-buty	yl ether (ETBE)	0.234U	0.234	50.0	41.3	83	50 - 150	40.3	81	2	50
624-95-3	ethyl tert-bute	anol (ETBA)	37.6U	37.6	2550	2510	98	50 - 150	2660	104	6	50
64-17-5	Ethanol		125U	125	25200	20100	80	50 - 150	20300	81	1	50
75-85-4	tert-amyl alco	ohol (TAA)	1.01U	1.01	200	173	87	50 - 150	162	81	7	50
762-75-4	tert-butyl form	nate (TBF)	0.487U	0.487	50.0	41.9	84	50 - 150	38.8	78	8	50
Surrogate			1000000000	COLUMN TO THE PARTY OF THE PART		1011101111	0.072900	10/16/03/10/10/	2,5,51,51			
460-00-4	4-Bromofluor	obenzene	46	92	50	47.4	95	78 - 130	48	96	l	
1868-53-7	Dibromofluore	omethane	45	90	50	46.8	94	77 - 127	45.9	92	l	
2037-26-5	Toluene d8		57.6	115	50	54.4	109	76 - 134	56.3	113	l	
17060-07-0	1,2-Dichloroe	thane-d4	46.5	93	50	48.1	96	71 - 127	48.2	96		

Analytical Ba		37070707070	MB503262	3727		LCS503262			LCSD503262			
Prep Ba	tch N/A	GCAL ID Sample Type	1171912 Method Blank			1171913 LCS			1171914 LCSD			
		Analytical Date Matrix	03/16/2013 22:58 Water			03/16/2013 21:26 Water			03/16/2013 21:50 Water			
	SW-846 8260B 05-8 t-amyl methyl ether (TAME)		Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD
994-05-8	t-amyl methyl	ether (TAME)	0.240U	0.240	50.0	55.3	111	50 - 150	53.5	107	3	50
75-65-0	t-Butanol (TBA)		0.290U	0.290	50.0	51.5	103	50 - 150	. 51.0	102	1	50
108-20-3	dlisopropyl Et	her (DIPE)	0.236U	0.236	50.0	54.3	109	50 - 150	54.2	108	0.2	50
637-92-3	Ethyl tert-buty	ether (ETBE)	0.234U	0.234	50.0	54.0	108	50 - 150	54.2	108	0.4	50
624-95-3	ethyl tert-buta	nol (ETBA)	37.6U	37.6	2550	2220	87	50 - 150	2310	91	4	50
64-17-5	Ethanol		125U	125	25200	21800	87	50 - 150	23000	91	5	50
75-85-4	tert-amyl alco	hol (TAA)	1.01U	1.01	200	217	109	50 - 150	214	107	1	50
762-75-4	tert-butyl form	ate (TBF)	0.487U	0.487	50.0	55.8	112	50 - 150	52.7	105	6	50
Surrogate				- 1			10,000		*	1777	5.00	
460-00-4	4-Bromofluoro	benzene	48.5	97	50	48.3	97	78 - 130	49.2	98		
1868-53-7	Dibromofluoro	methane	50.6	101	50	52.3	105	77 - 127	51.2	102		

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Analytical Bato	h 503262	Client ID	MB503262			LCS503262			LCSD503262			
Prep Bato	h N/A	GCAL ID	1171912			117:1913			1171914			
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/16/2013 22:58			03/16/2013 21:26			03/16/2013 21:50			
		Matrix	Water			Water			Water			
:	SW-846 82	60B	Units Result	ug/L RDL	Spike Added	Result	%R	Control Limits % R	Result	% R	RPD	RPD
2037-26-5	Toluene d8		47.9	96	50	47.3	95	76 - 134	48.6	97		
17060-07-0	1,2-Dichloroel	hane-d4	51.6	103	50	53.7	107	71 - 127	51.3	103		

General Chromatography Quality Control Summary

Analytical Ba	tch 503444	Client ID	MB503007			LCS503007			LCSD503007			
Prep Ba	tch 503007	GCAL ID	1170818			1170819			1170820			
Prep Meti	hod SW-846 801	1 Sample Type	Method Blank			LCS			LCSD			
		Prep Date	03/18/2013 12:00			03/18/2013 12:00			03/18/2013 12:00			
		Analytical Date	03/18/2013 16:50			03/18/2013 17:11			03/18/2013 17:32			
		Matrix	Water			Water			Water			
	SW-846 8	011	Units Result	ug/L RDL	Spike Added	Result	%R	Control Limits % R	Result	% R	RPD	RPD Limit
96-12-8	1,2-Dibromo-	3-chloropropane	0.00260U	0.00260	1.08	1.23	114	45 - 150	1.15	105	7	40
106-93-4	1,2-Dibromoe	thane	0.00390U	0.00390	1.08	1.24	115	55 - 141	1.15	105	8	40

Analytical Batch	503444	Client ID	MB503008			LCS503008			LCSD503008	D-PARET		
Prep Batch	503008	GCAL ID	1170821			1170822			1170823			
Prep Method	SW-846 8011	Sample Type	Method Blank			LCS .			LCSD			
		Prep Date	03/18/2013 09:00			03/18/2013 09:00			03/18/2013 09:00			
		Analytical Date	03/19/2013 01:42			03/19/2013 02:03			03/19/2013 02:24			
		Matrix	Water			Water			Water			
8	W-846 80	11	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD
96-12-8	1,2-Dibromo-3-	chloropropane	0.00260U	0.00260	1.10	1.18	108	45 - 150	1.23	116	4	40
106-93-4	1,2-Dibromoeth	ane	0.00390U	0.00390	1.10	1.28	117	55 - 141	1.33	125	4	40

Inorganics Quality Control Summary

7439-92-1	Lead		0.0038U	0.0038	0.50	0.44	88	80 - 120
	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R
Prep Batch Prep Method			1170203 Method Blank 03/12/2013 15:00 03/15/2013 22:54 Water			1170204 - LCS 03/12/2013 15:00 03/15/2013 23:02 Water		
Analytical Batch	503212	Client ID	MB502858			LCS502858		

7439-92-1	Lead		0.0038U	0.0038	0.50	0.50	99	80 - 120
	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result .	%R	Control Limits % R
Prep Batch Prep Method		Prep Date	1170207 Method Blank 03/12/2013 16:00 03/16/2013 02:31 Water		:	1170208 LCS 03/12/2013 16:00 03/16/2013 02:39 Water		
Analytical Batch		1. FIVE CO. C.	MB502859			LCS502859		

Analytical Batch	503212	Client ID	ID 11946-MW-20A			1170032MS		- 73.07	1170032MSD	243		
Prep Batch	502859	GCAL ID	21303112126			1170209	**		1170210			
Prep Method	SW-846	Sample Type	SAMPLE			MS			MSD			
	3010A	Prep Date	03/12/2013 16:00	3.6		03/12/2013 16:00			03/12/2013 16:00			
		Analytical Date	03/16/2013 02:46			03/16/2013 03:08			03/16/2013 03:16			
		Matrix	Water			Water			Water			
S	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD
7439-92-1	Lead		0.0	0.0038	0.50	0.45	90	80 - 120	0.49	97	9	2

Inorganics Quality Control Summary

Analytical Batch	503366	Client ID	ID 11946-MW-9A			1170014MS			1170014MSD	-	_	
Prep Batch			21303112108			1170205			1170014MSD			
Prep Method	SW-846	Sample Type	SAMPLE			MS			MSD			
	3010A	Prep Date	03/12/2013 15:00			03/12/2013 15:00			03/12/2013 15:00			
		Analytical Date	03/18/2013 17:00			03/18/2013 17:07			03/18/2013 17:13			
		Matrix	Water			Water			Water			
S	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD
7439-92-1	Lead		0.0	0.0038	0.50	0.54	109	80 - 120	0.52	105	4	20

CHAIN OF CUSTODY RECORD

# of Containers	Preservative			Remarks	_	7	3	#	5	0	7	Œ	0	0	Project Manager	Midwel Paris	F
	4		by 82700	_	×	×	×	×	×	×	×	×	×	×			
ck	5 5		1,108 ye	EDB P	×	××	×	XX	×	X	×	×	X	X	1 9		
-6-	5 5	3877	A , AgeM ,	XETTE S8.yd	×	XX	×	×	×	X	X	X	X	X	1/20		Ø
7. NaOH	1000	ette radio, v	ompos Matrix w, wa ,w	S, GN	ر ر روب	G 6W	G G	G QW	G GW	G GW	e GW	G G G	G G	9 GW		Fed E	Received By
4. HNO3	4		G=618	Тіте	1130	1145		_ 6	1500	1415	1345			1700	me Rec	37 38 8	7
1, Unpreserved 2, NaOH / ZhA	- 2	tilized . C.e.s.s.	Traduction of the second	Date	1 51.80.50	51.80	MW-6A 03.06.13 0930		07.13		53-82-13	1330	03.07.13		S.08.5	3-8-13 Th	Jate / Time
Preservative	- 11/8 Km / 4 MM	Laboratory Utiliz	Sampler Signature		MW-1	MW-303	1-6A	16B	1. T.A.	-8A	1.8B			10 A 6	<u> </u>		10 April 10
	4,124	Amoco		Sample ID / Description		1		10# 11946 - MW-6B 03:06.13	10# 11946 - MW- 4A 3.	D# 11946 - MW-8# 0207-13	11946 - MW-8B	D# 11996-MW-9A	D# 11946-MW-9B	11946 - MW-104 0807.13	No.	to	
	61-17-17-00	Broad River	empler Name (print) TyceR FeldeR	Sample II.	- 97611 #Q	794611#四	- 946 H	11946	11946	11946	11946	11946	11946	11946	Relinquished By / Sampler	The Boly	
Project #	9-90	Project Name Broad	Sampler / SC		# Q	发	#	#0	· #0	#0	#0	艺	#QI	#QI	Relinquis	Regrand	Relinquished By

ARM ENVIRONMENTAL CHAIN OF CUSTODY RECORD

PAGE 2 OF 5

# of Containers	Preservative			Remarks		7	<u></u>	7	瓦		10		B	~	Project Manager	Wichad Faris	
	4		Vd bse	1/stoT 30108	×	×	×	×	×		×	×	X	×	The second section of the sect		
ce	S	- 9	1108 %		×	X	X	X	×		×	×	×	×		,	
	S			Dy 82	X	×	X	×	X		×	X	×	x			
6	5	809	28 Vd A	-	×	X	X	×	×	3	×	K	×	×	12		
T	5	3817	Naph, N 808	BTEX,	×	X	X	X	×	-	×	X	X	×	1 3	5	
		S	isylsi	A.	£ 173.					- 2	3	1150 A	2-1-7		-3	19	M
동			Matrix W, WO.	S, GW	SL	ટુ	GIV	30	36		36	હે	<u></u> জ	GE		A CO	E 1
7. NaOH		eite	G=Grab Compos	=0	' S.	G	ত	હ	ড	1 1 1 1 1	ত	S	ø	Ø	Poelved	Scelvad	Received By
	6. Na Thio.	000000000000000000000000000000000000000	M	Ting	1630	1600	1530	1130	1100	A STATE OF THE PARTY OF THE PAR	1200	1030	0945	0800	ILIO RE	1300 m	Time Re
1. Unpreserved		y Utilized	Treature 22	Date	03.07.13	81. 20.20	03.07 - 13	03.07.13	03.07 . 13	38:	03.07.13	29.07.13	51 - 40.20	03.07.13	Date 73	Date 3.8-(3 170)	3/9//3 TI
Preservative	The second second	Laboratory Utilib	Sampler Signature		- 108	# 11		12#	821	13#	3 B	19.4		SB		- V	
Project#	C1-1.414-90	Broad River Amoco		(0)	1) # 11946 - MW- 10B 03.07.13.1630	D# 11946- MW-11 A	D# 11946- MW-11B	10# 11946 - MW-12A 103.09.13	D# 11946- MW-12B	12# 11946- MW 13 A BO	D# 11946- MW-13B	12# 11946-MW-14# 03:07-13/1030	14 IP46- MW- 14 B	D#11946-MW-15B	Relinguished By / Sampler	Hounghed By Clark	Relinquished By 7505 7503 2051

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CHAIN OF CUSTODY RECORD

PAGE 3 OF 5

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W	>	X	0	$\widehat{\mathbb{C}}$	\sim 1	35	C	2480	03.07.13		D# 11946- MW-16B	# 119
Remarks		Dy 85		p) g	_		0	ТІтв	Date		Sample ID / Description	Ö
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					_	W, Other			Cess	HCCess	iver Amoco	Broad River
Preservative	4	SS	2.5	5	5			0	3. H2SO4		-13	61-17-17-90
# of Containers		-	3	1	-	금	7, NaOH	A 4. HNO3	1, Unpreserved 2, NaOH / ZnA	Preservative		Project#

ARM ENVIRONMENTAL CHAIN OF CUSTODY RECORD

# of Containers	Preservative		K	Remarks	30	36	and and	38	か	K	R	H	%	A.	Project Manager	Michael Favis		
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7	S		1108 K	EDB P	×	×	×	×	×	×	×	×	×	×	/}			1.2.1.3.1.2.1.
13-	7 5	-	28 yd AC	1,2-DC	×	X	X	×	X	×	×	×	×	×	4		a	1
7. NAOH		Terito, V	-Compos Matrix V, bw. wv Analysis	2° GN	SU.	3	3	3	g M	Mg	36	GIV/	Ballo	SAP.	記 交	eele	ed By	
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1, Unpreserved 2, NaOH / ZnA	3, H2SO4	lized C.e.s.f	Signature	Date	-	03.08.13	23.99.20	03.06-13	81.80	21.80.20	51.90.80	03.06.13	63.06.13	17.50.50	te Time	1 8-8-E	3/9//3 CM	
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Project #	6-414.1-12	Broad River A	ne (print)	Sample ID / Description	D# 11946	11946-DMW-1	1946-	D# 11946-	D# 11946- RW-2	1946-	11946 - DUP-1	104 11946 - DuP- 2	D# 11946-	-9+611#d	Relinguished By / Sampler	Befinquished By Roll	Relinquished By	

108 of 110

CHAIN OF/CUSTODY RECORD

PAGE 5 OF 5

13. Heson Laboratory Utilized Thoce by Hecess Fellow The The Sampler Signature A46-TB 2273 A46-TB 2273 A46-TB 2278 A46-TB 2278 A46-TB 2278 A46-TB 2278 THE Date III		Preservative	1. Unpreserved 2. NaOH / ZnA		7. NaOH	ㅡ Ho	1	5	1	ď				# of Containers
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1000 1000	Relinquished By	Ties! 3	18	X	eceived	N &	W	A	-	}				

S GCAL ANALYTEAL LASGRATORIES, LLC			SAMPLE RECEI	VING CHECKLIST			
SAMPLE DELIVERY GROUP	21303112	1	CHECKLIST			1077	441
Client 4565 - Access Analytical	Transport M	ethod	Were all samples received us When used, were all custody	ing proper thermal preservation?		I✓. Yes	□No □
Profile Number . 78619	Received By Saucier, Cha		Were all samples received in Were all samples received us Was preservative added to ar	ing proper chemical preservation	7	√ Yes √ Yes	ENO E
Line Item(s) 4 - Water BTEX/N/MTBE/1,2-DCA/PAH/EDB	Receive Dat 03/09/13	e(s)	Were all VOA vials received v	n good condition?	3 ×	☐ Yes I✓ Yes I✓ Yes	No I
	79		Do all sample labels match the Did the Chain of Custody list to Was the COC maintained i.e.		receipt included?	V Yes V Yes	□No □
COOLERS .	-		DISCREPANCIES		LABORATORY PRE		1 100 1
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ANALYTICAL REPORT

CLIENT
ARM
1210 1st Street
Columbia, SC 29209

ATTENTION Michael Faris

PROJECT ID 06-414.1-12

LABORATORY REPORT NUMBER

213032650

DATE 04/02/2013

Primary Data Review By

Secondary Data Review By

Curtis Ekker

Data Validation Manager, GCAL

Ashley B. Amick

Project Manager, Access Analytical, Inc. aamick@accessanalyticalinc.com

PLEASE NOTE:

- Unless otherwise noted, all analysis on this report performed at Gulf Coast Analytical Labs (GCAL), 7979 GSRI Avenue, Baton Rouge, LA 70820.
- GCAL is SCDHEC certified laboratory # 73006, NCDENR certified lab # 618, GA certified lab # LA-01955, NELAP certified laboratory # 01955
- Local support services for this project are provided by Access Analytical, Inc.. Access Analytical is a representative of GCAL serving clients in the SC/NC/GA areas. All questions regarding this report should be directed to your local Access Analytical representative at 803.781.4243 or toll free at 888.315.4243.

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue
Baton Rouge, LA 70820

Report Date 04/02/2013

GCAL Report 213032650



Deliver To ARM 1210 1st Street

Columbia, SC 29209 803-783-3314

Attn Michael Faris

Project 06-414.1-12

CASE NARRATIVE

Client: Access Analytical Report: 213032650

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND Indicates the result was Not Detected at the specified RDL

DO Indicates the result was Diluted Out

MI Indicates the result was subject to Matrix Interference TNTC Indicates the result was Too Numerous To Count

SUBC Indicates the analysis was Sub-Contracted

FLD Indicates the analysis was performed in the Field

PQL Practical Quantitation Limit
MDL Method Detection Limit
RDL Reporting Detection Limit

00:00 Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J Indicates the result is between the MDL and RDL

U Indicates the compound was analyzed for but not detected

B Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Robyn Migues Technical Director

GCAL REPORT 213032650

THIS REPORT CONTAINS PAGES

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21303265001	MW-13A	Water	03/25/2013 12:55	03/26/2013 10:00
21303265002	MW-15A	Water	03/25/2013 13:04	03/26/2013 10:00
21303265003	MW-16A	Water	03/25/2013 13:29	03/26/2013 10:00
21303265004	FIELD BLANK 4	Water	03/25/2013 13:40	03/26/2013 10:00
21303265005	TRIP BLANK 5	Water	03/25/2013 00:00	03/26/2013 10:00

Summary of Compounds Detected

GCAL ID 21303265001	Client ID MW-13A	Matrix Collect Date/Fime Water 03/25/2013 12:55	SCOT ARE STORY OF SERVICE	celve Date/Time 26/2013 10:00	
SW-846 601	0C	Sear 1993 The Control of the Sear Sear Sear Sear Sear Sear Sear Sea	The state of the same that are		and the second second second
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.0078J	0.015	0.0038	mg/L
GCAL ID 21303265002	CilentiD MW-15A	Matrix Collect Date/Time Water 03/25/2013/13:04	00000000000000000000000000000000000000	celve Date/Time 26/2013 10:00	
SW-846 601	0C	and Committee of the Artificial Committee of the Artificia	CONTRACTOR NAME OF THE OWNER,	THE PARTY OF THE PROPERTY OF THE PARTY.	41 JUNE 10 CONTROL OF THE PARTY
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.0053J	0.015	0.0038	mg/L
CALID	Client ID	Matrix Collect Date/Time	Rec	ceive Date/Time	KAN PAR
21303265003	MW-16A	Water 03/25/2013 13:29	03/	26/2013 10:00	
SW-846 601	00				
CAS#	Parameter	Result	RDL	MDL	Units
7439-92-1	Lead	0.035	0.015	0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time	SUPPROBLIDE SUPPRISE
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	2012 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
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21303265001 MW-13A Water 03/25/2013 12:55 03/26/2013 10:00	200 E 20
	\$6659664555567556756568

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:10	By Analytic CGC 503995	al Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00	0.179	ug/l
91-20-3	Naphthalene		0.176U	5.00	0.176	ug/l
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00	0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	50	50.3	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	49.6	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:10	By CGC	Analytical Bato 503996	:h
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAME)) (0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETBE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very R	ec Limits
460-00-4	4-Bromofluorobenzene	50	48	ug/L		96	78 - 130
1868-53-7	Dibromofluoromethane	50	50.3	ug/L		101	77 - 127
2037-26-5	Toluene d8	50	49.6	ug/L		99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L		102	71 - 127

SW-846 8011

Prep Date 03/27/2013 07:57	Prep Batch 503956	Prep Method SW-846 8011	Dilution 1	Analyzed 03/27/2013 13:51	By TLS	Analytical Batch 504064	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

	190
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time	2
21303265001 MW-13A Water 03/25/2013 12:55 03/26/2013 10:00	8
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SW-846 6010C

Prep Date 03/27/2013 10:5	Prep Batch 50 503971	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/28/2013 00:24	By BAM	Analytical Batch 503994	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0078J	0.015		0.0038	mg/L

GCALID Client ID Matrix Collect Date/Time	TO BE AND THE PROPERTY OF THE
GCALID Client ID Matrix Collect Date/Time	Receive Date/Time
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21303265002 MW-15A Water 03/25/2013 13:04	13/26/2012 10·00
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21303265002 MW-15A Water 03/25/2013 13:04	03/26/2013 10:00

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:35	By CGC	Analytical 503995	Batch
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/L
108-88-3	Toluene		0.122U	1.00		0.122	ug/L
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/L
1634-04-4	tert-Butyl methyl ether (N	MTBE)	0.078U	1.00		0.078	ug/L
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Red	covery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.5	ug/L		95	78 - 130
1868-53-7	Dibromofluoromethane	50	50.9	ug/L		102	77 - 127
2037-26-5	Toluene d8	50	50	ug/L		100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.5	ug/L		103	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:35	By CGC	Analytical E 503996	Batch
CAS#	Parameter	BEAC SANGERING NECESSARY	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAM	E)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETE	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Red	covery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.5	ug/L		95	78 - 130
1868-53-7	Dibromofluoromethane	50	50.9	ug/L		102	77 - 127
2037-26-5	Toluene d8	50	50	ug/L		100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.5	ug/L		103	71 - 127

SW-846 8011

Prep Date 03/27/2013 07:57	Prep Batch 503956	Prep Method SW-846 8011	Dilution 1	Analyzed 03/27/2013 14:12	By TLS	Analytical Batch 504064	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

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GCAL ID Client ID Matrix Collect Date/Time	Receive Date/Time
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SW-846 6010C

Prep Date 03/27/2013 10	Prep Batch :50 503971	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/28/2013 00:31	By BAM	Analytical Batch 503994	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0053J	0.015		0.0038	mg/L

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GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
GCAL ID Client ID Matrix Collect Date/Time Receive Date/Time
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21303265003: MW-16A Water 03/25/2013 13:29 03/26/2013 10:00
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SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:58	By Analy CGC 50399	tical Batch 5
CAS#	Parameter		Result	RDL	MDL	. Units
71-43-2	Benzene		0.111U	1.00	0.11	1 ug/l
108-88-3	Toluene		0.122U	1.00	0.12	2 ug/l
100-41-4	Ethylbenzene		0.109U	1.00	0.109	
1330-20-7	Xylene (total)		0.179U	3.00	0.179	10: D1:50:
91-20-3	Naphthalene		0.176U	5.00	0.176	
1634-04-4	tert-Butyl methyl ether (M	ITBE)	0.078U	1.00	0.078	
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.9	ug/L	92	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	47.3	ug/L	95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.4	ug/L	107	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 15:58	By JCK	Analytical 503996	Batch
CAS#	Parameter	Ser Ser Hardin - 199	Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAM	E)	0.240U	5.00		0.240	ug/L
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	disopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETE	BE)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)		37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/L
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.9	ug/L		92	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L		102	77 - 127
2037-26-5	Toluene d8	50	47.3	ug/L		95	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.4	ug/L		107	71 - 127

SW-846 8011

Prep Date 03/27/2013 07:57	Prep Batch 503956	Prep Method SW-846 8011	Dilution 1	Analyzed 03/27/2013 14:34	By TLS	Analytical Batch 504064	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00390U	0.010		0.00390	ug/L

GCALID Client ID Matrix Collect Date/Time Receive Date/Time 21303265003 MW-16A Water 03/25/2013/13/29 03/26/2013/10/00	
21303265003 MW-16A Water 03/25/2013:13:29 03/26/2013:10:00	

SW-846 6010C

Prep Date 03/27/2013 10:5	Prep Batch 50 503971	Prep Method SW-846 3010A	Dilution 1	Analyzed 03/28/2013 00:39	By BAM	Analytical Batch 503994	
CAS#	Parameter	N. N. Salah Sa	Result	RDL		MDL	Units
7439-92-1	Lead		0.035	0.015		0.0038	mg/L

GCAL-ID Client.ID Matrix Collect Date/Time Receive Date/Time	
21303265004 FIELD BLANK 4 Water 03/25/2013 13:40 03/26/2013 10:00	and the
	m24545456241

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 16:22	By Analyti CGC 503995	ical Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		0.111U	1.00	0.111	ug/l
108-88-3	Toluene		0.122U	1.00	0.122	3
100-41-4	Ethylbenzene		0.109U	1.00	0.109	ug/L
1330-20-7	Xylene (total)		0.179U	3.00	0.179	
91-20-3	Naphthalene		0.176U	5.00	0.176	
1634-04-4	tert-Butyl methyl ether (M	ITBE)	0.078U	1.00	0.078	100
107-06-2	1,2-Dichloroethane		0.116U	5.00	0.116	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.4	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	51.3	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.1	ug/L	102	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 16:22	By CGC	Analytical Bate 503996	ch
CAS#	Parameter		Result	RDL		MDL	Units
994-05-8	t-amyl methyl ether (TAMI	E) ·	0.240U	5.00		0.240	ug/l
75-65-0	t-Butanol (TBA)		0.290U	10.0		0.290	ug/L
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/L
637-92-3	Ethyl tert-butyl ether (ETB	E)	0.234U	5.00		0.234	ug/L
624-95-3	ethyl tert-butanol (ETBA)	31.*1	37.6U	100		37.6	ug/L
64-17-5	Ethanol		125U	1000		125	ug/L
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Red	covery R	ec Limits
460-00-4	4-Bromofluorobenzene	50	48.4	ug/L		97	78 - 130
1868-53-7	Dibromofluoromethane	50	51.3	ug/L		103	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L		99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.1	ug/L		102	71 - 127

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GCALID ClientiD	Matrix Collect Date/Time Receive Date/Time
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SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 16:44	By CGC	Analytical Batc 503995	h
CAS#	Parameter		Result	RDL		MDL	Units
71-43-2	Benzene		0.111U	1.00		0.111	ug/l
108-88-3	Toluene		0.122U	1.00		0.122	ug/l
100-41-4	Ethylbenzene		0.109U	1.00		0.109	ug/l
1330-20-7	Xylene (total)		0.179U	3.00		0.179	ug/L
91-20-3	Naphthalene		0.176U	5.00		0.176	ug/L
1634-04-4	tert-Butyl methyl ether (M	TBE)	0.078U	1.00		0.078	ug/l
107-06-2	1,2-Dichloroethane		0.116U	5.00		0.116	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Reco	very Re	c Limits
460-00-4	4-Bromofluorobenzene	50	46.6	ug/L		93	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L		105	77 - 127
2037-26-5	Toluene d8	50	49.2	ug/L		98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.7	ug/L		107	71 - 127

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 03/27/2013 16:44	By CGC	Analytical 503996	Batch
CAS#	Parameter		Result	RDL		MDL	Unite
994-05-8	t-amyl methyl ether (TAN	ME)	0.240U	5.00		0.240	ug/l
75-65-0	t-Butanol (TBA)	·	0.290U	10.0		0.290	ug/l
108-20-3	diisopropyl Ether (DIPE)		0.236U	5.00		0.236	ug/l
637-92-3	Ethyl tert-butyl ether (ET	BE)	0.234U	5.00		0.234	ug/l
624-95-3	ethyl tert-butanol (ETBA)	\$ 10 TO \$ 10 T	37.6U	100		37.6	ug/l
64-17-5	Ethanol		125U	1000		125	ug/l
75-85-4	tert-amyl alcohol (TAA)		1.01U	20.0		1.01	ug/l
762-75-4	tert-butyl formate (TBF)		0.487U	50.0		0.487	ug/l
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy	Rec Limits
460-00-4	4-Bromofluorobenzene	50	46.6	ug/L		93	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L		105	77 - 127
2037-26-5	Toluene d8	50	49.2	ug/L		98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.7	ug/L		107	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Bat Prep Bat		Client ID GCAL ID Sample Type Analytical Date Matrix	MB503995 1175264 Method Blank 03/27/2013 14:10 Water			LCS503995 1175265 LCS 03/27/2013 12:18 Water	500		LCSD503995 1175266 LCSD 03/27/2013 13:00 Water			
	SW-846 82	260B	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
107-06-2	1,2-Dichloroe	thane	0.116U	0.116	50.0	48.4	97	71 - 129	45.6	91	6	30
100-41-4	Ethylbenzene	9	0.109U	0.109	50.0	44.9	90	74 - 126	39.8	80	12	30
1634-04-4	tert-Butyl mel	thyl ether (MTBE)	0.078U	0.078	50.0	45.8	92	71 - 125	44.0	88	4	30
1330-20-7	Xylene (total)		0.179U	0.179	150	141	94	74 - 127	120	80	16	30
91-20-3	Naphthalene		0.176U	0.176	50.0	45.8	92	57 - 138	41.7	83	9	35
71-43-2	Benzene		0.111U	0.111	50.0	43.7	87	70 - 129	40.6	81	7	20
108-88-3	Toluene		0.122U	0.122	50.0	43.7	87	72 - 120	36.6	73	18	20
Surrogate				.111.05.54.147		1.000 11.		1000-000-000				
460-00-4	4-Bromofluor	obenzene	48.9	98	50	51	102	78 - 130	48.7	97		
1868-53-7	Dibromofluor	omethane	49.4	99	50	54	108	77 - 127	51.9	104		
2037-26-5	Toluene d8		49.4	99	50	50.5	101	76 - 134	47.9	96		
17060-07-0	1,2-Dichloroe	ethane-d4	49.9	100	50	54.3	109	71 - 127	53.7	107		

GC/MS Volatiles Quality Control Summary

Analytical Bat	ch 503996	Client ID	MB503996			LCS503996			LCSD503996			
Prep Bat	ch N/A	GCAL ID	1175267			1175268			1175269			
		Sample Type	Method Blank			LCS			LCSD			
		Analytical Date	03/27/2013 14:10			03/27/2013 12:18			03/27/2013 13:00			
		Matrix	Water			Water			Water			
	SW-846 82	60B	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD
994-05-8	t-amyl methyl o	ether (TAME)	0.240U	0.240	50.0	52.0	104	50 - 150	51.4	103	1	50
75-65-0	t-Butanol (TBA)	0.290U	0.290	50.0	51.2	102	50 - 150	43.6	87	16	50
108-20-3	disopropyl Eth	er (DIPE)	0.236U	0.236	50.0	56.1	112	50 - 150	51.2	102	9	50
637-92-3	Ethyl tert-butyl	ether (ETBE)	0.234U	0.234	50.0	54.3	109	50 - 150	52.2	104	4	50
624-95-3	ethyl tert-butar	nol (ETBA)	37.6U	37.6	2550	2170	85	50 - 150	1930	76	12	50
64-17-5	Ethanol	SS NES	125U	125	25200	23100	92	50 - 150	19300	77	18	50
75-85-4	tert-amyl alcoh	ol (TAA)	1.01U	1.01	200	194	97	50 - 150	180	90	7	50
762-75-4	tert-butyl forma	ate (TBF)	0.487U	0.487	50.0	54.9	110	50 - 150	47.6	95	14	50
Surrogate		MODEL STREET	0/08/2019	0.000.000.00		Acrito to	1	Caramon Samo	5-70000		0.3521	
460-00-4	4-Bromofluoro	benzene	48.9	98	50	51	102	78 - 130	48.7	97		
1868-53-7	Dibromofluoro	methane	49.4	99	50	54	108	77 - 127	51.9	104		
2037-26-5	Toluene d8		49.4	99	50	50.5	101	76 - 134	47.9	96		
17060-07-0	1,2-Dichloroeti	nane-d4	49.9	100	50	54.3	109	71 - 127	53.7	107		

General Chromatography Quality Control Summary

Analytical Bat	ch 504064	Client ID	MB503956			LCS503956			LCSD503956		277	- 200
Prep Bat	ch 503956	GCAL ID	1175090			1175091			1175092			
Prep Meth	od SW-846 8011	Sample Type	Method Blank			LCS			LCSD			
		Prep Date	03/27/2013 07:57			03/27/2013 07:57			03/27/2013 07:57			
		Analytical Date	03/27/2013 12:19			03/27/2013 12:45			03/27/2013 13:07			
		Matrix	Water			Water			Water			
2005	SW-846 80	11	Units Result	ug/L RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
96-12-8	1,2-Dibromo-3-	chloropropane	0.00260U	0.00260	1.12	1.19	106	45 - 150	1.21	113	2	40
106-93-4	1,2-Dibromoeti	nane	0.00390U	0.00390	1.12	1.16	104	55 - 141	1.21	113	4	40

Inorganics Quality Control Summary

Analytical Batch	503994	Client ID	MB503971			LCS503971		
Prep Batch	503971	GCAL ID	1175126			1175127		
Prep Method	SW-846 3010A	Prep Date	Method Blank 03/27/2013 10:50 03/27/2013 21:36 Water		î	LCS 03/27/2013 10:50 03/27/2013 21:44 Water		
SI	N-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R
7439-92-1	Lead		0.0038U	0.0038	0.50	0.53	106	80 - 120

7439-92-1	Lead	185,85	0.0	0.0038	0.50	0.54	107	80 - 120	0.51	103	6	20
	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD
			03/27/2013 23:16	9		03/27/2013 23:24 Solid			03/27/2013 10:30 03/27/2013 23:31 Solid			
Prep Method	SW-846 3010A	Sample Type Prep Date	SAMPLE 03/27/2013 10:50			MS 03/27/2013 10:50			MSD 03/27/2013 10:50			
Analytical Batch Prep Batch	503971		21303182002			1172133MS 1175128			1172133MSD 1175129			

Analytical Batch	503994	Client ID	FINISHING EXCAVA	ATION PLANT	12727	1174955MS	37/5	1200-17	1174955MSD	- 10		
Prep Batch	503971	GCAL ID	21303263601			1175141			1175142			
Prep Method	SW-846	Sample Type	SAMPLE			MS			MSD			
	3010A	Prep Date	03/27/2013 10:50			03/27/2013 10:50			03/27/2013 10:50			
		Analytical Date	03/27/2013 21:51		19	03/27/2013 21:59			03/27/2013 22:07			
10.0		Matrix	Solid			Solid			Solid			
S	W-846 60	10C	Units Result	mg/L RDL	Spike Added	Result	% R	Control Limits % R	Result	%R	RPD	RPD
7439-92-1	Lead		0.0061	0.019	0.50	0.53	105	80 - 120	0.51	100	4	20

ARTHUR SERVICES, INC.
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×	×	×	×	N4.	\rightarrow		1339	
×	×	×	×	valido Landa v			1304	
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stoT			BTE	$\overline{}$	B, G	5	Time	
Lead by			C, Naph,			SPS-D compo	9	3
			38TN	_		ette		
	יע		1				6. Na Thio.	3. H2SO4
		B yd 8CI3 X X X S ED8 by 8 by	8 Oxygenates BOSS by d Tros yd acid Tros yd	8 Oxygenates by 8260B A A EDB by 8011 PAHs by 8270C	Alalysis A X X Second BOSS Vd BOSS Vd SCONYBenades BOSY BOSOB CONYBenades BOSY BOSOB CONYBenades CONYBenades CONYBenades CONYBENA CONY	Analysis Analys	Matrix C=Composite C=Composite C=Composite Analysis The Carlos of the composition of the composition of the carlos of the ca	

S GCAL AMANTICAL LABORATORIES, LLO			SAMPLE RECEIVING CHECKLIST				
SAMPLE DELIVERY GROUP	213032650)	CHECKLIST				
Client 4565 - Access Analytical	Transport Me	ethod	Were all samples received using proper thermal preservation? When used, were all custody seals intact?	,	্ত Yes ্ৃ Yes	∏ No	FN
Profile Number 78619	Received By Pfeifer, Ben J.		Were all samples received in proper containers? Were all samples received using proper chemical preservation Was preservative added to any container at the lab?	7	✓ Yes ✓ Yes	ΓNο ΓNο	L M
Line Item(s) 4 - Water BTEX/N/MTBE/1,2- DCA/PAH/EDB	Receive Date 03/26/13	(s)	Were all containers received in good condition? Were all VOA vials received with no head space? Do all sample labels match the Chain of Custody? Did the Chain of Custody list the sampling technician?		☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	No No No No	F NA F NA F NA F NA
COOLERS	-		Was the COC maintained i.e. all signatures, dates and time of a DISCREPANCIES	LABORATORY PRES	▼ Yes	∏ No	□ NA
Airbili		Temp(oC)	None	None	ERVATIONS		
5035 7603 3040		2.1					
NOTES		3-1/ ₂					

APPENDIX C TAX MAP

Appendix C - Tax Map Information April 2013

Tax Map Number	Property Address	Property Owner	Owner Address	Owner City, State Zip
R06108-04-69	4335 Broad River Rd.	Frederick Cecchini	4335 Broad River Rd.	Columbia, SC 29210
R06108-04-68	1252 Dothan Rd.	William Ronnie & Bonnie Saville	4509 Wade St.	Columbia, SC 29210
R06108-04-67	1246 Dothan Rd.	William Ronnie & Bonnie Saville	4509 Wade St.	Columbia, SC 29210
R06108-04-26	1257 Dothan Rd.	Rice James R Jr. & Wendy S	22 Caddis Creek Ct.	Irmo, SC 29063
R06108-04-26	4403 Broad River Rd.	MDC Associates	4403 Broad River Rd.	Columbia, SC 29210
R06108-04-25	4409 Broad River Rd.	MDC Associates	4403 Broad River Rd.	Columbia, SC 29210
R06200-03-02	4430 Broad River Rd.	State of SC General Services	300 Gervais St.	Columbia, SC 29201
R06108-04-70	4313 Broad River Rd.	Herteline Lowman	4315 Broad River Rd.	Columbia, SC 29210



1 of 1

APPENDIX D SOIL BORING / FIELD SCREENING LOGS

Appendix D - Tabulated Field Screening Results Broad River Amoco (BP); UST Permit #11946

Temp. Well		Total	Encountered			
ID.	Date	Depth	Water Depth	Benzene	MTBE	BTEXN
		(feet)	(feet)			
RBSLs				5.0	40	N/A
TMW-1	5/17/12	15.0	13.0	>1	>1	>1
TMW-2	5/17/12	15.0	13.0	>1	>1	>1
TWW-3	5/17/12	15.0	13.0	>1	>1	>1
TMW-4	5/17/12	15.0	13.0	>1	>1	1.51
TMW-5	5/17/12	15.0	12.5	59.3	1.75	139.9
TWW-6	5/18/12	15.0	12.5	3.65	2.50	84.2
TMW-7	5/18/12	15.0	12.5	80.3	322.4	973
TMW-8	5/18/12	15.0	12.5	>1	1.04	38.2
TWW-9	5/18/12	15.0	12.5	73.5	142.8	249.8
TMW-10	5/18/12	15.0	12.5	7.3	9.69	24.8
TMW-11	5/24/12	15.0	12.5	>1	>1	19.7
TMW-11D	7/24/12	34.5	33.0	2	1	3
TMW-12	5/24/12	15.0	12.5	>1	1.68	3.12
TMW-12D	7/25/12	34.0	33.0	1	8	9
TMW-13	5/24/12	15.0	12.5	12	14.9	32.9
TMW-14	5/24/12	15.0	12.5	1	4.06	5.1
TMW-14D	7/20/12	39.0	37.5	0	2	3.1
TMW-15	5/25/12	15.0	13.0	>1	0.80	3.34
TMW-16	5/25/12	15.0	13.0	0.57	>1	2.24
TMW-16D	7/24/12	39.5	38.0	4	113	118
TMW-17	5/25/12	15.0	13.0	>1	>1	>1
TMW-18	6/13/12	19.0	16.0	0	0	5.0
TMW-19	6/13/12	19.0	16.5	0	0	0
TMW-19D	7/17/12	40.0	38.0	1	0	9
TMW-20	6/13/12	19.0	18.0	>1	>1	9
TMW-21	6/13/12	19.0	18.0	>1	>1	4
TMW-22	6/13/12	19.0	18.0	>1	7	0
TMW-23	6/19/12	20.0	19.0	>1	>1	7
TMW-23D	6/19/12	42.0	40.0	>1	>1	2
TMW-24	6/21/12	19.0	18.5	3	23	63
TMW-25	7/5/12	19.0	18.5	266	234	1212
TMW-25D	7/19/12	40.0	38.0	138	440	1239
TMW-26			sal due to rubbl			.200
TMW-26D			sal due to rubbl			
TNW-27	6/20/12	20.0	19.0	81	127	938
TMW-27D	7/5/12	39.0	38.0	130	147	446
TMW-28	6/20/12	20.0	19.0	102	270	888
TMW-28D	6/20/12	40.0	38.0	132	196	751
TMW-29	7/5/12	20.0	19.0	>1	>1	25
TMW-29D	7/16/12	40.0	38.5	0	0	19

Note:

Results expressed in ug/L (PPB)

Appendix D - Tabulated Field Screening Results Broad River Amoco (BP); UST Permit #11946

Temp. Well ID	Date	Total Depth (feet)	Encountered Water Depth (feet)	Benzene	MTBE	BTEXM
RBSLs				5.0	40	N/A
TMW-30	7/05/12	20.0	19.0	1	>1	7
TMW-30D	7/17/12	40.0	38.5	0	0	28
TMW-31	7/05/12	20.0	19.0	>1	>1	2
TWW-31D	7/05/12	37.0	36.0	>1	>1	23
TMW-32	7/05/12	19.0	18.0	>1	>1	7
TMW-32D	7/19/12	40.0	38.5	70	2.2	170.0
TNW-33	7/05/12	20.0	19.0	>1	>1	2
TMW-33D	7/25/12	39.0	37.0	>1	>1	>1
TNW-34	7/12/12	20.0	19.0	226	378	1275
TMW-35	7/12/12	20.0	19.0	125	355	1100
TMW-36	7/12/12	20.0	19.0	130	220	1026
TIVW-37	7/17/12	23.0	22.0	62	1.0	108
TMW-38	7/13/12	25.0	23.5	28	1.0	140
TMW-39	7/17/12	25.0	22.5	0	0	3
TNW-40	7/23/12	25.0	23.0	>1	>1	62
TMW-40D	7/23/12	39.5	38.0	>1	>1	2
TWW-41	7/26/12	24.0	22.0	>1	>1	>1
TNW-42	7/26/12	20.0	18.5	. >1	>1	>1
TWW-43	7/26/12	26.0	24.0	>1	>1	>1
TMW-43D	8/6/12	39.0	37.5	>1	>1	>1
TNW-44	8/6/12	24.0	22.0	>1	>1	>1
TMW-44D	8/6/12	39.0	37.5	>1	>1	>1
TMW-45	8/7/12	24.0	22.0	>1	>1	>1
TMW-45D	8/7/12	39.0	37.5	>1	>1	>1
TMW-46	8/7/12	24.0	22.0	>1	>1	>1
TMW-46D	8/7/12	35.0	33.5	>1	>1	>1
TNW-47	7/27/12	23.0	21.0	>1	>1	>1
TMW-48	7/25/12	20.0	18.5	>1	19	32
TMW-48D	7/25/12	34.0	32.0	>1	35	42
TNW-49	7/26/12	19.0	18.0	>1	15	15
TMW-49D	7/26/12	34.0	32.0	>1	1	1
TMW-50D	9/13/12	40.0	37.5	>1	>1	>1
TMW-51D	9/13/12	39.0	37.0	>1	>1	2
TMW-52D	9/13/12	38.0	36.0	>1	>1	>1
TMW-53D	9/14/12	38.0	36.0	>1	>1	>1
TMW-54D	9/14/12	38.0	36.0	>1	1	4
TMW-55D	9/14/12	38.0	36.0	>1	>1	>1

Note:

Results expressed in ug/L (PPB)

Appendix D - Free Product Delineation Results Broad River Amoco (BP); UST Permit #11946

Temp. Well ID	Date	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickness
FP-1	10/4/12	14.65	N/A	N/A
	10/12/12	15.88	N/A	N/A
FP-2	10/4/12	13.82	N/A	N/A
	10/12/12	14.30	N/A	N/A
FP-3	10/4/12	14.64	N/A	N/A
	10/12/12	14.32	N/A	N/A
FP-4	10/4/12	14.28	N/A	N/A
	10/12/12	14.30	N/A	N/A
FP-5	10/4/12	14.29	N/A	N/A
	10/12/12	15.08	N/A	N/A
FP-6	10/4/12	15.15	N/A	N/A
	10/12/12	15.30	N/A	N/A
FP-7	10/4/12	14.70	N/A	N/A
	10/12/12	15.58	N/A	N/A
FP-8	10/4/12	15.13	N/A	N/A
	10/12/12	16.38	N/A	N/A
FP-9	10/4/12	14.65	N/A	N/A
	10/12/12	15.98	N/A	N/A
FP-10	10/4/12	15.88	N/A	N/A
	10/12/12	16.35	N/A	N/A
FP-11	10/4/12	15.20	N/A	N/A
	10/12/12	16.30	N/A	N/A
FP-12	10/4/12	14.17	14.15	0.02
	10/12/12	14.43	14.40	0.03
FP-13	10/4/12	12.72	N/A	N/A
	10/12/12	15.98	N/A	N/A
FP-14	10/4/12	16.70	N/A	N/A
	10/12/12	17.07	N/A	N/A
FP-15	10/4/12	13.37	N/A	N/A
	10/12/12	15.17	N/A	N/A
FP-16	10/4/12	15.96	N/A	N/A
	10/12/12	16.21	N/A	N/A

Log of Borehole: TMW-1

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Ī			S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
		nden	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
	oft	m O		Ground Surface	0						
1000	2-		##	topsoil /		1	1	O	β		
	6- 8- 10-	-2	 	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	Q	6		
	12- 14-	-4	###		-15	3	\$	Q	7		ground water sample submitted for: BTEX+M screening
7	16-			End of Borehole							
	20- 22- 24- 26-	- 6									÷
	28- 28- 30-	-8									Sect
	32 - 34 - 36 -	- 10									
- 1	38 - 40 -	– 12						9			

Drill Method: auger rig Drill Date: 5/17/12 Casing Diameter: 1.0" Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.)

Log of Borehole: TMW-2

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL		Volatila Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	t m		Ground Surface	0						
2-		HH	topsoil /		1	1		7		
6- 8-	-2	HH H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$	0	9		
12-	4	##		-15	3	1	0	8	Пинини	ground water sample submitted for: BTEX+M screening
16- 18- 20- 22- 24- 26- 30- 32- 34-	- 10		End of Borehole							
38 - 40 -	L							÷ i		_

Drill Method: auger rig Drill Date: 5/17/12 Casing Diameter: 1.0" Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.) Latitude: N34d03.910'

Log of Borehole: TMW-3

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

F			S	UBSURFACE PROFILE			SAMPL	E			
	Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
r	ft	m _O		Ground Surface	0						
	2-	_ U	##	topsoil /		1	1	Q	7		
	6- 8- 0-	- 2	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2.	\$	0	8		
1:	2-	-4	#		-15	3	1	Q	7		ground water sample submitted for: BTEX+M screening
21	6- 8- 0- 2- 4-	- 6		End of Borehole							
20	4	- 8									
34	2- 4- 6-	- 10									
1	8- 0-	- 12									

Drill Method: auger rig Drill Date: 5/17/12 Casing Diameter: 1.0" Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.) Latitude: N34d03.910'

Log of Borehole: TMW-4

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

7		_	S	UBSURFACE PROFILE			SAMPLI	F .	DOMESTICATE NO. 1		
	Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
ľ	o ^{ft}	m		Ground Surface	0						
	2-		H H H	topsoil /		1	1	o	7		
	8-	-2	# #	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	Q.			
	12-	-4	###		-15	3	1	Q	8		ground water sample submitted for: BTEX+M screening
1 2 2 2 2 2 2 3 3 3 3 3	16- 18- 22- 24- 26- 28- 32- 32- 34- 36-	- 6		End of Borehole							Scienting
1	10-	- 12									

Drill Method: auger rig
Drill Date: 5/17/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.)
Latitude: N34d03.910'

Log of Borehole: TMW-5

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE	_		SAMPL		Taid water to the	<u> </u>	
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m		Ground Surface	0						
		#	topsoll /		1	1		2		
	2	##	Clayey Silt dk reddish tan; small		2	1	<u> </u>	1		
10	+	##	dk reddish tan; small percent very fine grained sand (mica)		3	1	<u> </u>	9		ground water sample
14	4		End of Borehole	-15				8	Динини	submitted for: BTEX+M screening
18	1									
22 24	-								81	
28	₫ .									
32	<u>-</u> 1									
36 38	†									
40	<u>†"</u>				7			· 1		

Drill Method: auger rig Drill Date: 5/17/12 Casing Diameter: 1.0" Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012

Log of Borehole: TMW-6

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Г			S	UBSURFACE PROFILE			SAMPL	E	Veletile Organie		
	Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
ſ	oft	m _O		Ground Surface	0						
	2-	ŭ	##	topsoil /		1	1	Q	7		8
	8-	- 2	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	9	9		
-	2-	-4	#		-15	3	1	0	8		ground water sample submitted for: BTEX+M screening
1 2 2 2 2 2 2 3 3 3 3	6- 8- 8- 20- 22- 24- 26- 32- 44- 44- 46- 44- 46- 88-	-6 -8		End of Borehole							
4	٥	- 12							.		

Drill Method: auger rig
Drill Date: 5/18/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910'

Log of Borehole: TMW-7

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

			S	UBSURFACE PROFILE			SAMPL		Voletile Organic		
	Danth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
ſ	oft	mo		Ground Surface	0			i A			
1	2-		##	topsoll /		1	\$	00	7		
1	8-	-2	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$	Q	9		
1	2-	-4	###		-15	3	1	4	5	Дининин	ground water sample submitted for: BTEX+M screening
1	8-	- 6		End of Borehole							
2	4-	- 8									
3	8-					,					
3	4-	- 10									
	8 - 0-	- 12									

Drill Method: auger rig Drill Date: 5/18/12 Casing Diameter: 1.0" Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-8

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

Ē		- 15	S	UBSURFACE PROFILE			SAMPLE		Valatila Organia		
	dan d		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
Γ	oft.	E _O		Ground Surface	0						
ı	2- 4-	•	HH	concrete		1	\$		7		ś
	6 - 8- 0-	-2	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	5	Q	9		
1	2-4-6-	-4	#	End of Borehole	-15	3	3	Q	7		ground water sample submitted for: BTEX+M screening
1 2	8- 0-	- 6		End of Botonial							
2	4-	-8							, Tana (1)	Ь	
3	8 - 0- 2-								10 mm		
3	4-	- 10									
	8- 0-	- 12									

Drill Method: auger rig
Drill Date: 5/18/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: TMW-9

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

I			S	UBSURFACE PROFILE	-		SAMPL	E	Valatila Ossania		
	Donth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
1	o ft	m _O		Ground Surface	. 0						
	2-		##	concrete		1	1	Q	7		
	8-	- 2	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	0	9		
	12-	- 4	###		-15	3	1	3	5		ground water sample submitted for: BTEX+M screening
1	16-			End of Borehole							
	20-	- 6				0.000					
1	28-	-0							. 1		
1	30-	-10									
1	¼ -₹	- 10									
١	86-										
4	10-	- 12									

Drill Method: auger rig
Drill Date: 5/18/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.)

Log of Borehole: TMW-10

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m		Ground Surface	0			revivanski si			7.019.91
2	+	HH	concrete		1	5	0	7		
8	- T ²	HH	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	5	0	9		,
12 14		###		-15	3	5	1	4		ground water sample submitted for: BTEX+M screening
166 188 200 222 244 266 288 300 322 344 366 388 400	6 6 1	0	End of Borehole							

Drill Method: auger rig
Drill Date: 5/18/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.)

Log of Borehole: TMW-11

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Valatila Organia	T	
	nebru	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o ^{ft}	E _O		Ground Surface	0						
2-		HH	topsoil /		1	1		7		
6- 8- 10-	-2	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	}	<u> </u>	9		
12-	-4	###		-15	3	\$				ground water sample submitted for: BTEX+M screening
16-			End of Borehole					1		STATE OF THE CONTROL
18- 20- 22- 24-	- 6									
26-	-8									
28-										
30-	- 10									
34- 36- 38-	- 10		<i>3</i>		2					
40-	- 12									

Drill Method: auger rig
Drill Date: 5/24/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.)

(18 m) (■ 3) Print (1947) (19

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-12

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

	SUBSURFACE PROFILE					SAMPL	E	V-1-4"- O		
	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	m _O		Ground Surface	0					200	
2-	-0	HH.H.	topsoll /		1	1	Q	7		
6- 8-	-2	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$	0	8		
12- 14-	-4	###		-15	3	1	· (The state of the s	ground water sample submitted for: BTEX+M screening
16- 18- 20- 22- 24- 26- 30- 32- 34- 36- 38- 40-	-6 -8 -10		End of Borehole							Sciediling

Drill Method: auger rig
Drill Date: 5/24/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.)

Log of Borehole: TMW-13

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Έ		S	UBSURFACE PROFILE	-	_	SAMPLE				
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m		Ground Surface	0						
ľ	Ŧ°		topsoil /							
4	1	#	ONE THE CONTROL TO THE WAY BE AND A STANCE THE CONTROL TO THE CONTROL THE CONTROL TO THE CONTROL THE CONTROL TO THE CONTROL TH	,	1	}	Q.	7		
8	1 2	#	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	0	8		
12	1		,,		3	1				ground water sample submitted for:
14	7	1		-15			1	5	昌	BTEX+M screening
16	1		End of Borehole							D = 20
18	7									
20-	1-6									
120	7						- 1	1		
22	1						- 1			
24	-									
26-	-8									
28	-									
30-	1									
32	10									
34-	1									
36-	}									
38-	┨									
40-	12		32000							

Drill Method: auger rig
Drill Date: 5/24/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910'

Log of Borehole: TMW-14

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE	5-00-2		SAMPL	E	Valatila Ossasia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o-ft	m		Ground Surface	0						
2-		HH	topsoll		1	1	O	7		
6- 8- 10-	-2	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	5	<u> </u>	8		
12-	-4	#		-15	3	5	0	7		ground water sample submitted for: BTEX+M screening
16-			End of Borehole							1. 154 - 194 - 101 - 4
18- 20- 22-	-6									
24-	-8				*					
28-								8 8		
32- 34- 36-	- 10									
38-	- 12									-

Drill Method: auger rig
Drill Date: 5/24/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 12.5' (enc.) Latitude: N34d03.910'

Log of Borehole: TMW-15

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	SV 2002-1	S	UBSURFACE PROFILE			SAMPL	E	Valetile Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o-f	m		Ground Surface	0						
2-		H H	concrete		1	\$	ō	7		
6- 8-	-2	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$	Q	8		
12-	-4	#		-15	3	\$	0	7	111111111111111111111111111111111111111	ground water sample submitted for: BTEX+M screening
16-	1		End of Borehole				Action of the second second			
18- 20- 22- 24-	- 6									
26-	-8							1		
28- 30-								. :		
32-	-10									
36-										
38 - 40-	- 12									

Drill Method: auger rig
Drill Date: 5/25/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.)

Log of Borehole: TMW-16

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

ፑ			S	UBSURFACE PROFILE			SAMPLI				
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
T	oft	m .		Ground Surface	0						
1	٦̈	-		concrete			4				
	2-4-		#			1	}	o.	7		
	8-	-2	##	Clayey Slit dk reddish tan; small percent very fine grained sand (mica)		2	1	Q.	В		
1	2-	-4	#		45	3	1	_			ground water sample submitted for: BTEX+M
VI.	6-			End of Borehole	-15			0	9	Ц	screening
2	8- 0- 2-	•6									
2	4 <u>-</u> 6 <u>-</u>	-8							30 DE 10 DE		
	8- 0-										
	2- - 4-	-10									
1	6- 8-										
4	<u>-</u>	12		27 127	1					35.726	05.04

Drill Method: auger rig
Drill Date: 5/25/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.)

Log of Borehole: TMW-17

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

F			SUBSURFACE PROFILE			SAMPLE				
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
7	ft m	,	Ground Surface	0						
2	+	#	concrete		. 1	1	Q	7		
10	, †		Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$		9		
12	+4			-15	3	5	Q	7		ground water sample submitted for: BTEX+M screening
16	;-		End of Borehole							
20 22 24	, - - - -	3								
26 28	Η,	3							er	¥
32	<u>.</u>	0	× 8							
36	4									
40	十1	2	*					: 1		

Drill Method: auger rig
Drill Date: 5/25/12
Casing Diameter: 1.0"
Total Depth of Well: 15.0



Depth to Water: 13.0' (enc.)

Log of Borehole: TMW-18

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

ì		_	S	UBSURFACE PROFILE		_	SAMPL	E			
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	oft m	n l		Ground Surface	0						
	2-		##	topsoil /		1	1	O	7		
	6- 8- 10-	2	#	Clayey Silt dk reddish tan; small percent very fine grained		2	1	0			
	12-	4	#	percent very fine grained sand (mica)		3	\$	Q	8		ground water
	18-	6		End of Borehole	-19	4	1				sample submitted for: BTEX+M screening
	22-			End of Bolestoic		i					
١	26-	8									
	- A 1	10									
	36-										
- 1		12	50320						Î.		

Drill Method: auger rig Drill Date: 6/13/12 Casing Diameter: 1.0"

Total Depth of Well: 19.0



Depth to Water: 16.0' (enc.)

Log of Borehole: TMW-19

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

I			S	UBSURFACE PROFILE			SAMPL	Ē	Volatile Organic		
	Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
ı	o ^{ft}	E _C		Ground Surface	0						
	2-		HH	topsoil/		1	\$	<u>_</u>	7		
	6 - 8- 10-	- 2	HH.H	Clayey Silt dk reddish tan; small		2	\$		6		
	12-	-4	H H	percent very fine grained sand (mica)		3	}		8		ground water
	18-	- 6	#	End of Borehole	-19	4	3				sample submitted for: BTEX+M screening
ŀ	22-			g said this hand develop at 19 to \$1 and \$1 to						() 85	
	26-	- 8									
	32-	- 10							,		
ļ	36-	- 12									
Ŀ	40-	,,,							Į.		

Drill Method: auger rig
Drill Date: 6/13/12
Casing Diameter: 1.0"
Total Depth of Well: 19.0



Depth to Water: 16.5' (enc.)

Log of Borehole: TMW-20

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

-		S	UBSURFACE PROFILE			SAMPL	F	and an early and		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	m		Ground Surface	0						
2-		##	topsoil		1	1	Q.	7		
6- 8-	-2	H H	Clayey Silt dk reddish tan; small		2	1	0	β		
12-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	1	0			ground water
16-	-6		End of Borehole	-19	4	1				sample submitted for: BTEX+M screening
20- 22- 24-			End of Borenole					1 8		
26-	-8									
30- 32- 34-	– 10									
38-	- 12									

Drill Method: auger rig Drill Date: 6/13/12 Casing Diameter: 1.0" Total Depth of Well: 19.0



Depth to Water: 18.0' (enc.) Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: TMW-21

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Г			S	UBSURFACE PROFILE		was on 3	SAMPL	E			
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
Γ	oft	m		Ground Surface	0					200	
1	2-	-0	##	topsoll /		1	\$	0	7		
	6- 8- 0-	-2	###	Clayey Silt dk reddish tan; small percent very fine grained		2	}	0	8		
1	2 - 4- 6-	-4	##	sand (mica)		3	}		3		ground water sample
1	8- 8-	-6	#	End of Borehole	-19	4	}				submitted for: BTEX+M screening
2	2-										
П	6- 8-	-8									
3:	0-	- 10									
3	6-										
4	<u>⊶</u>	- 12				355 VA					

Drill Method: auger rig
Drill Date: 6/13/12
Casing Diameter: 1.0"
Total Depth of Well: 19.0



Depth to Water: 18.0' (enc.)
Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-22

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE		$\overline{}$	SAMPL	E			
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2-	HH	topsoli /		1	\$	Q.	7		
62 8- 10-	H H	Clayey Silt dk reddish tan; small		2	5	Q	8		
12-	##	dk reddish tan; small percent very fine grained sand (mica)		3	5		9		ground water
18-	#	End of Borehole	-19	4	1				sample submitted for: BTEX+M screening
22-		End of Borenole						1	
24-									
28-									
32- 									
38- 4012	2								

Drill Method: auger rig Drill Date: 6/13/12 Casing Diameter: 1.0" Total Depth of Well: 19.0



Depth to Water: 18.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-23

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

1	1		S	UBSURFACE PROFILE			SAMPL	E	Valatila Omenia		
		nebru	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
1	oft.	E _O		Ground Surface	0						
	2-		##	topsoil /		1	1	0	7		
	6- 8- 10-	-2	H H	<i>Clayey Silt</i> dk reddish tan: small		2	\$	Q	8		
	12- 14-	-4	###	dk reddish tan; small percent very fine grained sand (mica)		3	5	0	9		ground water
	16- 18- 20-	- 6	#		-20	4	1		1		sample submitted for: BTEX+M screening
	22- 24-	5		End of Borehole	ħ						
	28-	-8									
	32-	 10									
	38-	- 12									

Drill Method: auger rig
Drill Date: 6/19/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012

Log of Borehole: TMW-24

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE		·	SAMPLI	=			
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	t m O		Ground Surface	0						
2-		HH	asphalt /		1	\$	0	7		
6- 8-	-2	H H	Clayey Silt dk reddish tan; small percent very fine grained		2	5	O.	9		Θ.
12-	-4	###	sand (mica)		3	5		7		ground water
16- 18-		#	End of Borehole	-19	4	\$	0	9		sample submitted for: BTEX+M screening
22-										
26- 28- 30-	ľ									
32-	– 10								Ç	
36- 38- 40-	- 12									

Drill Method: auger rig
Drill Date: 6/19/12
Casing Diameter: 1.0"
Total Depth of Well: 19.0



Depth to Water: 18.5' (enc.)
Latitude: N34d03.910'
Longitude: W81d07.012'

Log of Borehole: TMW-25

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$	S	UBSURFACE PROFILE			SAMPL	E	Valetile Ossasia		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2-	HH	asphalt /		1	\$	0	7		
62 8- 10-	##	Clayey Silt dk reddish tan; small percent very fine grained		2	}	0	9		*
12-4	H	sand (mica)		3	}	Q	9		ground water
18-	#	End of Borehole	-19	4	3	2	6		sample submitted for: BTEX+M screening
22-		2.14 3. 23.3.13.13			+				*
26—8 28—									
30- 32-	D								
34- 36- 38-									:
40-12	2								

Drill Method: auger rig Drill Date: 7/5/12 Casing Diameter: 1.0"

Total Depth of Well: 19.0

A SERVICES, INC.

Depth to Water: 18.5' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-27

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Γ			S	UBSURFACE PROFILE			SAMPLE		V-1-17- 0		
			Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
ı	o ft	E _O		Ground Surface	0						
	2-	_0	##	asphalt		1	\$	Jo	3		
	6 - 8 - 10 -	- 2	HH H	Clayey Silt dk reddish tan; small percent very fine grained		2	\$	o o	9		
	12-	-4	H H	percent very fine grained sand (mica)		3	}	0	9		ground water
	18-	-6	#	Ent of Downloads	-20	4	5	2	6	(THERMAN AND AND AND AND AND AND AND AND AND A	sample submitted for: BTEX+M screening
	22-			End of Borehole							
	28	-8									
ķ	34-	- 10		<u>s</u>							
	38-	- 12									

Drill Method: auger rig Drill Date: 6/20/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

ojection of the last of the line of the last of the la

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-28

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

			S	UBSURFACE PROFILE			SAMPL	E	Volatila Organia		
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m	1	7.5	Ground Surface	0				k Bengan saungangan pan-an-angan-an-a	20020	
2	Ţ		###	asphalt/		1	1	Q	7		
8	Ţ,	2		Clayey Silt		2	1	0	9		
10 12 14	1	4	###	dk reddish tan; small percent very fine grained sand (mica)		3	1	4	1		ground water
16 18	1	6	#		-20	4	1	18	,7		sample submitted for: BTEX+M screening
22-				End of Borehole							
26·	1	В								įš.	
30· 32· 34·	<u></u>	10									
36· 38·											
40-	<u> </u>	12									

Drill Method: auger rig
Drill Date: 6/20/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-29

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$	_	S	UBSURFACE PROFILE			SAMPL	E	Malatila Ossasia		
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o ^{ft}	m,		Ground Surface	0						100
2-		##	topsoil /		1	1	<u> </u>	7		×
6- 8- 10-	-2	H H	<i>Clayey Silt</i> dk reddish tan: small		2	1	Q	9		
12-	-4	##	dk reddish tan; small percent very fine grained sand (mica)		3	5		8		ground water
16- 18- 20-	-6	###		-20	4	1	1	2		sample submitted for: BTEX+M screening
22-			End of Borehole					:		
28-	-8									
32-	- 10									
36-	- 12							1		
40-	- 12							4 1		

Drill Method: auger rig Drill Date: 7/5/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

Log of Borehole: TMW-30

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

=		S	UBSURFACE PROFILE			SAMPLE	=			
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m		Ground Surface	0					2001	
2-	T°	HH.H.	topsoli /		1	1	Q	7		
8-	-2	H H	Clayey Silt dk reddish tan; small		2	5	<u>_</u>	9		
12·		H H	dk reddish tan; small percent very fine grained sand (mica)		3	\$	-	8		ground water
16· 18· 20·	1	#		-20	4	1				sample submitted for: BTEX+M screening
22· 24·			End of Borehole							
28· 30·	<u> </u>									
32·	+ 10									
36· 38· 40·					3					5

Drill Method: auger rig

Drill Date: 7/5/12

Casing Diameter: 1.0"

Total Depth of Well: 20.0

A A A A SERVICES, INC.

Depth to Water: 19.0' (enc.)

Log of Borehole: TMW-31

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

ī	_	_	- 0	UBSURFACE PROFILE			SAMPLE				
		nden	Symbol	Description	Elev.	Number	Type	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
1	ft	m _O	4	Ground Surface	0					10	
	2-	-0	H H H	topsoil/		1	5	Q	7		
	6- 8- 10-	-2	H H	<i>Clayey Silt</i> dk reddish tan; small		2	5	0	9		
	12- 14-	-4	##	percent very fine grained sand (mica)		3	}		7		ground water
	16- 18- 20-	- 6	#		-20	4	3	0	9		sample submitted for: BTEX+M screening
	22 - 24-			End of Borehole							
	26- 28- 30-	-8									
	32- 34-	- 10									
	36- 38- 40-	– 12								a.	

Drill Method: auger rig Drill Date: 7/5/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

O E - 🖛 E debit NATA AMARAN SAMATA ANA - NATAN - - NATAN SAHAR AMARAN MENANTENGAN SAMATA

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-32

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

		S	UBSURFACE PROFILE			SAMPL	.E	Valatila Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	m O		Ground Surface	0			[
2-	ľ	THE REPORT OF THE PERSON OF TH	topsoli /		1	1	Q	7		
6 -	-2	###	Clayey Silt		2	1				
10- 12- 14-	-4	1	dk reddish tan; small percent very fine grained sand (mica)		3	1				₩
16 -	1	#		-19	4	\$	0			ground water sample submitted for: BTEX+M screening
20-	- 6		End of Borehole				Q.	9	₿	Scioning
24-	-8									
30-										
34-	- 10									
38 - 40-	- 12									

Drill Method: auger rig Drill Date: 7/5/12

Casing Diameter: 1.0"
Total Depth of Well: 19.0



Depth to Water: 18.0' (enc.)

Log of Borehole: TMW-33

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE		_	SAMPL	=	1000000 1000 1000		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	mo		Ground Surface	0						
2-		H H	topsoll /		1	\$	Q	7		ŧ
6- 8-	-2	###	Clayey Silt		2	\$	Q	9		·
12-	-4	#	dk reddish tan; small percent very fine grained sand (mica)		3	5	o	8		ground water
16- 18- 20-	- 6	#		-20	4	1	<u> </u>	7		sample submitted for: BTEX+M screening
22 - 24 -			End of Borehole	7						
26- 28- 30-	ľ		a.							
32- 34- 36-	- 10	*	•							
38-	- 12				25					

Drill Method: auger rig Drill Date: 7/5/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-34

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		_	S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic	0.000	
	Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
Г	o ^{ft}	m .		Ground Surface	0						
	2-		##	asphalt /		1	1	Q.	7		
,	6- 8-	-2		Clayey Silt		2	\$	Q.			
1:	2-	-4	##	dk reddish tan; small percent very fine grained sand (mica)		3	\$	2	3		ground water
18	6-1 8-1 0-1	-6	#		-20	4	\$	5	4		sample submitted for: BTEX+M screening
22	2			End of Borehole							
28	;	-8									÷
32	2 - 1 1	- 10									
38	;=	- 12		V					i i		

Drill Method: auger rig Drill Date: 7/12/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-35

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE			SAMPL	Ē	Valetile Ossania		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	t m O		Ground Surface	0						
2-		##	asphalt /		1	1	Q	7		
6- 8-	-2	H H	<i>Clayey Silt</i> dk reddish tan; small		2	\$	Q	9		
12-	-4	H H	dk reddish tan; small percent very fine grained sand (mica)		3	5	2	3		ground water
16- 18- 20-	-6	#		-20	4	1	6	3.	THE REAL PROPERTY.	sample submitted for: BTEX+M screening
22- 24-			End of Borehole		4					
26- 28- 30-	-8		3							
32- 34-	– 10									
36- 38- 40-	– 12					\$3				

Drill Method: auger rig Drill Date: 7/12/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.)

Log of Borehole: TMW-36

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

[S	UBSURFACE PROFILE			SAMPL	Ē	Valatila Organia		
		nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
ı	o ft	m _O		Ground Surface	0						
	2-	- 3	##	asphalt		1	1	o	7		
	6 - 8-	-2	# #	Clayey Silt		2	\$	Q	9		
-	12-	-4	# #	dk reddish tan; small percent very fine grained sand (mica)		3	\$	2	4		ground water
	18-	- 6	#		-20	4	1		S		sample submitted for: BTEX+M screening
	22-	100.74		End of Borehole							
1	26- 28- 30-	-8									
	32-	– 10									
1	36-	– 12							1		

Drill Method: auger rig
Drill Date: 7/12/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 19.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-37

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

F		S	UBSURFACE PROFILE			SAMPLE			1	
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m		Ground Surface	0						
2	Ţ,	HH	asphalt /		1	1	0	3		
6 8 10	-2	HH	Clayey Silt		2	5	<u> </u>	9		
12	- - - -	HH	dk reddish tan; small percent very fine grained sand (mica)		3	}		5		ground water sample
18 20	1.	HH			4	}		6		sumple submitted for: BTEX+M screening
22	1	#	End of Borehole	-23	5	7				
26	!							ē		
30	1									
32	+ ¹º									
36	1									
40	十12		100 WEB 2				3,4524.		V2-3c	

Drill Method: auger rig
Drill Date: 7/17/12
Casing Diameter: 1.0"

Total Depth of Well: 23.0'



Depth to Water: 22.0' (enc.)

Log of Borehole: TMW-38

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatila Organia		
	Deptu	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	mo		Ground Surface	0						
 2-	ľ	#	asphalt /		1	1	Q	7		e ²
6- 8-	-2	##			2	1	0	9		
12-	-4	# #	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1		1		ground water
16- 18- 20-	- 6	###			4	1		9		sample submitted for: BTEX+M screening
22-	12 1000			-25	5	1				
26-	-8		End of Borehole	1-1-1-1					21. (5)	
28 -										
30-										
32-	- 10									
34-	10									
36-								;		
38-										
40-	- 12							1		

Drill Method: auger rig
Drill Date: 7/13/12
Casing Diameter: 1.0"
Total Depth of Well: 25.0'



Depth to Water: 23.5' (enc.)

414.1-12 US1 Fellint# 11940

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-39

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

$\overline{}$		S	UBSURFACE PROFILE		Г	SAMPL	E	1.7.17.00.00		
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o ^{ft}	m		Ground Surface	0						
2-	-0;	##	asphalt /		1	1	Q	7		
6 - 8 -	-2	# #			2	1	0	9		
12-	-4	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1				ground water
16-	-6				4	\$	1	4		sample submitted for: BTEX+M screening
22-				-25	5	\$				
26- 28- 30-	-8		End of Borehole							
34- 36-	- 10									
38 - 40-	- 12		,					1		

Drill Method: auger rig
Drill Date: 7/17/12
Casing Diameter: 1.0"
Total Depth of Well: 25.0'



Depth to Water: 22.5' (enc.)

Log of Borehole: TMW-40

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPLE				
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o ^{ft}	m		Ground Surface	0						
2-	-0 ;	##	topsoil /		1	1	Q	7		
8-	-2	#			2	1	0	8		ΙΚΙ
12-	-4	#	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1	0	9		ground water
16- 18- 20-	-6	#			4	1	1.	2		sample submitted for: BTEX+M screening
22-		#		-25	5	1				۵
26-	-8		End of Borehole					ī		
28-										
30-								. 4		
1 4								1		
32-	- 10									
34-										
36-										
38-										
40-	- 12							,		

Drill Method: auger rig
Drill Date: 7/23/12
Casing Diameter: 1.0"
Total Depth of Well: 25.0'



Depth to Water: 23.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-41

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
ρf	mo		Ground Surface	0						
2-	ľ	##	topsoil /		1	1	0	7		
6- 8- 10-	-2	##			2	5	o.	8		
12- 14-	-4	# #	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	5	Q	9		ground water
16- 18- 20-	- 6	#			4	5	1	1		sample submitted for: BTEX+M screening
22-		#	End of Borehole	-24	5	3				
26-	-8							i		
28-	1									
١.	ł				0					
30-								i		
32-	10							1		
34-	"							. 3		
36-					9					
١.										
38-	- 12	,								
40-	- 12							1 1		

Drill Method: auger rig Drill Date: 7/26/12

Casing Diameter: 1.0"

Total Depth of Well: 24.0'

ARAM ENVIRONMENTAL SERVICES, INC.

Depth to Water: 22.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-42

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

	S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 500 1000 1500	Well Data	Remarks
oft m	h	Ground Surface	0						
2-4-	HH	topsoli /		1	1	0	7		
6	2 H	<i>Clayey Silt</i> dk reddish tan; small		2	\$	0			
12-		percent very fine grained sand (mica)		3	\$	0	8		ground water
16- 18- 206			-20	4	1				sample submitted for: BTEX+M screening
22-		End of Borehole							
26—_ 8 28— 30—	В								
32- -1 34-	10								
36- 38- 40-1	12								
								Massagur on	

Drill Method: auger rig Drill Date: 7/26/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0'

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 18.5' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-43

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPLE		rayaya saa pas Tia		
Depth	Symbol	Description	Elev.	Number	Type	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0			22450			
2-	HHH.	topsoli		1	1	<u> </u>	8		
62 8-	H			2	1	0			
12- 12- 14-		Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1	Q	7		ground water
16- 18- 206		,		4	1	Q	9		sample submitted for: BTEX+M screening
22-			-26	5	5		i		
26-8		End of Borehole	-26	6			. 1	Ħ	
28-									
30-									
32-							Y 4		
34-10									
36-							i		
1 4		J							
38-									
40							1 I		

Drill Method: auger rig Drill Date: 7/26/12 Casing Diameter: 1.0"

Total Depth of Well: 26.0'



Depth to Water: 24.0' (enc.) Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: TMW-44

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE		7	SAMPL	E	Valetile Ossanie		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	t m O		Ground Surface	0						
2-	1	HH	topsoil /		1	\$	0	8		
6- 8- 10-	-	H H			2	\$	Q	9		
12- 14-	-4	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	}	0	8		ground water
18-	- 6	##			4	}	1	1		sample submitted for: BTEX+M screening
22 - 24 -	1	#	End of Borehole	-24	5	3		1	Committee of the commit	
26 - 28-	-8							1		
30-	1									
32-	- 10									
36-						3.				
40-	- 12									

Drill Method: auger rig
Drill Date: 8/6/12
Casing Diameter: 1.0"

Casing Diameter: 1.0"
Total Depth of Well: 24.0'



Depth to Water: 22.0' (enc.)

Log of Borehole: TMW-45

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		100	SUI	BSURFACE PROFILE			SAMPL	.E	Veletile Organie		
	Depth		эушрог	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
\overline{f}	t m			Ground Surface	0						
2-	ľ	1111		topsoil/		1	1	Q.	8		
6 -	-2	11411				2	1	Q			
10-	-4	11414	HHH	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1	0			ground water
16- 18-	-6	11414	HHH			4	\$				sample submitted for: BTEX+M screening
22 -			H	5-d-(Bd-d-	-24	5	1				
26-	L .8			End of Borehole							
28-	1			(4)							
30-	1										
32-	1										
34-											
36-	}										
38-	L										
40-	12						4 538				

Drill Method: auger rig
Drill Date: 8/7/12
Casing Diameter: 1.0"
Total Depth of Well: 24.0'



Depth to Water: 22.0' (enc.)

Log of Borehole: TMW-46

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Valetile Ossania		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	mo		Ground Surface	0						
2-	ľ	HH.	topsoli /		1	1	<u>q</u>	8		
6- 8-	-2	###			2	1	0			
12-	-4		Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1	0	9		ground water
16- 18-	- 6				4	1				sample submitted for: BTEX+M screening
22-				-24	5	\$				
26-	ľ		End of Borehole							
30-										
34-	- 10									
38 -	- 12									

Drill Method: auger rig Drill Date: 8/7/12

Casing Diameter: 1.0"

Total Depth of Well: 24.0'



Depth to Water: 22.0' (enc.)

Log of Borehole: TMW-47

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Valetile Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	m		Ground Surface	0			1000		2000	
2-	ľ	##	topsoil /		1	1	Q	9		7*
6- 8- 10-	-2	H H			2	\$	0	8	3 3	
12- 14-	-4	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	\$	0	8		ground water
18-	- 6	###			4	}	1	1		sample submitted for: BTEX+M screening
22-				-23	5	3				
24-			End of Borehole							
26-	La							, !		
28-	ľ									
30-	1									
32-	- 10									
34-										
36-										
38-										
40-	- 12									

Drill Method: auger rig
Drill Date: 7/27/12
Casing Diameter: 1.0"
Total Depth of Well: 23.0'



Depth to Water: 21.0' (enc.)

Log of Borehole: TMW-48

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Η		S	UBSURFACE PROFILE	377		SAMPL	E			
Deoth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	m		Ground Surface	0	Languay -					
2-	-0	#	topsoil /		1	1	Q	7		
6- 8- 10-	- 2	# #	Clayey Silt dk reddish tan; small		2	1	o,	9		
12-	-4	###	percent very fine grained sand (mica)		3	\$	1			ground water
16- 18-	-6			-20	4	1				sample submitted for: BTEX+M screening
22-			End of Borehole							*
26 - 28 -	-8					7.00				
30- 32- 34-	- 10									
36 -										
40-	- 12							.		

Drill Method: auger rig Drill Date: 7/25/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0'



Depth to Water: 18.5' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-49

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

·	S	UBSURFACE PROFILE			SAMPL	E	Valatila Ossania		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
I "T"		topsoil	,				1 1	11	
2-	#	\/		1	1	o	8		
62 8-	#	Clayey Silt		2	1				
10-		dk reddish tan; small percent very fine grained sand (mica)			1	Q	8		
14-	#			3		<u>,</u>	,		ground water
16 - 18-	A			4	1				sample submitted for: BTEX+M
1 4 -			-19					昌	screening
20-6		End of Borehole				•			
22						,			
24-									
26-8									
28							i		
1 -1									
30-									
32-									
1 1 10									
34-									
36-									
38-				6					
100	,								
40-1-12									

Drill Method: auger rig Drill Date: 7/26/12 Casing Diameter: 1.0" Total Depth of Well: 19.0'



Depth to Water: 18.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-11D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	- 70	S	UBSURFACE PROFILE			SAMPL	E	V-l-#- 0l-		
Deoth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^{ft}	m		Ground Surface	0						
2-		#	topsoll /		1	1				
6-	- 2	#			2	1				
10- 12- 14-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 12.5'		3	1				
16-	-6	#			4	1				
22-		#		-25	5					
26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6					
32-	- 10	###	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles;	-34.5	7	1				ground water sample submitted for: BTEX+M
36- 38- 40-	- 12		becomes saturated at 33.0' End of Borehole		u I					screening

Drill Method: auger rig Drill Date: 7/24/12 Casing Diameter: 1.0"

Total Depth of Well: 34.5



Depth to Water: 33.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-12D

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

	S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-	###	topsoll /		1	1				
62 8-				2	1		u		
12-	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 12.5'		3	1				
16-	1			4					
22-			-23	5	1				×
26-8	1	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
30- 32- 34-		clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles;	-34.5	7	1				ground water sample submitted for: BTEX+M
38-	2	becomes saturated at 33.0' End of Borehole							screening
40-12							1		

Drill Method: auger rig Drill Date: 7/25/12 Casing Diameter: 1.0"

Total Depth of Well: 34.0



Depth to Water: 33.0' (enc.)

Log of Borehole: TMW-14D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^f	m		Ground Surface	0					1.1	
2-	1	##	topsoil /		1	1				
6- 8- 10-	-2	#	0/2000		2	1				
12-	-4	1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 12.5'		3	1				
16- 18- 20-	-6				4	1				
22-		H		-22	5	\$				
26- 28-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	HH	clayey silt dark tan to light brown, a little fine grained sand, a		7					ground water
36-		#	few very coarse sand grains and quartz pebbles; becomes saturated at 37.5'	-39	8	1				sample submitted for: BTEX+M screening
40-	- 12		End of Borehole					. i l		Seconing

Drill Method: auger rig Drill Date: 7/20/12 Casing Diameter: 1.0"

Total Depth of Well: 39.0



Depth to Water: 37.5' (enc.)

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-16D

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE		r —	SAMPI	.E	Volette Occasio		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
off	mo		Ground Surface	0						1000
2-		#	asphalt		1	1				
8-	-2	#	Clayey Silt		2	1				
10- 12- 14-	-4	##	dk reddish tan; small percent very fine grained sand (mica); wet at 13.0'		3	1				
16-	-6	1 4 1			4	1				
22-			silty clay	-21	5	1				
26- 28- 30-	-8	1	tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	HH	clayey slit dark tan to light brown, a little fine grained sand, a		7	1				ground water
36-	- 12	#	few very coarse sand grains and quartz pebbles; becomes saturated at 38.0'	-39.5	8	1				sample submitted for: BTEX+M screening
40-			End of Borehole					1 I		

Drill Method: auger rig
Drill Date: 7/24/12
Casing Diameter: 1.0"

Total Depth of Well: 39.5

ENVIRONMENTAL SERVICES, INC.

Depth to Water: 38.0' (enc.)

6

Log of Borehole: TMW-19D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Ī			S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
		nebtu	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
	oft.	m _O		Ground Surface	0						
	2-	ľ	4	topsoil /		1	1				
	6- 8-	-2	1	Clayey Silt		2	1				
	10- 12- 14-	-4	1	dk reddish tan; small percent very fine grained sand (mica); wet at 16.5'		3	1				
	16-	-6	1		-20	4	1				
	20- 22- 24-		# #	silty clay tan, a little fine and coarse grained sand; damp		5	1				
	26- 28-	-8	##	gramed sarid, damp	-27	6	1				
	30- 32- 34-	– 10	##	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1				
	36- 38- 40-	- 12	##	and quartz pebbles; becomes saturated at 38.0'	-40	8	1				ground water sample submitted for: BTEX+M screening
	1000			y=17/E)				0002	/de_//		

Drill Method: auger rig
Drill Date: 7/17/12
Casing Diameter: 1.0"
Total Depth of Well: 40.0



Depth to Water: 38.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

rojectivo. 00-414.1-12 DOT Fermit# 1104

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-23D

Driller: Josh Register, cert. #1921

Inspector: Michael Faris

ī			S	UBSURFACE PROFILE			SAMPL	E_	Volatile Organic		
	de c	ındən	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
1	oft	m _O		Ground Surface	0						
	2-	-0	H	topsoll /		1	1		,		
	8-	-2				2	1				
	10- 12- 14-	-4		Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
- 1	16- 18- 20-	- 6				4	1				
	22-	14			-22	5	1				
	26- 28- 30-	-8	###	silty clay tan, a little fine and coarse grained sand; damp		6	1				
	32- 34-	– 10		clayey silt	-31	7	1				
	36-	– 12	#	dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles; becomes saturated at 40.0'		8	1				ground water sample submitted for:
-1	40 - 42-		#		-42	9	\$				BTEX+M screening

Drill Method: auger rig
Drill Date: 6/19/12
Casing Diameter: 1.0"
Total Depth of Well: 42.0



Depth to Water: 40.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012

Log of Borehole: TMW-25D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE	W1424		SAMPL	.E	Valetile Ossasia		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-	##	asphalt /		1	1				
62 8-	HH			2	1				
12-	HH	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 18.5'		3	1				
16- 18- 20-6				4	1				
22-			-25	5	1				
268 28-	# #	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32- 34-	H H	clayey silt dark tan to light brown, a little fine grained sand, a		7		S. AM COURT PE			
36-		few very coarse sand grains and quartz pebbles; becomes saturated at 38.0'	-40	8	1				ground water sample
40-								-	submitted for:

Drill Method: auger rig Drill Date: 7/19/12 Casing Diameter: 1.0"

Total Depth of Well: 40.0



Depth to Water: 38.0' (enc.)

Log of Borehole: TMW-27D

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	UAL	S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		10000
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
of f	mo		Ground Surface	0				AMAZINA COSENSOLI PLATO E PO NOCINIO ANALACISMO ANDE		
2-	ľ	THE STATE OF THE S	asphalt		1	1				
6- 8-	1	14			2	1				
12-	-4	 	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
16- 18- 20-	-6				4	1				
22-				-25	5	1				
26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	##	clayey silt dark tan to light brown, a little fine grained sand, a		7	1				
36-	45	#	few very coarse sand grains and quartz pebbles; dry but becomes saturated at 38.0'	-39	8	1				ground water sample submitted for: BTEX+M
40-	-12		End of Borehole						昌	screening

Drill Method: auger rig Drill Date: 7/5/12

Casing Diameter: 1.0"
Total Depth of Well: 39.0

ENVIRONMENTAL SERVICES, INC.

Depth to Water: 38.0' (enc.)

Log of Borehole: TMW-28D

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPL	E	Valatila Ossanta		. VACON
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0					10.00	
2-4-	##	asphalt		1	1				.01
62 8-	###	,		2	1		:		
12-4	144	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
16- 18- 20-6				4					
22-			-25	5					
268 28-	HH H	silty clay tan, a little fine and coarse grained sand; damp	-30	6					
32- 32- 34-	H	clayey silt dark tan to light brown, a little fine grained sand, a		7					
36- 38- 40-12		few very coarse sand grains and quartz pebbles; dry but becomes saturated at 38.0'	-40	8	1				ground water sample submitted for: BTEX+M screening

Drill Method: auger rig Drill Date: 6/20/12 Casing Diameter: 1.0"

Total Depth of Well: 40.0



Depth to Water: 38.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-29D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
O-fi	mo		Ground Surface	0						
2-	ľ	##	topsoil /		1	1				
8-	-2	14			2	1				
12-	-4	1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
16-	- 6	HH			. 4	1				
22-				-25	5	\$				
26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	##	clayey silt dark tan to light brown, a little fine grained sand, a	λ 84	7	1				
36-	- 12	H H	few very coarse sand grains and quartz pebbles; dry but becomes saturated at 38.5'	-4 0	8			:		ground water sample submitted for: BTEX+M
40-										screening

Drill Method: auger rig Drill Date: 7/16/12

Casing Diameter: 1.0"
Total Depth of Well: 40.0

A CONTRONMENTAL SERVICES, INC.

Depth to Water: 38.5' (enc.)

Client: Cecchini

Location: Columbia, SC

Project: Broad River Amoco

Log of Borehole: TMW-30D

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Deptu	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0					1999	
2-		 	asphalt		1	1				
8-	-2	1			2	1				
12-	-4	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	\$				
16- 18- 20-	- 6	###			4	5				
22- 24-				-25	5	5				
26- 28- 30-	- 8	#	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				,
32- 34-	- 10	###	clayey silt dark tan to light brown, a little fine grained sand, a		7	1				
36 - 38 - 40-	- 12	###	few very coarse sand grains and quartz pebbles; dry but becomes saturated at 38.5'	-4 0	8	1				ground water sample submitted for: BTEX+M screening
										3G GGIIIING

Drill Method: auger rig Drill Date: 7/17/12

Casing Diameter: 1.0"

Total Depth of Well: 40.0



Depth to Water: 38.5' (enc.)

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Log of Borehole: TMW-31D

Project: Broad River Amoco

Driller: Josh Register, cert. #1921

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$	S	UBSURFACE PROFILE			SAMPL	.E	Valatila Oscania		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-4-	###	asphalt /		1	1				
62 8 10-	#			2	1				
12-	H H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
16- 18- 206				4	1				
22-			-25	. 5	1				
26—8 28—	HH	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32- -10	H	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1		1 2		ground water sample submitted for:
36-	#	and quartz pebbles; dry but becomes saturated at 36.0'	-37	8	1			曺	BTEX+M screening
38- 40- 12	2	End of Borehole					: !		55.55mig

Drill Method: auger rig

Drill Date: 7/5/12
Casing Diameter: 1.0"

Total Depth of Well: 37.0

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 36.0' (enc.)

Log of Borehole: TMW-32D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
of	mo		Ground Surface	0						
2-	ľ	HH H	asphalt		1	1				
6- 8-	P2	H	*		2	1				
12-	-4	1 + 1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 18.0'		3	\$				
16- 18-	- 6				4	1				
22-				-25	5	1				
26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	-10	##	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1				ground water sample submitted for:
36-		#	and quartz pebbles; dry but becomes saturated at 38.5'	-37	8	\$				BTEX+M screening
38 - 40-	- 12		End of Borenole							

Drill Method: auger rig Drill Date: 7/19/12

Casing Diameter: 1.0"
Total Depth of Well: 40.0

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 38.5' (enc.)

Log of Borehole: TMW-33D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE			SAMPL	E	141.00.0		
Denth	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^{ft}	m _C		Ground Surface	0						
2-	J	##	asphalt /		1	1				
8-	- 2	H			2	1				
12-	-4	H	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
18-	- 6	1			4	1				
22-		1 # 1		-25	- 5	1				
28-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	HHH	clayey slit dark tan to light brown, a little fine grained sand, a		7	1				ground water sample submitted for:
36-		#	few very coarse sand grains and quartz pebbles; dry but becomes saturated at 37.0'	-39	8	1			***	BTEX+M screening
40-	- 12		End of Borehole							

Drill Method: auger rig Drill Date: 7/25/12

Casing Diameter: 1.0" Total Depth of Well: 39.0



Depth to Water: 37.0' (enc.)

Log of Borehole: TMW-40D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	30 00	S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
off	m _O		Ground Surface	0						
2-	ľ	4 #	asphalt /		1	1				
6- 8-	-2	1			2	1				
12-	-4	1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				
16- 18- 20-	-6	144			4	1				
22-				-25	5	1				
26- 28- 30-	-8	HH	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	- 10	H H	clayey silt dark tan to light brown, a little fine grained sand, a		7					ground water sample submitted for:
36-	ند د	#	few very coarse sand grains and quartz pebbles; dry but becomes saturated at 37.0'	-39	8	1				BTEX+M screening
40-	- 12		End of Borehole			2			且	

Drill Method: auger rig Drill Date: 7/23/12

Casing Diameter: 1.0"

Total Depth of Well: 39.5'



Depth to Water: 38.0' (enc.)

Log of Borehole: TMW-43D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
of	t m O		Ground Surface	0						
2-	1	HH	topsoll /		1					
6- 8-	Ţ [*]	H			2					
12-	4		Clayey Silt dk reddish tan; small percent very fine grained		3		2			
16- 18-	4	HH	sand (mica); wet at 24.0'		4	1				,
22-					5					
26 -		#	silty clay	-27	6	1				
30 - 32 - 34-	4		tan, a little fine and coarse grained sand; damp clayey slit	-32	7	(
36-		###	dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles; dry but becomes saturated at 37.5'	-39	8	1				ground water sample submitted for: BTEX+M screening
40-	- 12		End of Borehole						5 7 0	scieding

Drill Method: auger rig

Drill Date: 8/6/12

Casing Diameter: 1.0"
Total Depth of Well: 39.0'

ARAM ENVIRONMENTAL SERVICES, INC.

Depth to Water: 37.5' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-44D

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
off	m _O		Ground Surface	0						W V
2-	ľ	 	topsoli /		1	1				
6- 8-	- 2	1			2	(
10- 12- 14-	-4	 	Clayey Silt dk reddish tan; small percent very fine grained		3	1				
16-	-6		sand (mica); wet at 22.0'		4	1				
22-	Ů	+	*		5	1	10 July 10 Jul			
26-	-8		silty clay	-27	6	1				
30- 32-		#	tan, a little fine and coarse grained sand; damp	-32	7	1				
34-	- 10	#	clayey silt dark tan to light brown, a little fine grained sand, a		,					ground water
36 - 38-			few very coarse sand grains and quartz pebbles; dry but becomes saturated at 37.5'	-39	8	1		,		sample submitted for: BTEX+M
40-	12		End of Borehole							screening

Drill Method: auger rig

Casing Diameter: 1.0"

Drill Date: 8/6/12

Total Depth of Well: 39.0'



Depth to Water: 37.5' (enc.)

Log of Borehole: TMW-45D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

E		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
off	m		Ground Surface	0						
2-		###	topsoil /		1	1				
8-	-2				2	1				
12-	-4	HH	Clayey Silt dk reddish tan; small percent very fine grained		3	1				
16- 18- 20-	-6		sand (mica); wet at 22.0'		4	1				
22-			×		5	\$				
26- 28- 30-	-8		silty clay tan, a little fine and coarse	-27	6	5				
32-	- 10		grained sand; damp clayey slit dark tan to light brown, a	-32	7	1				ground water
36-		#	little fine grained sand, a few very coarse sand grains and quartz pebbles; dry but becomes saturated at 37.5'	-39	8	1				sample submitted for: BTEX+M screening
40-	12		End of Borehole					1 1	2.170	Soleding

Drill Method: auger rig

Drill Date: 8/7/12

Casing Diameter: 1.0"

Total Depth of Well: 39.0'

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 37.5' (enc.)

Log of Borehole: TMW-46D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE	- 1		SAMPL	Ē			
	neptu	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
off	mo		Ground Surface	0					Tuya I	
2-		##	topsoll /		1	1				-
8-	-2	##			2	1				
12-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 22.0'		3	1	8			
16- 18- 20-	-6	H	Sanu (mica), wet at 22.0		4		*			
22-		##			5	1				
26- 28- 30-	-8	 	silty clay tan, a little fine and coarse grained sand; damp	-26	6	1				
32-	- 10	#	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains	-31 -35	7	1				ground water sample submitted for: BTEX+M screening
36- 38- 40-	- 12		and quartz pebbles; dry but becomes saturated at 33.5' End of Borehole						सी प्री	actioning

Drill Method: auger rig Drill Date: 8/7/12 Casing Diameter: 1.0"

Total Depth of Well: 35.0'

ENVIRONMENTAL SERVICES, INC.

Depth to Water: 33.5' (enc.)

Log of Borehole: TMW-48D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

一		S	UBSURFACE PROFILE			SAMPL	.E			
	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
Oft.	m _O		Ground Surface	0						
2-		H H	topsoil		1	1				
6- 8- 10-	-2	###	Clayey Silt		2	1				
12-	-4	###	dk reddish tan; small percent very fine grained sand (mica); wet at 18.5'		3	1				
18-	-6	##		-20	4	1				
22-		HH H	silty clay		5	1				
26- 28- 30-	-8	H H	tan, a little fine and coarse grained sand; damp	-30	6					ground water
32-	- 10	###	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles; damp	-34	7	1				sample submitted for: BTEX+M screening
36- 38-	_12		but becomes saturated at 32.0'							groupe and glob field.
40-	- 12							. 1 1		

Drill Method: auger rig Drill Date: 7/25/12

Casing Diameter: 1.0"

Total Depth of Well: 34.0'



Depth to Water: 32.0' (enc.)

Log of Borehole: TMW-49D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE			SAMPI	F	T		
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft r	m .		Ground Surface	0						
2-		##	topsoil /		1	1				
6 - 8 -	-2	#	Clayey Silt		2	1				
12-	-4	 	dk reddish tan; small percent very fine grained sand (mica); wet at 19.0'		3	1				1
16- 18-	-6	 		-20	4	1	5.00			
22-		##	siity clay		5	1				
26-	8	HH.	tan, a little fine and coarse grained sand; damp	-30	6	1				ground water
32-	10	#	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles; damp	-34	7	1				sample submitted for: BTEX+M screening
36- 38- 40-	12		but becomes saturated at 32.0' End of Borehole							

Drill Method: auger rig Drill Date: 7/26/12 Casing Diameter: 1.0"

Total Depth of Well: 34.0'



Depth to Water: 32.0' (enc.)

Log of Borehole: TMW-50D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

			S	UBSURFACE PROFILE			SAMPL	.E	Valatila Omania		T
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
Г	o ^{ft}	m _O		Ground Surface	0						
1	2-		##	topsoli /		1	1				
	8-	-2	H H			2	1				
1:	2-	-4	1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 18.0'		3	1		:		
11 20	3	-6	##			4					
2:	2		14		-25	5					
20	;	-8	H H	silty clay tan, a little fine and coarse grained sand; damp	-30	6					
32	<u>;</u>	- 10	#	clayey silt dark tan to light brown, a little fine grained sand, a		7					
38	<u>;</u>	- 12	#	few very coarse sand grains and quartz pebbles; damp but becomes saturated at 37.5'	-40	8					ground water sample submitted for: BTEX+M
40	Ί.									t-d	screening

Drill Method: auger rig
Drill Date: 9/13/12
Casing Diameter: 1.0"
Total Depth of Well: 40.0'



Depth to Water: 37.5' (enc.)

Log of Borehole: TMW-51D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
o-ft	m _o		Ground Surface	0						
2-	ľ	##	topsoil/		1	1				
8-	-2	 			2	1				
12-	-4		Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 18.0'		3	1				
16- 18- 20-	-6	 			4					
22-		#		-25	5	1				
26- 28- 30-	- 8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	– 10	##	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1				ground water
36- 38-	46	#	and quartz pebbles; damp but becomes saturated at 37.0'	-39	. 8	1				sample submitted for: BTEX+M screening
40-	- 12		End of Borehole .					i		

Drill Method: auger rig Drill Date: 9/13/12

Casing Diameter: 1.0"
Total Depth of Well: 39.0'



Depth to Water: 37.0' (enc.)

Log of Borehole: TMW-52D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

[_	100	S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
		Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
1	o ft	mo		Ground Surface	0					0.0	
	2-		##	topsoil /		1	1				
	6- 8- 10-	-2	H H			2	1		,		
-1	12-	-4	 	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at 16.0'		3	1	ě			
	16- 18- 20-	- 6	# 1	Mo W		4	1				
	22-				-25	5	1				
	26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand; damp	-30	6	1				
ļ	32-	– 10	###	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1				ground water sample
- 1	36-		#	and quartz pebbles; damp but becomes saturated at 36.0'	-38	8	1				sample submitted for: BTEX+M screening
1	40-	- 12		End of Borehole							

Drill Method: auger rig Drill Date: 9/13/12 Casing Diameter: 1.0"

Total Depth of Well: 38.0'



Depth to Water: 36.0' (enc.)

Log of Borehole: TMW-53D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

\equiv		S	UBSURFACE PROFILE			SAMPL	E			
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^{ft} r	m		Ground Surface	0					1000	
2-		##	asphalt /		1	1				
6 - 8 - 10 -	-2	##	Clayey Silt		2	1				
12-	-4	##	dk reddish tan; small percent very fine grained sand (mica); wet at 15.0'		3					
16- 18- 20-	.6	##		-20	4					
22-		##	siity clay		5					;
28-	8	#	tan, a little fine and coarse grained sand; damp	-30	6	1				
32-	10	##	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1				ground water
36-	13	#	and quartz pebbles; damp but becomes saturated at 36.0'	-38	8	1				sample submitted for: BTEX+M screening
40-	12		10 20 4 17 6 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						0.0	

Drill Method: auger rig Drill Date: 9/14/12 Casing Diameter: 1.0" Total Depth of Well: 38.0



Depth to Water: 36.0' (enc.) Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: TMW-54D

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
Г	ft m		Ground Surface	0						
2	+	THE REPORT OF THE PERSON OF TH	asphalt /		1	1		1		
8	4	H	Clayey Silt dk reddish tan; small		2	1				
12	<u>.</u>	H	percent very fine grained sand (mica); wet at 17.5'		3	1				
18	<u>,</u>			-20	4	1				
22	=	##	siity clay		5	1				
28	֓֞֞֟֞֟֟֝֟֝֟֟֝֟֝֟֝֓֓֓֓֓֟֟֝֓֓֓֓֟֡֓֓֓֓֓֓֓֓֡֟֓֓֡֓֡֡֡֓֡֓֡֟֝	H H	tan, a little fine and coarse grained sand; damp	-30	6			7000 00 10 10 10		
32	<u>.</u>	H	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains		7	1		100		ground water sample
38	4	#	and quartz pebbles; damp but becomes saturated at 36.0'	-38	8	1		6 6 0 1		submitted for: BTEX+M screening
40	<u>+</u> 1	2	End of Borehole							

Drill Method: auger rig Drill Date: 9/14/12

Casing Diameter: 1.0"

Total Depth of Well: 38.0'

Depth to Water: 36.0' (enc.)

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: TMW-55D

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
of	mo		Ground Surface	0						
2-	ľ	######################################	topsoil /		1	1				
8-	-2	1	Clayey Silt		2	1				
12-	-4	144	dk reddish tan; small percent very fine grained sand (mica); wet at 18.5'		3	1				
16- 18-	-6			-20	4	1				
22-		HH	silty clay		5	1				
26- 28- 30-	-8	HH	tan, a little fine and coarse grained sand; damp	-30	6	1		3		
32-	-10	##	clayey silt dark tan to light brown, a little fine grained sand, a few very coarse sand grains and quartz pebbles; damp		7	1			Till lill	ground water sample
36- - 38-		#	but becomes saturated at 36.0'	-38	8	5				submitted for: BTEX+M screening
40-	- 12	2	End of Borehole							

Drill Method: auger rig Drill Date: 9/14/12

Casing Diameter: 1.0"

Total Depth of Well: 38.0'



Depth to Water: 36.0' (enc.)

Log of Borehole: FP-1

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

_	S	UBSURFACE PROFILE	_		SAMPL	E			
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2	H	asphalt /		1	(
4-					7	\$			
8-		Clayey Silt		2					
10-		dk reddish tan; small percent very fine grained sand (mica)		3	1				*
16-	#				1				
18- 206			-20	4					
22-		End of Borehole							
26-8	3	*							
28 - 30-									
32- -1	10								
36-									
38- 401	2	3.2					1000		2.

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 15.88' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-2

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

=	- 0	UBSURFACE PROFILE			SAMPL	Ē	100000 AT 100		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2-	HH	asphalt		1	1				
8-	HH	Clayey Silt dk reddish tan; small		2	1		1		
12-4	HH	dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 206	###		-20	4	1				
22-		End of Borehole	2						
268 28-									
32- 10 34- 36-	0								
38- 40	2								

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 14.30' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-3

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volotile Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
off	m O		Ground Surface	0						
2-	ľ	# 	asphalt		1	1				
8-	₽²	1	Clayey Silt		2	1				
12-	-4	###	dk reddish tan; small percent very fine grained sand (mica)		3	\$				
16- 18- 20-	١.			-20	4	1				
22-			End of Borehole							
26 - 28-	ľ							•		
30- 32- 34-	1									
36- 38-	- 12									
40-	12				• :					

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 14.32' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-4

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	F	70 VI		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	m _O		Ground Surface	0						
2-		##	asphalt /		1	1				
6- 8-	-2	#	Clayey Silt		2	1				
12-	-4	###	dk reddish tan; small percent very fine grained sand (mica)		3	1				
18-	-6	###		-20	4	1				
22-			End of Borehole							
26- 28- 30-	-8									
32-	- 10									÷
36- 38- 40-	- 12									

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 14.32' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-5

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	-2 -	S	UBSURFACE PROFILE			SAMPL	.E	Valatila Ossania		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks -
o.f	m O		Ground Surface	0	953 7					
2-		##	asphalt /		1	1				
6- 8- 10-	-2	H	Clayey Slit		2	1		1		
12-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 20-	- 6			-20	4	1				
22-			End of Borehole							
26- 28- 30-	Ĭ									
32-										
36- 38- 40-	- 12							(4)		

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 15.08' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-6

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPL	.E	Voletile Ossesie		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2-	HH.	asphalt /		1	1	•			
62 8-	#	Clayey Silt		2	1				
12-	144	dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 20-6	HH		-20	4	1				
22- 24- 268		End of Borehole		8					
28- 30- 32- 									¥
34- 36- 38- 40-									

Drill Method: auger rig Drill Date: 9/25/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 15.30' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-7

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

=	-	S	UBSURFACE PROFILE			SAMPL	F	Nassanaa oo di'		
400	uden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	m _O		Ground Surface	0				A SE		
2-		HH H	asphait .		1	1				
8-	-2		Clayey Silt		2	1				
12-	-4	H	dk reddish tan; small percent very fine grained sand (mica)		3					
16- 18- 20-	- 6			-20	4	1				
22-			End of Borehole							
26- 28- 30-	-8									
32-	- 10									
36 - 38- 40-	- 12									

Drill Method: auger rig Drill Date: 9/26/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0

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Depth to Water: 15.58' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-8

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

			SI	UBSURFACE PROFILE			SAMPL	Ē	Volatile Organia		
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
	ft m	, _		Ground Surface	0						
2	+	11111	HH	asphalt /		1	1				
8	<u></u>		HH	Clayey Silt		2	1				
12	+		HH	dk reddish tan; small percent very fine grained sand (mica)		3	5				
16 18 20	╡.	11111	HH	,	-20	4	1				
22	1			End of Borehole							
26 28 30	1			ĕ							
32	┇	0				6.					
36 38 40	₹,	2								*	

Drill Method: auger rig Drill Date: 9/26/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 16.38' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-9

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	m .	S	UBSURFACE PROFILE	,		SAMPL	E	Valetia Ossasia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o f	m O		Ground Surface	0						
2-		A A	asphalt		1	1				
6- 8- 10-	-2	###	Clayey Silt		2	1				
12-	-4	##	dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 20-	- 6			-20	4	1	e Opin	4		
22-			End of Borehole							
26- 28- 30-	-8		p.							
32- 34- 36-	- 10	t			n.					
38 - 40-	- 12		gen.							

Drill Method: auger rig Drill Date: 9/26/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 15.98' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-10

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Voletile Organia		
4	nebru	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft	m _O		Ground Surface	0						
2-		#	asphalt/		1	1		i		
6- 8- 10-	-2	H H	Clayey Silt		2	1				
12-	-4	# #	dk reddish tan; small percent very fine grained sand (mica)		3	5				
16- 18- 20-	- 6			-20	4	1				
22-	8		End of Borehole							
26 - 28 -	-8		¥							
30- 32-	– 10									
34- 36- 38-			•					H. H		
40-	- 12		ě							

Drill Method: auger rig
Drill Date: 9/26/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 16.35' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-11

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

=		9	UBSURFACE PROFILE			SAMPL	E			
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	m		Ground Surface	0						
2-	ľ	##	asphalt		1	1	5			
6- 8- 10-	-2	# #	Clayey Silt		2	1				
12-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 20-	- 6	#		-20	4	1		1		
22-			End of Borehole							
26- 28- 30-	-8									
32-	- 10									
36- 38- 40-	– 12									

Drill Method: auger rig Drill Date: 9/26/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 16.30' Latitude: N34d03.910' Longitude: W81d07.012' Project No: 06-414.1-12 UST Permit # 11946

Log of Borehole: FP-12

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	SUBSURFACE PROFILE					SAMPL	E	Valetile Ossasia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	m		Ground Surface	0						
2-	ľ	#	asphalt /		1	1				
6- 8-	- 2	##	Clayey Silt		2	1				
12-	-4	H H	dk reddish tan; small percent very fine grained sand (mica)		3	1				A
16- 18- 20-	-6			-20	4	1			The state of the s	
22- 24-			End of Borehole			(sa				
26- 28- 30-	-8									
32 - 34-	– 10									
36- 38- 40-	L12									

Drill Method: auger rig
Drill Date: 9/27/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 14.43' Latitude: N34d03.910' Longitude: W81d07.012' Project No: 06-414.1-12 UST Permit # 11946

Log of Borehole: FP-13

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE	10		SAMPL	E ·	V-1-11-0		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
oft m		Ground Surface	0						
2-	# #	asphalt /		1	1				
6- 8- 10-	###	<i>Clayey Silt</i> dk reddish tan; small		2	1				
12-	H	dk reddish tan; small percent very fine grained sand (mica)		3	1				
16- 18- 20-6			-20	4	1				
22- 24- 26-8		End of Borehole							
30-							•		
34- 36- 38- 40-12									

Drill Method: auger rig Drill Date: 9/27/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 15.98' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-14

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	Ē			
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
o.f	m		Ground Surface	0						
2-		##	asphalt /		1					
6- 8-	-2	# #	Clayey Silt		2	1				
12-	-4	###	dk reddish tan; small percent very fine grained sand (mica)		3					
16- 18- 20-	- 6			-20	4	1				
22-			End of Borehole							Del
26- 28-	-8						1			
30- 32- 34-	- 10									
36-										
40-	- 12									277

Drill Method: auger rig Drill Date: 9/27/12 Casing Diameter: 1.0"

Total Depth of Well: 20.0



Depth to Water: 17.07' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: FP-15

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE	12/12/		SAMPL	E	Valetile Organia		T
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
7	t m O		Ground Surface	0						
2-	ľ	# 	asphalt		1	1				
6- 8-	-2		Clayey Silt		2	1				
12-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	1	27103APAC-4			
16- 18-	-6			-20	4	1				
22-			End of Borehole						,	
26- 28- 30-	ľ									
32- 34-	-10									
36- 38- 40-	_,,									

Drill Method: auger rig Drill Date: 9/27/12 Casing Diameter: 1.0" Total Depth of Well: 20.0



Depth to Water: 15.17'
Latitude: N34d03.910'
Longitude: W81d07.012'

Log of Borehole: FP-16

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	-			
	Depth	Symbol	Description	Elev.	Number	Type	Recovery	Volatile Organic Concentration ppm 500 1000 1500	Well Data	Remarks
of	t m		Ground Surface	0		· ·				
1 %	T°		asphalt			4			11	
4-					1	}				
8-	-2	#	Clayey Silt		2	1				
12-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	(j		
16- 18-		##			4	1				
20-	-6	20		-20						
22-			End of Borehole							
24-			×							
26-	-8									
28-										
30-										
32-	- 10									
34 - -		S4								
36 - 38 -										
40-	- 12							1		

Drill Method: auger rig
Drill Date: 9/27/12
Casing Diameter: 1.0"
Total Depth of Well: 20.0



Depth to Water: 15.26' Latitude: N34d03.910' Longitude: W81d07.012'

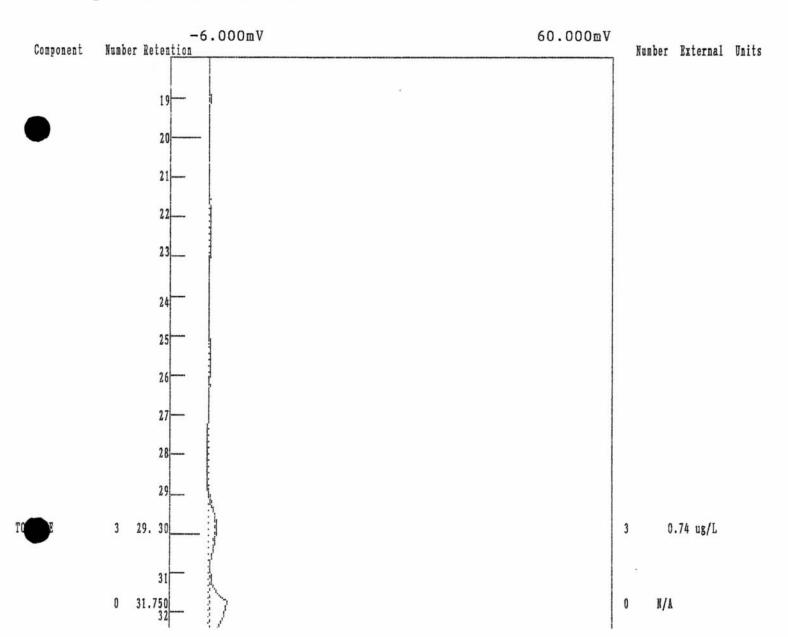
Client: Broad River BP Collected: 05/19/12 Analysis date: 11/15/2010 17:16:17 Method: E P A 8020 Lab ID: FL-312

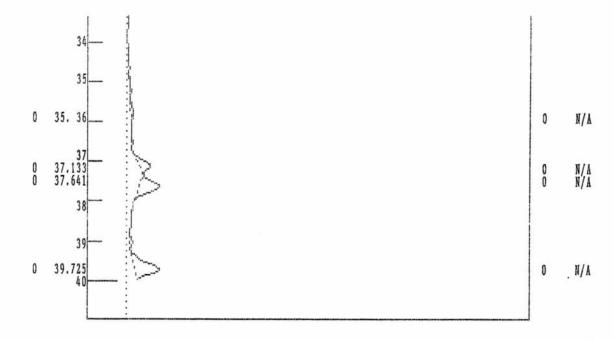
Description : PID DETECTOR

Column: J&W 624 75 METER

: 602.CPT Components Data file: 602.CHR ()

Sample: Z1-TW-1 Operator: TERRY L. TEATE





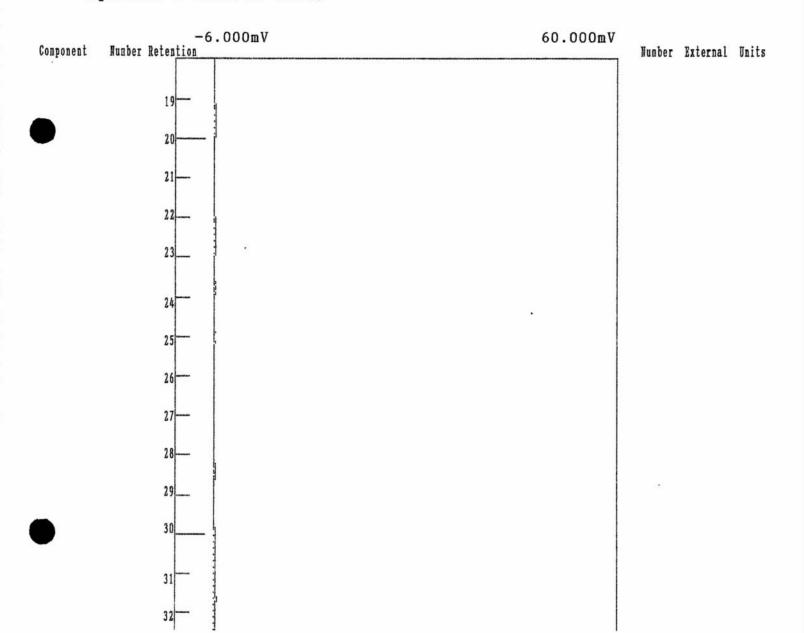
Component		Number	Retention	Area	Externa1	Units
TOLUENE		3	29.841	7.75	0.74	ug/L
	1			7.75	0.74	

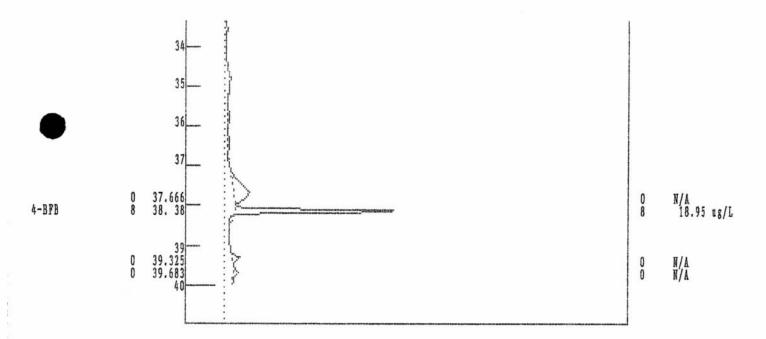
Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/15/2010 18:06:47
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR

Column: J&W 624 75 METER Components: 602.CPT

Data file: 602.CHR ()

Sample : Z1-TW-2 Operator : TERRY L. TEATE

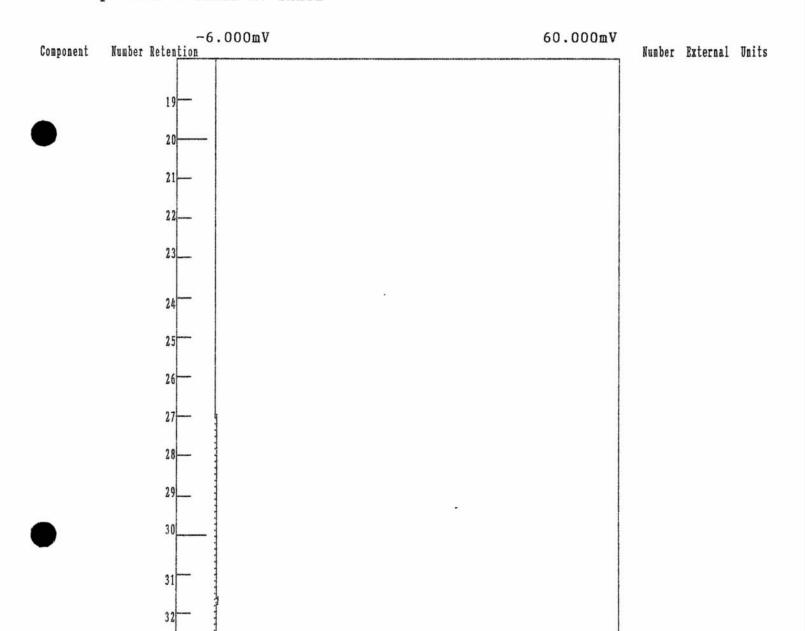


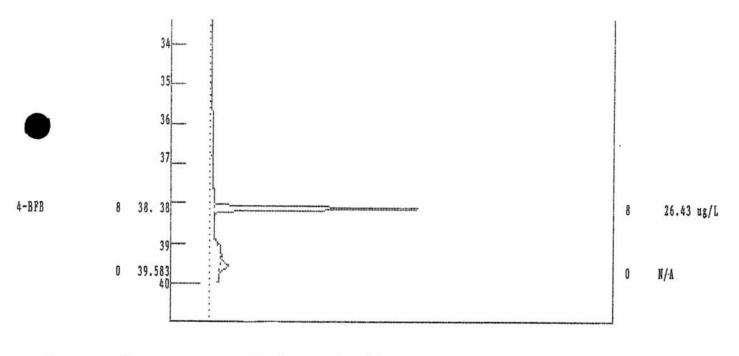


Component	Nu	mber	Retention	Area	External	Units
4-BFB		8	38.133	132.94	18.95	ug/L
	1			132.94	18.95	

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/15/2010 18:51:39
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
Sample: Z1-TW-3

Operator: TERRY L. TEATE



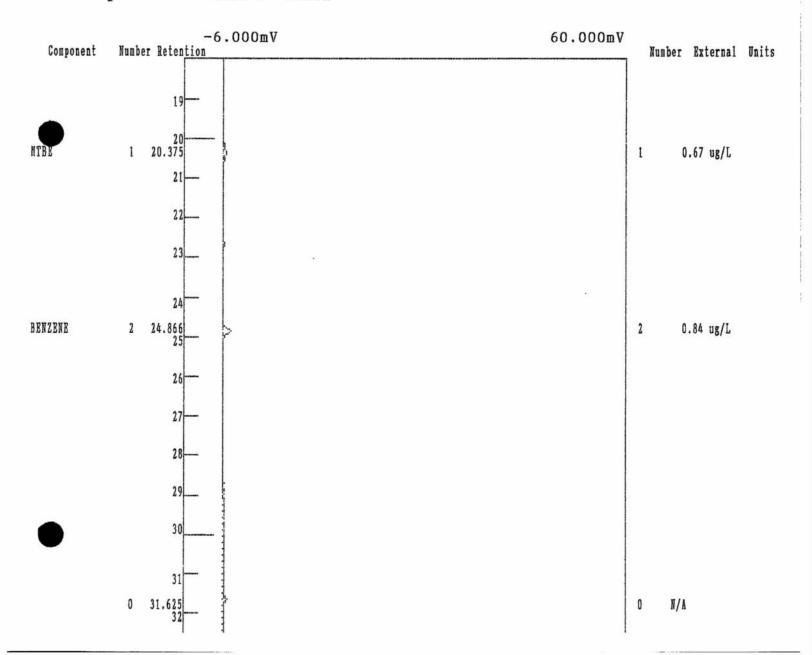


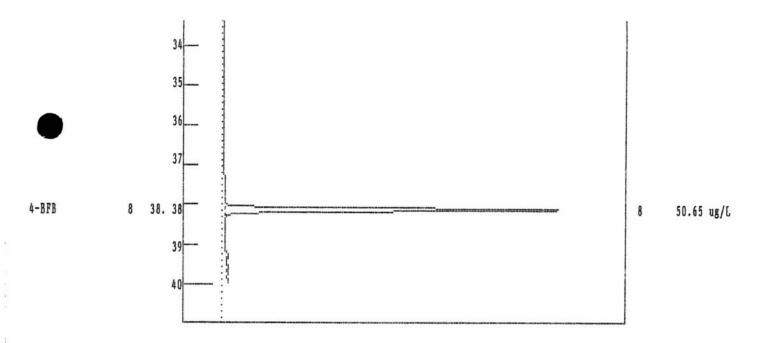
Component	Number	Retention	Area	External	Units
4-BFB	8	38.116	170.68	26.43	ug/L
1			170.68	26.43	

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/15/2010 19:35:01
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602 CPT

Components: 602.CPT Data file: 602.CHR ()

Sample : Z1-TW-4 Operator : TERRY L. TEATE



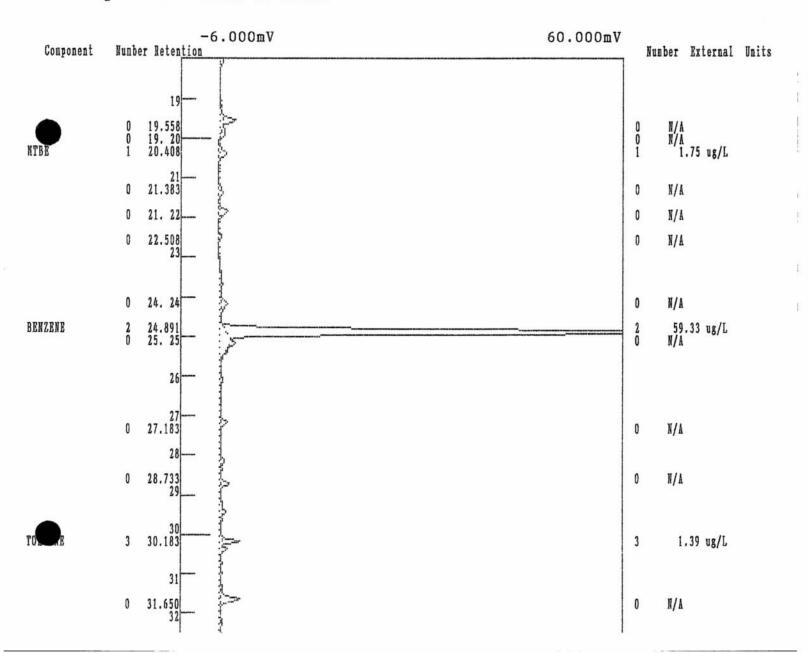


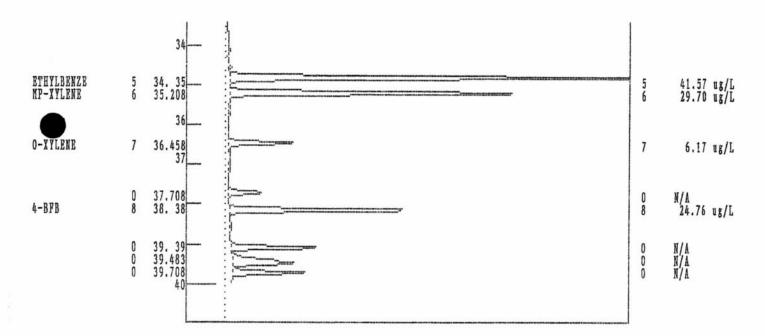
Component	Number	Retention	Area	Externa1	Units
MTBE BENZENE 4-BFB	1 2 8		5.35 8.99 279.32		ug/L ug/L ug/L
	3		293.66	52.17	

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/15/2010 23:26:15
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 627 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: Z1-TW-5

Operator: TERRY L. TEATE





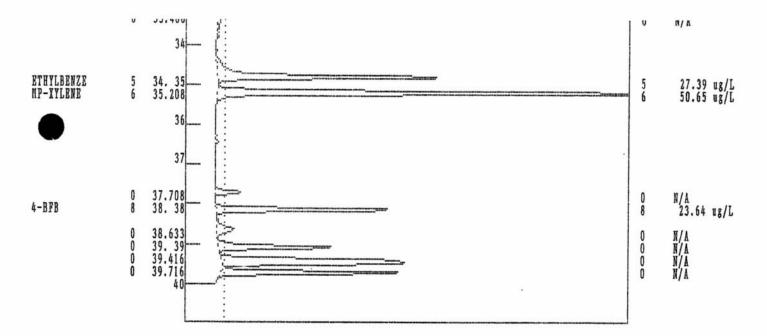
Component	Number	Retention	Area	Externa1	Units
MTBE BENZENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	1 2 3 5 6 7 8	20.408 24.891 30.183 34.825 35.208 36.458 38.141	13.84 704.05 14.54 393.39 256.38 55.15 163.20	1.75 59.33 1.39 41.57 29.70 6.17 24.76	ug/L ug/L ug/L ug/L

1600.55

164.66

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/16/2010 00:56:53
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
 Sample: Z1-TW-6
Operator: TERRY L. TEATE

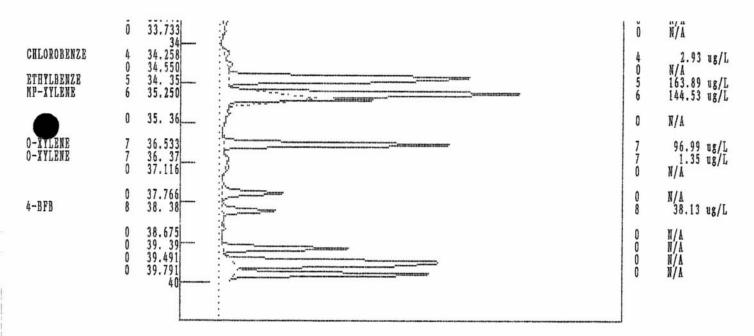
Component	-6.000mV Number Retention	60.000mV Number External Units
	19	•
MTBE	1 20.408	1 2.50 ug/L
	21 - {	
	0 22.650	0 N/A
	0 22.650	о куд
	24	
BENZENE	0 24.316 2 24.883 0 25. 25	0 N/A 2 3.65 ug/L 0 N/A
	0 26. 26 -	0 N/A
	1 1	0 N/A
	0 26.700 27 0 27.175	O N/A
	28 — : 0 28.383 0 28.716 : 29	0 N/A 0 N/A
	201729 3	V N/A
	30	
	31 - {	
	0 31.658	0 П/А



Component	Number	Retention	Area	External	Units
MTBE BENZENE ETHYLBENZE MP-XYLENE 4-BFB	1 2 5 6 8	20.408 24.883 34.816 35.208 38.133	19.84 39.01 241.25 440.60 158.16		ug/L
	5		898.86	107.83	

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/16/2010 01:42:29
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
 Sample: Z-1-TW-7
Operator: TERRY L. TEATE

Component	-24.000mV Number Reten <u>tion</u>	240.000mV	Number External Units
NTBE NTBE	0 18.325 0 19.19 0 19.641 0 19.20 1 20.325 1 20.608		0 N/A 0 N/A 0 N/A 0 N/A 1 219.25 ug/L 1 103.11 ug/L
	0 21.441 0 21.550 0 21.22 0 22.166 0 22.666 23 0 23.750 0 24.24		O N/A O N/A O N/A O N/A O N/A O N/A
BENZENE BENZENE	2 24.900 2 25. 25 0 25.441 0 25.775 0 26. 26 0 26.475 0 26.741 27 0 27.233	Closessumenamentum	2 68.48 ug/L 2 11.86 ug/L 0 N/A 0 N/A 0 N/A 0 N/A 0 N/A
TOLUENE	0 28.200 0 28.450 0 28.29 3 29.691 3 30.233 0 30.791 0 31.31 0 31.500 0 32.391		0 N/A 0 N/A 0 N/A 3 4.59 ug/L 3 156.03 ug/L 0 N/A 0 N/A
	0 32.391	1	O N/A



Component	Number	Retention	Area	External Units
MTBE	1	20.325	719.13	219.25 ug/L
MTBE	1	20.608	345.65	103.11 ug/L
BENZENE	2	24.900	795.82	68.48 ug/L
BENZENE	2 3 3	25.033	116.09	11.86 ug/L
TOLUENE	3	29.691	47.90	4.59 ug/L
TOLUENE		30.233	1605.35	156.03 ug/L
CHLOROBENZE	4 5	34.258	30.73	2.93 ug/L
ETHYLBENZE	5	34.858	1530.85	163.89 ug/L
MP-XYLENE	6 7	35.250	1102.39	144.53 ug/L
OXYLENE	7	36.533	979.55	96.99 ug/L
CELENE	7	36.916	11.15	1.35 ug/L
4-BFB	8	38.200	223.15	38.13 ug/L

7507.77

1011.13

Client: Broad River BP

Collected: 05/19/12

Analysis date: 11/16/2010 02:25:52

Method: EPA 8020

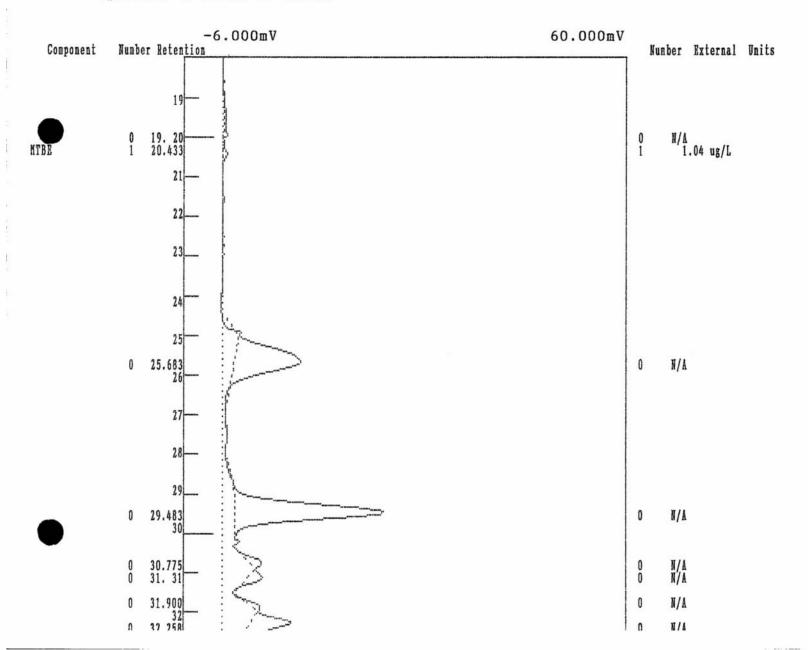
Lab ID: FL-312

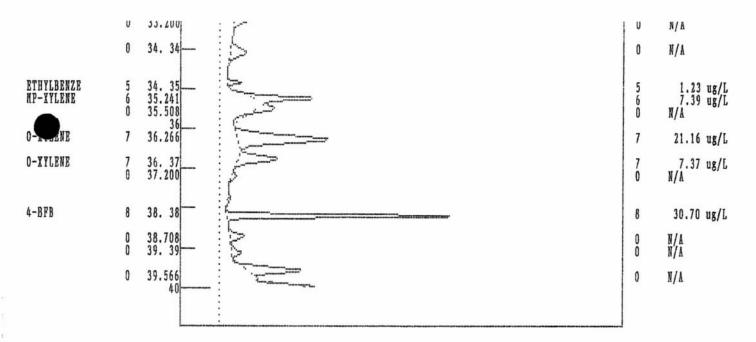
Description : PID DETECTOR

Column J&W 624 75 METER

Components 602.CPT Data file 602.CHR ()

Sample : Z1-TW-8 Operator : TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units
MTBE ETHYLBENZE MP-XYLENE O-XYLENE O-XYLENE 4-BFB	1 5 6 7 7 8	20.433 34.850 35.241 36.266 36.758 38.191	8.24 11.17 66.57 194.12 69.52 189.84		ug/L ug/L

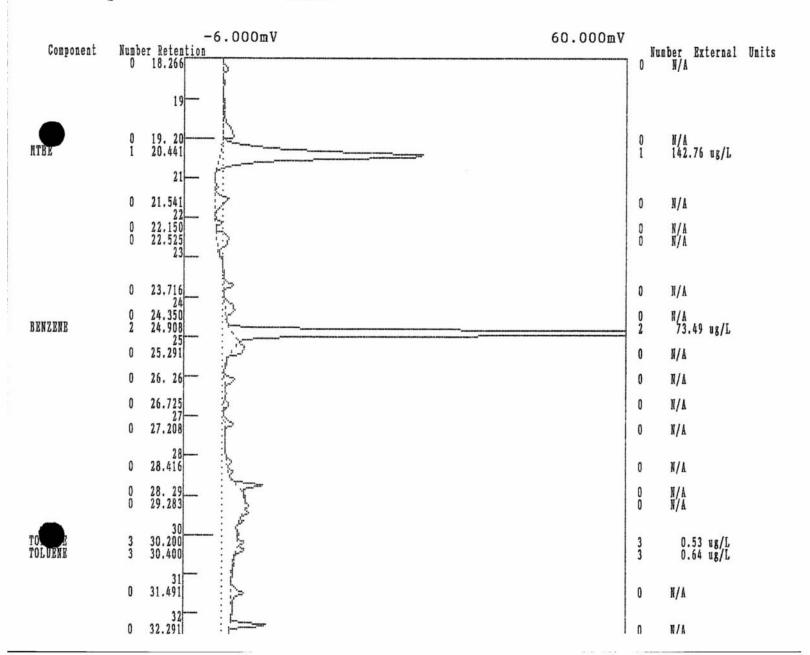
539.46

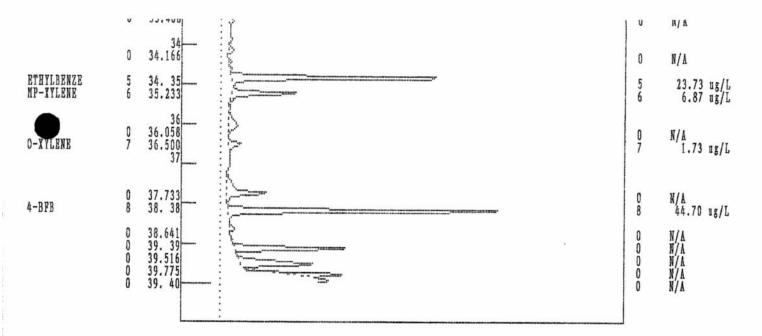
68.89

Client: Broad River BP
Collected: 05/19/12
Analysis date: 11/16/2010 03:10:05
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602 CPT

Components: 602.CPT Data file: 602.CHR () Sample: Z1-TW-9

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	1 2 3 3 5 6 7 8	20.441 24.908 30.200 30.400 34.841 35.233 36.500 38.175	468.25 844.64 5.49 6.64 202.22 61.94 14.26 252.62	142.76 73.49 0.53 0.64 23.73 6.87 1.73 44.70	ug/L ug/L ug/L ug/L ug/L ug/L
			4054.04		

1856.06

294.45

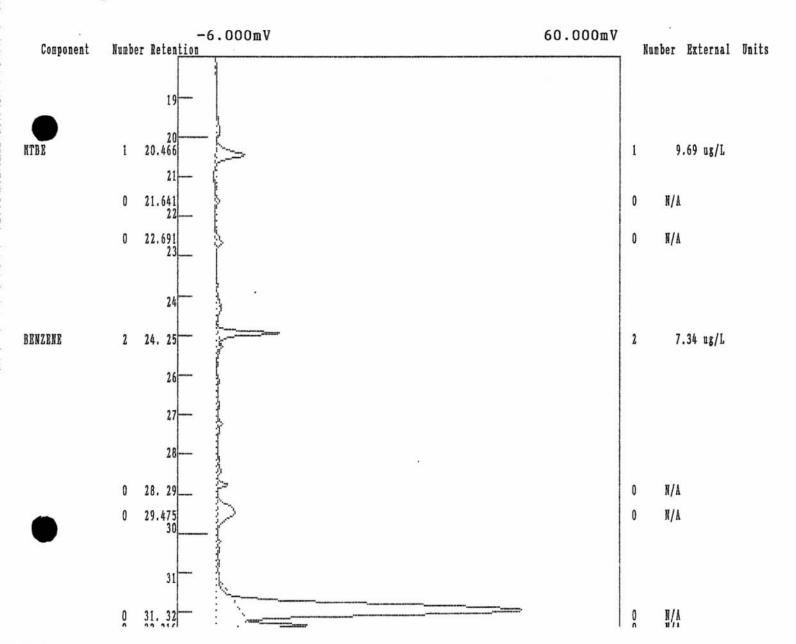
Client: Broad River BP Collected: 05/19/12 Analysis date: 11/16/2010 03:53:05 Method: E.P.A. 8020

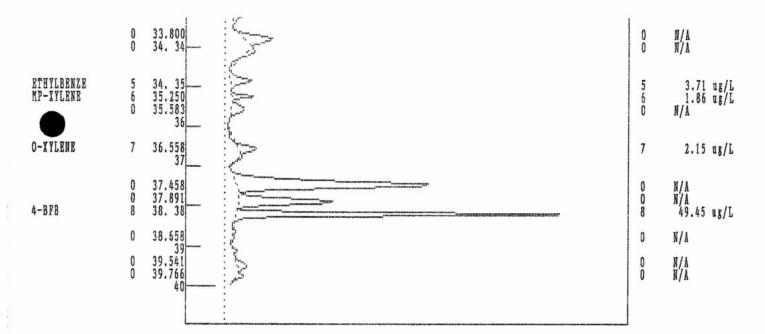
Lab ID: FL-312

Description : PID DETECTOR
Column : J&W 624 75 METER
Components : 602.CPT

602.CHR () Data file:

Sample : Z1-TW-10 Operator : TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	1 2 5 6 7 8	20.466 24.950 34.875 35.250 36.558 38.191	61.05 71.48 33.70 16.79 17.72 273.91	7.34 3.71 1.86	ug/L ug/L ug/L ug/L ug/L ug/L

474.65

74.20

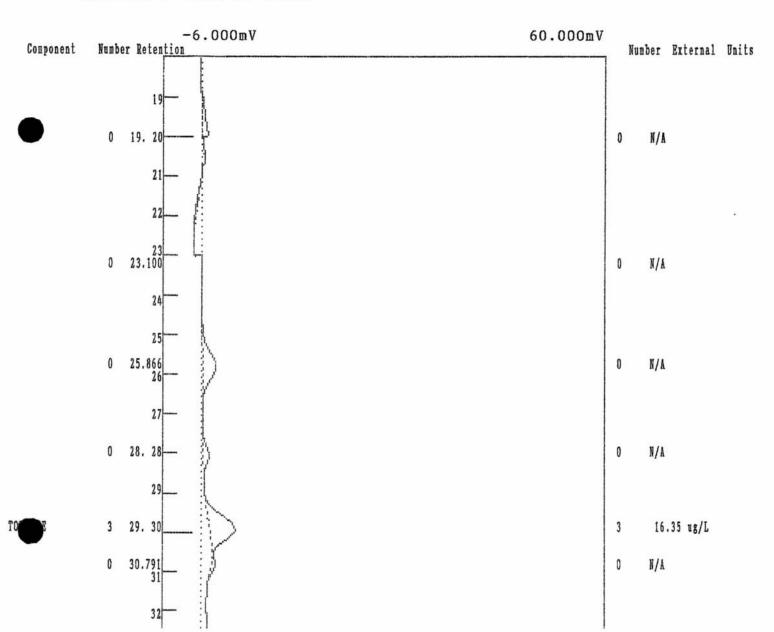
Client: Broad River BP Collected: 05/27/12 Analysis date: 11/17/2010 22:27:03 Method: EPA 8020

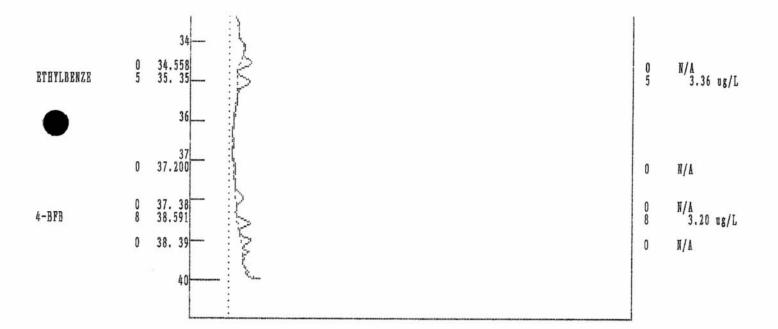
Lab ID: FL-312

Description : PID DETECTOR Column : J&W 624 75 METER

Components 602.CPT : 602.CHR () Data file

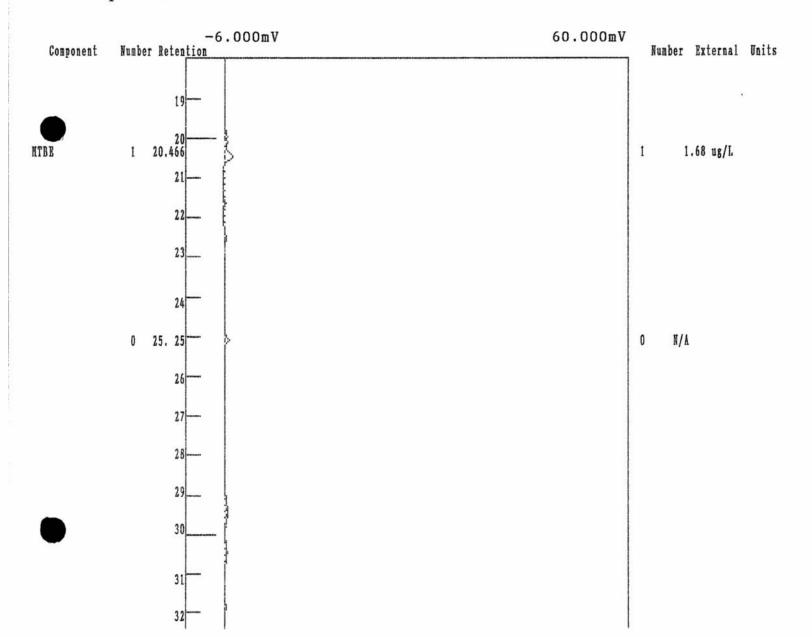
Sample : Z!-TW-11
Operator : TERRY L. TEATE

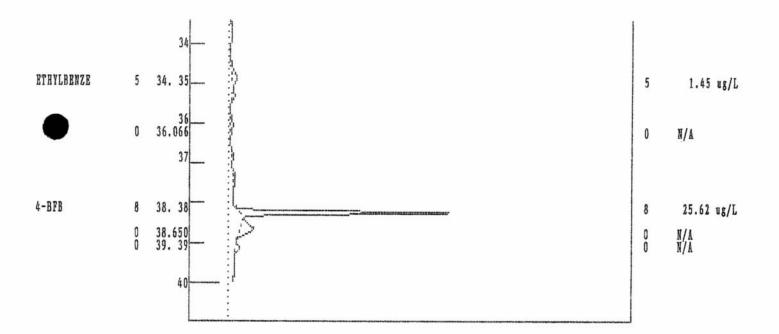




Component	Number	Retention	Area	External	Units
TOLUENE ETHYLBENZE 4-BFB	3 5 8	29.933 35.041 38.591	159.66 30.50 21.73		ug/L ug/L ug/L
	3		211.89	22.91	

Client: Broad River BP
Collected: 05/27/12
Analysis date: 11/17/2010 23:45:19
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR () Data file: 602.CHR ()
Sample: Z!-TW-12
Operator: TERRY L. TEATE





Component		Number	Retention	Area	External	Units
MTBE ETHYLBENZE 4-BFB	4	1 5 8	20.466 34.875 38.233	13.30 13.16 167.04		ug/L ug/L ug/L
	3			193.50	28.74	

Client : Broad River BP Collected : 05/27/12 Analysis date : 11/18/2010 01:10:48 Method : E P A 8020

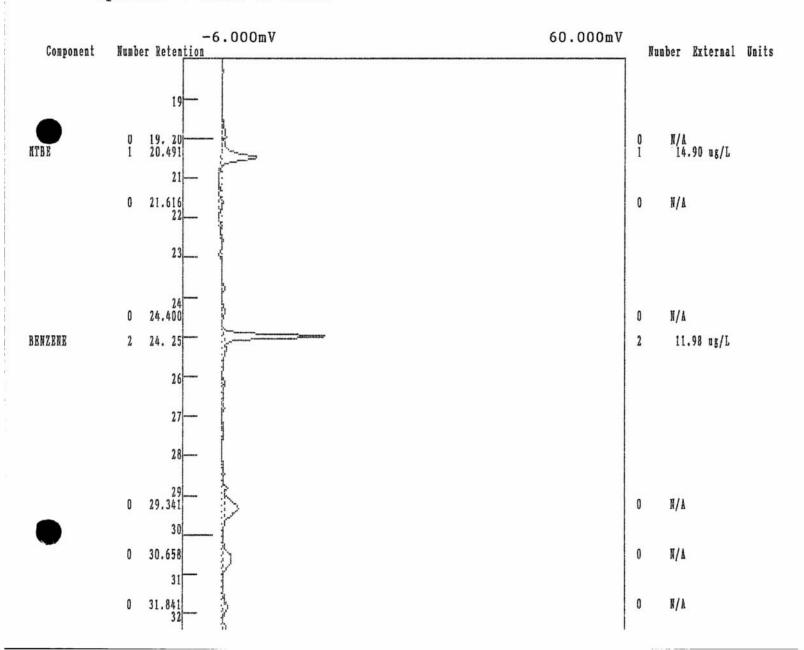
Lab ID : FL-312

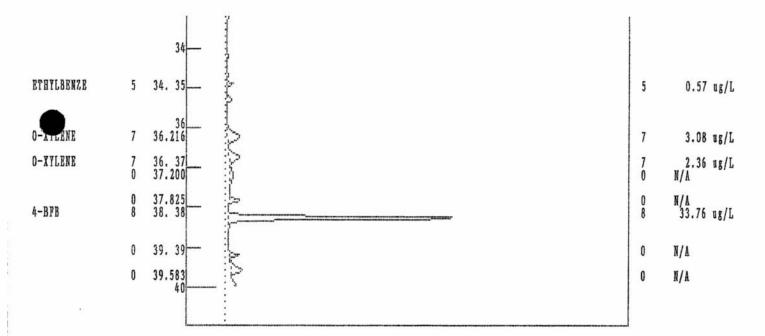
Description : PID DETECTOR

Column: J&W 624 75 METER

Components 602.CPT 602.CHR () Data file :

Sample : Z!-TW-13 Operator : TERRY L. TEATE





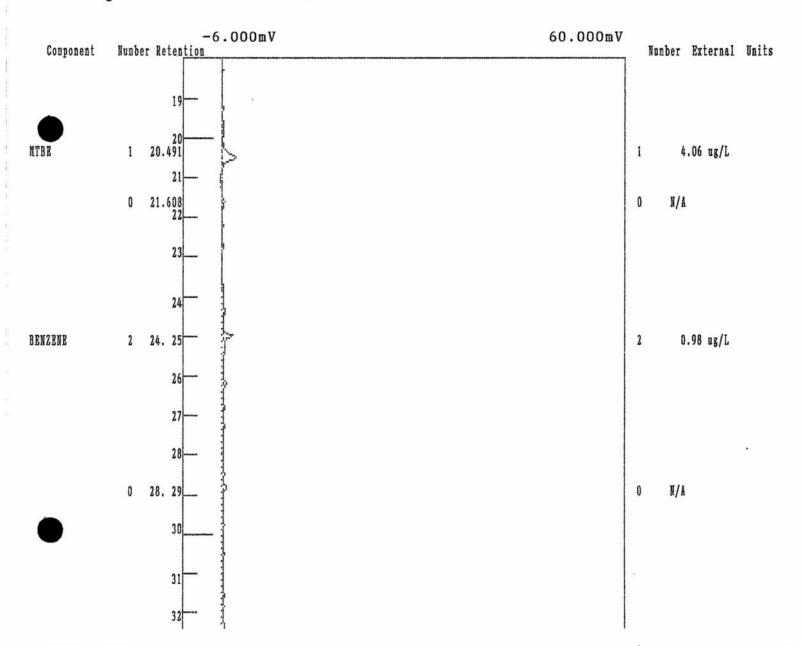
Component	Number	Retention	Area	External Units
MTBE BENZENE ETHYLBENZE O-XYLENE O-XYLENE 4-BFB	1 2 5 7 7 8	20.491 24.983 34.925 36.216 36.741 38.258	77.57 117.63 5.15 25.39 19.47 203.57	14.90 ug/L 11.98 ug/L 0.57 ug/L 3.08 ug/L 2.36 ug/L 33.76 ug/L
	6		448.78	66.66

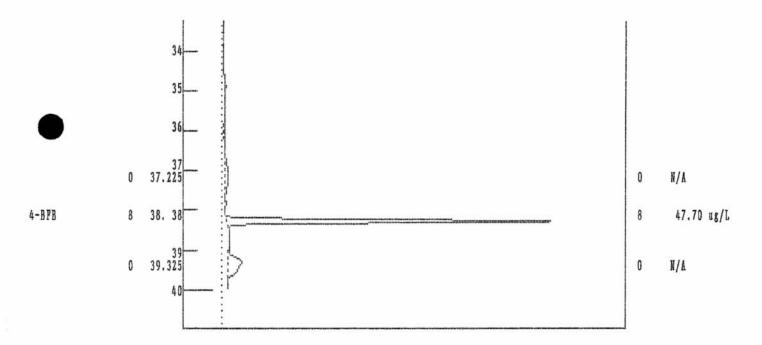
Client: Broad River BP Collected: 05/27/12 Analysis date: 11/18/2010 00:28:02 Method: E P A 8020 Lab ID: FL-312

Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT

602.CHR () Data file :

Sample : Z!-TW-14 Operator : TERRY L. TEATE





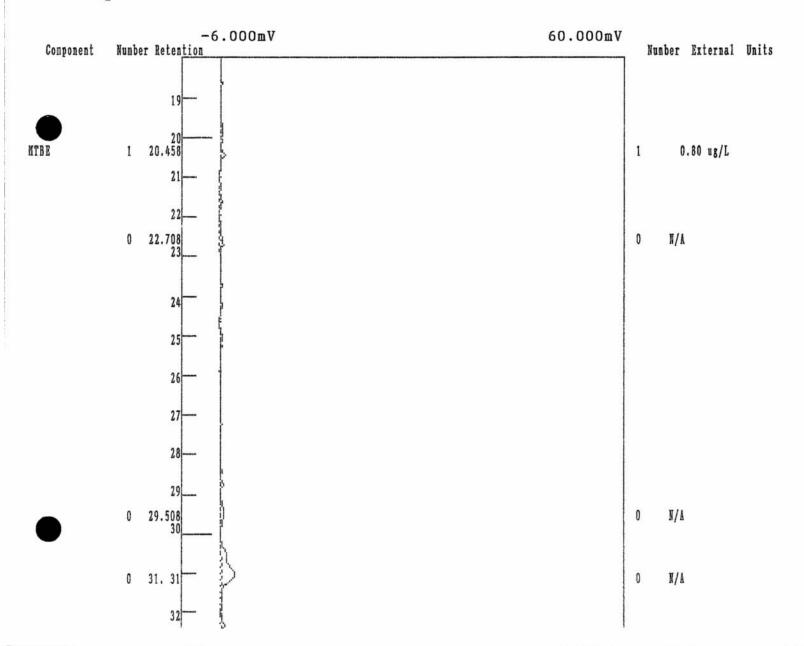
Component	Number	Retention	Area	External	Units
MTBE BENZENE 4-BFB	1 2 8	20.491 24.991 38.266	32.19 10.52 266.08		ug/L ug/L ug/L
3			308.78	52.75	

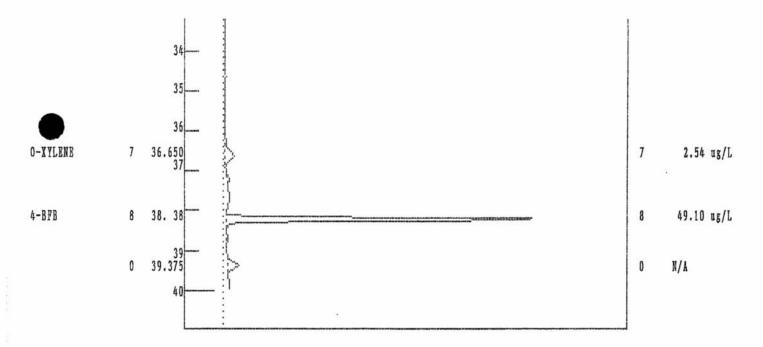
Client: Broad River BP Collected: 05/27/12 Analysis date: 11/18/2010 04:44:05 Method: E P A 8020 Lab ID: FL-312

Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()
Sample: Z!-TW-15
Operator: TERRY L. TEATE



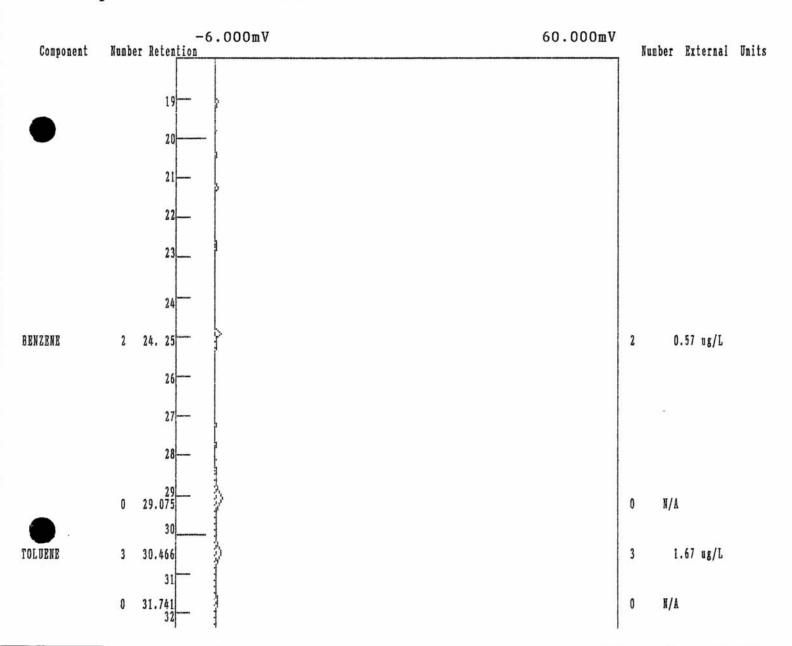


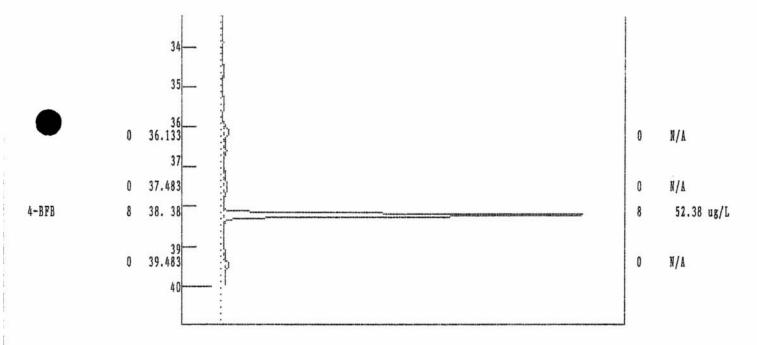
Component	Number	Retention	Area	External	Units
MTBE O-XYLENE 4-BFB	1 7 8	20.458 36.650 38.208	6.37 20.90 272.35		ug/L ug/L ug/L
	3		299.61	52.44	

Client: Broad River BP
Collected: 05/27/12
Analysis date: 11/18/2010 05:27:47
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CPT

602.CHR () Data file:

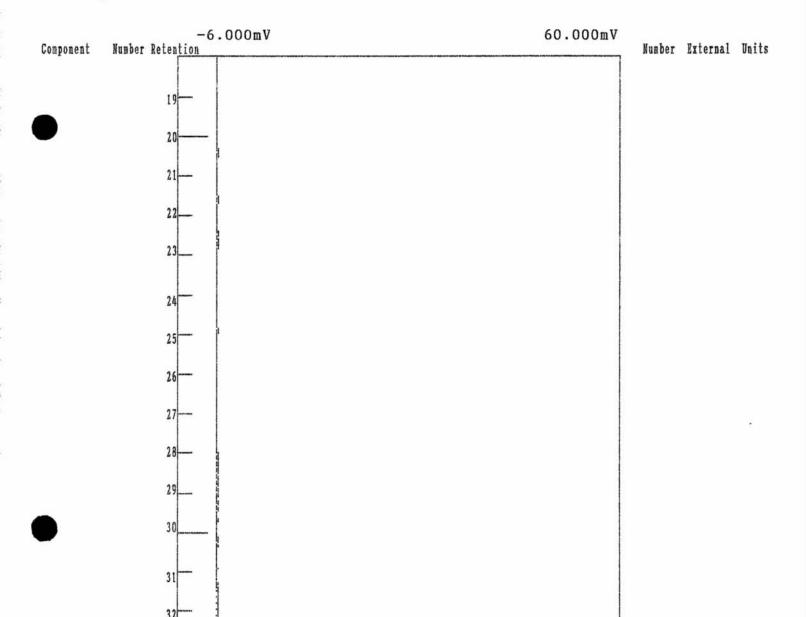
Sample : Z!-TW-16 Operator : TERRY L. TEATE

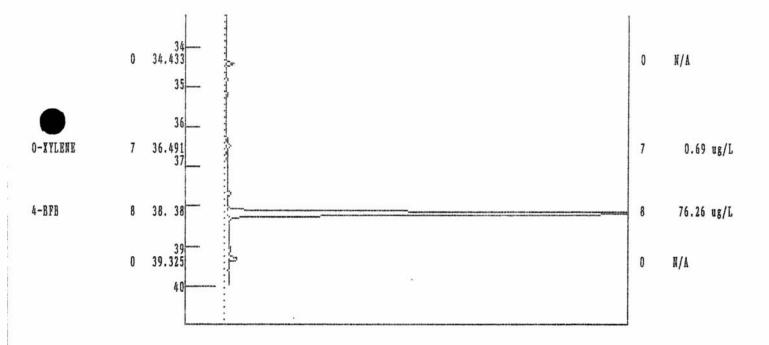




Component	Number	Retention	Area	External	Units
BENZENE TOLUENE 4-BFB	2 3 8	24.950 30.466 38.200	6.08 17.44 287.05		ug/L ug/L ug/L
3			310.57	54.61	

Client: Broad River BP
Collected: 05/27/12
Analysis date: 11/18/2010 07:07:39
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR () Data file: 602.CHR_()
Sample: Z!-TW-10
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units	
O-XYLENE 4-BFB	7 8	36.491 38.175	5.65 394.15	0.69 76.26	ug/L ug/L	
2			399.81	76.94		

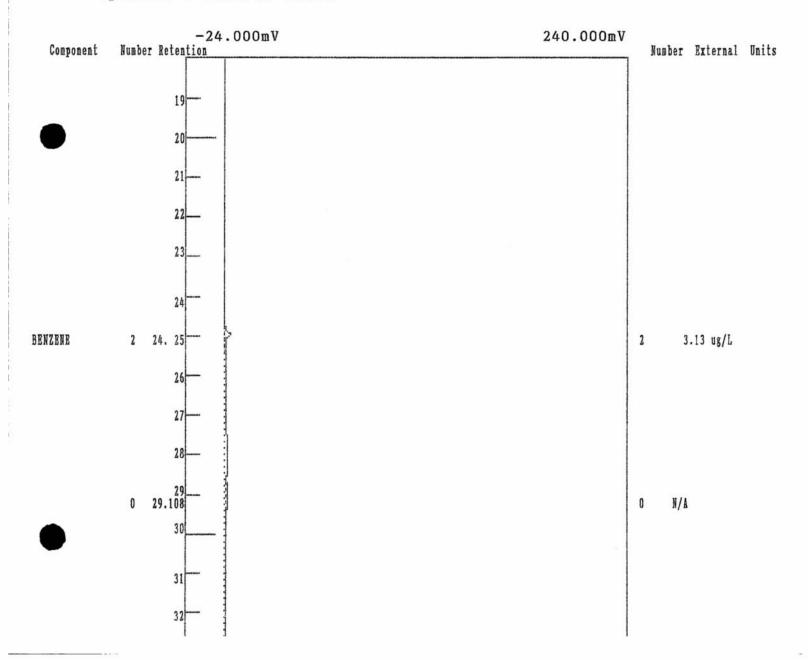
6-24-12

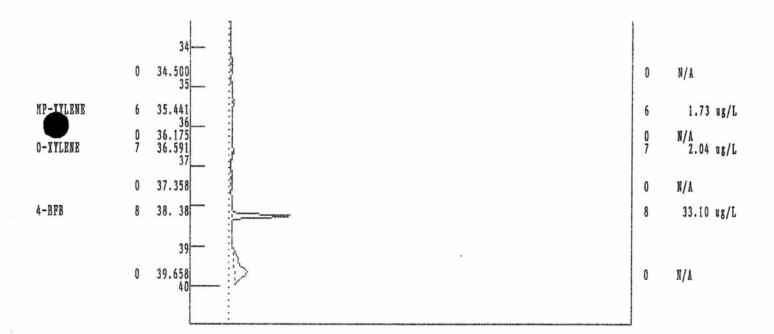
Client: Broad River BP Collected: 06/22/12

Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT

Data file: 602.CHR () Sample: TMW-23

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External	Units
BENZENE MP-XYLENE O-XYLENE 4-BFB	2 6 7 8	24.975 35.441 36.591 38.250	33.37 15.62 16.77 200.61	1.73	ug/L ug/L ug/L ug/L
4			266.38	40.00	

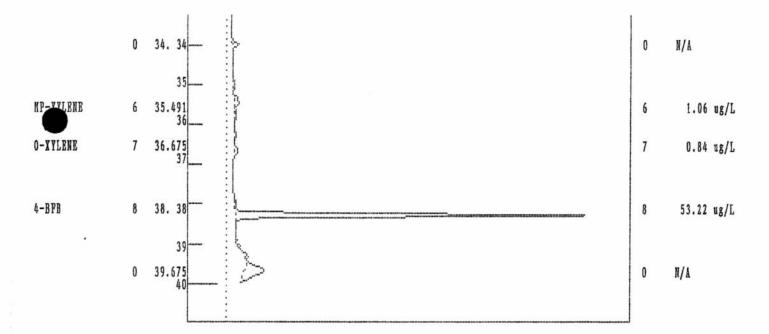
Benzene 3 vg-L MTB E O To Tal MBTEX

6-24-12

Client: Broad River BP Collected: Broad River BP
Collected: 06/22/12
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TMW-23-D

Sample: TMW-23-D Operator: TERRY L. TEATE

Component	-6.000mV Number Reten <u>tion</u>	60.000mV	Number External Units
	19		
lacktriangle	20		
	21		g.
	22		
	23		
	24		
	25		
	26		
	27		80 (80)
	0 27.625		0 N/A
	29		
	30		
	31		
	32		



Component	Number	Retention	Area	External	Units
MP-XYLENE O-XYLENE 4-BFB	6 7 8	35.491 36.675 38.275	9.56 6.94 290.82		ug/L ug/L ug/L
3			307.32	55.12	

Benzeve 6

MTBE

Client: Broad River BP

Collected: 06/22/12 Method: E P A 8020

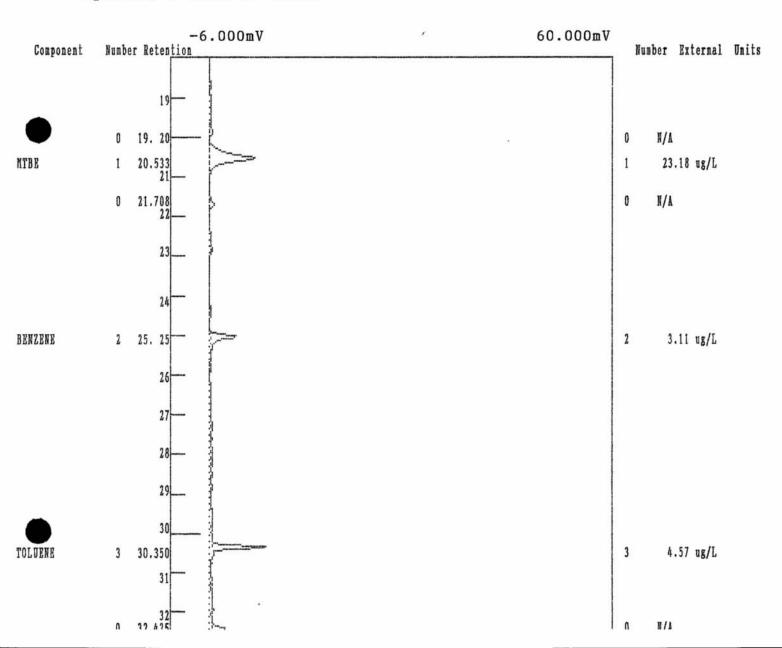
Lab ID : FL-312

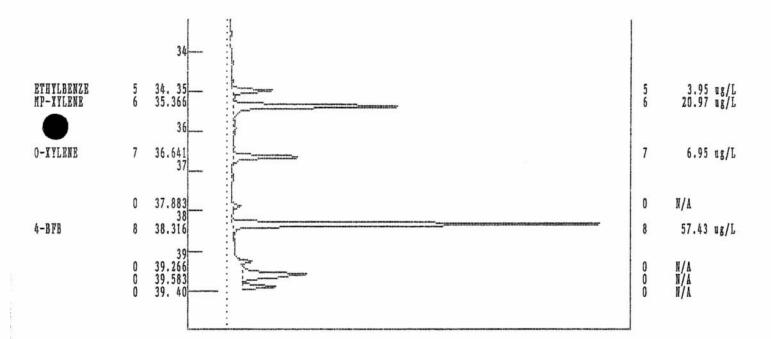
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample: TMW-24

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	1 2 3 5 6 7 8	20.533 25.041 30.350 34.991 35.366 36.641 38.316	103.11 33.20 47.78 35.88 155.42 64.53 309.70	23.18 3.11 4.57 3.95 20.97 6.95 57.43	ug/L ug/L ug/L ug/L ug/L

Benzare 3

7

MTB € 23

749.63

MBTEX 63

120.15

6-24-12

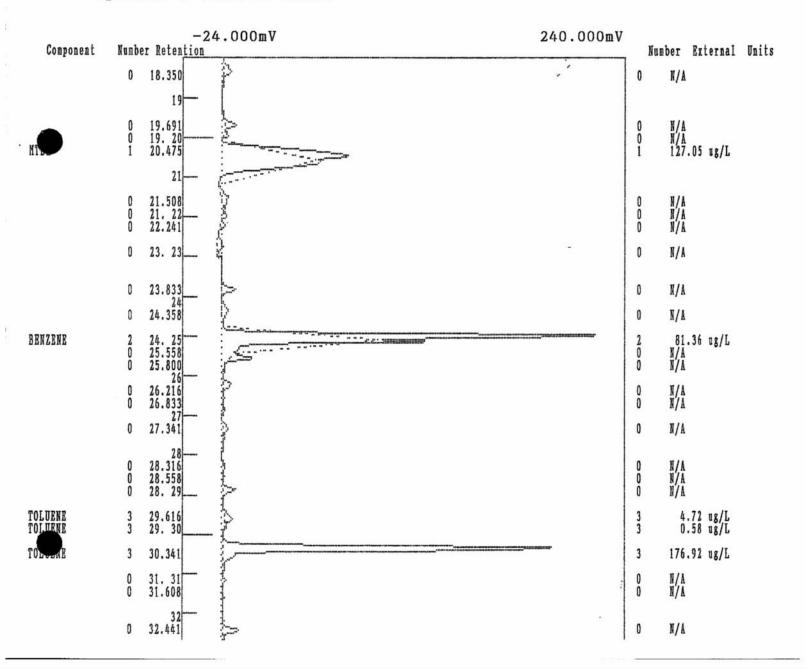
Client: Broad River BP Collected: 06/22/12 lected: 06/22/12
Method: E P A 8020
Lab ID: FL-312

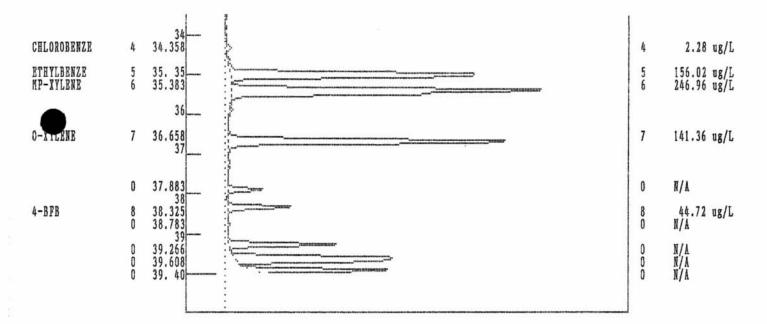
Description:

PID DETECTOR
J&W 624 75 METER Column:

Components: 602.CPT Data file : 602.CHR () TMW-27 Sample:

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External U	Units
MTBE BENZENE TOLUENE TOLUENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	1 2 3 3 3 4 5 6 7 8	20.475 24.983 29.616 29.808 30.341 34.358 35.000 35.383 36.658 38.325	416.74 921.37 49.33 6.04 1807.89 23.98 1460.36 1913.09 1427.76 252.71	127.05 to 81.36 to 4.72 to 0.58 to 176.92 to 2.28 to 156.02 to 246.96 to 44.72 to	18/L 18/L 18/L 18/L 18/L 18/L 18/L
10	3.0		8279.26	981.98	

Benjere 81

MTB E 127

6-24-12

Client: Broad River BP Collected: 06/22/12

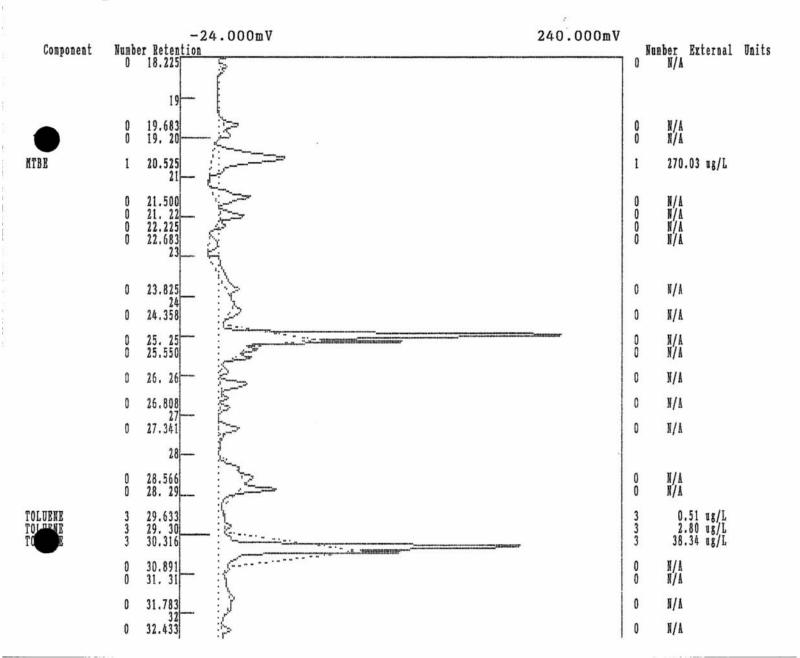
Method: E P A 8020 Lab ID: FL-312

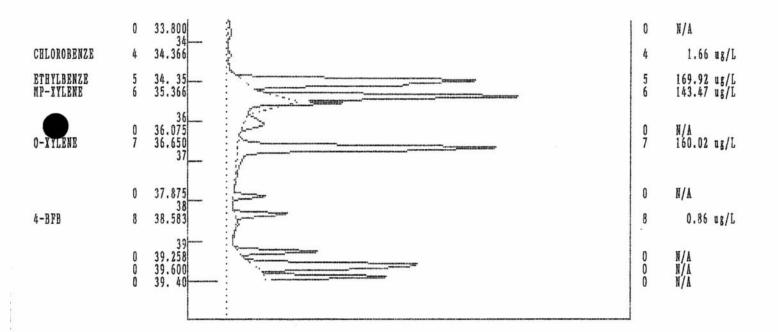
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TMW-28

Operator : TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units	
MTBE BENZENE TOLUENE TOLUENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB 4-BFB	1 2 3 3 3 4 5 6 7 8	20.525 24.983 29.633 29.800 30.316 34.366 34.966 35.366 36.650 38.325 38.583	885.71 1119.25 5.29 29.30 407.58 17.43 1584.96 1093.95 1616.17 227.32 5.85	270.03 101.65 0.51 2.80 38.34 1.66 169.92 143.47 160.02 39.06 0.86	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	
Benzenl	A	NTBE	6992.81	928.31 MBT	EX	
102		270		88	8	

6-24-12

Client: Broad River BP Collected: 06/22/12

Method : E P A 8020

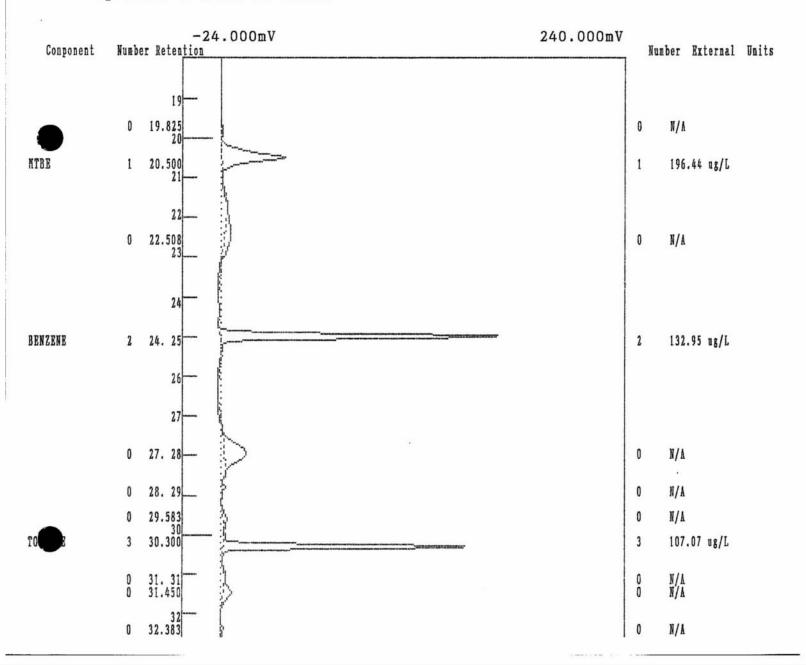
Lab ID : FL-312

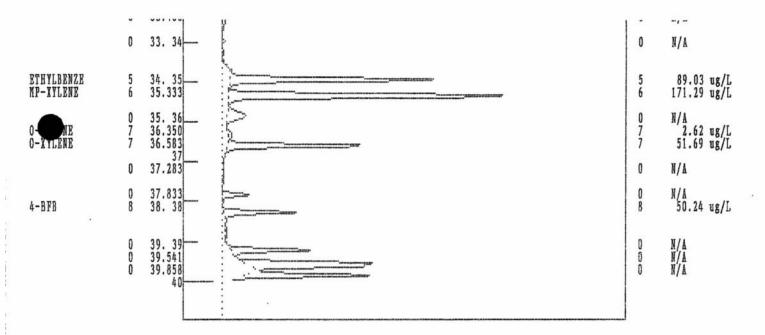
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TMW-28-D

Operator: TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units
MTBE BENZENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE O-XYLENE 4-BFB	1 2 3 5 6 7 7 8	20.500 24.983 30.300 34.950 35.333 36.350 36.583 38.266	644.33 1424.56 1130.74 859.85 1314.17 21.58 522.03 277.47	196.44 132.95 107.07 89.03 171.29 2.62 51.69 50.24	ug/L ug/L ug/L ug/L ug/L ug/L
8			6194.74	801.33	
Benzene		MTB	E	M	TBEX

75-1

Client: Broad River BP Collected: 07/10/12

Analysis date: 11/22/2010 07:42:13 Method: E P A 8020

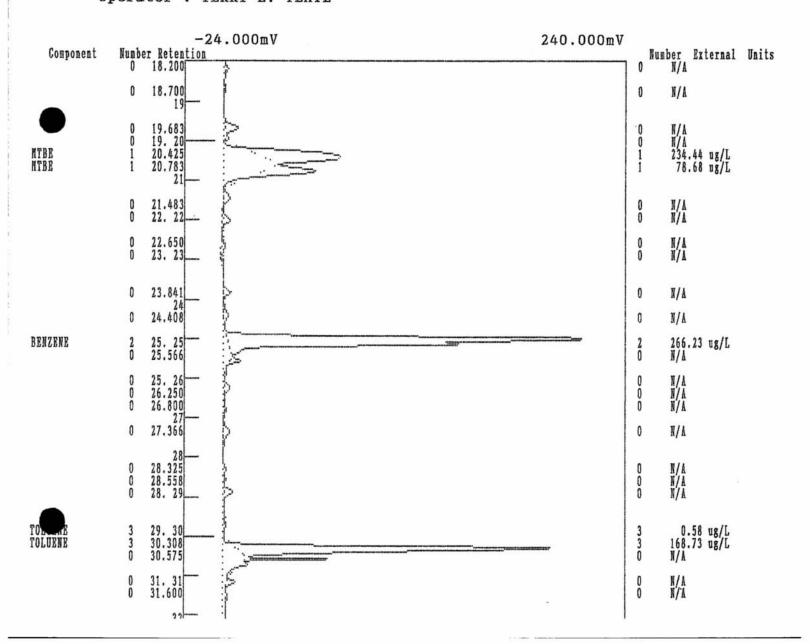
Lab ID: FL-312

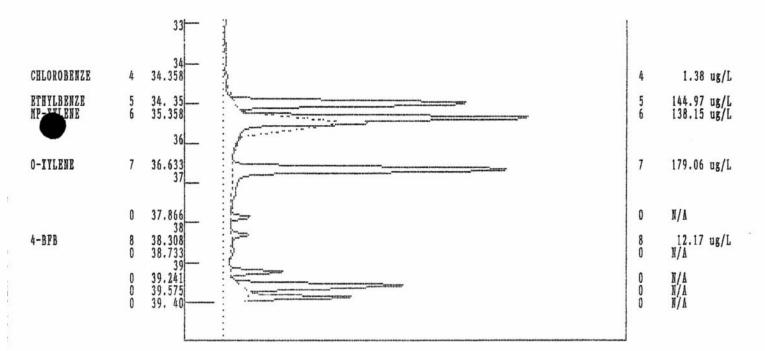
Description : PID DETECTOR

Column J&W 624 75 METER

Components 602.CPT 602.CHR () Data file

Sample: TW-25 Operator : TERRY L. TEATE





Component	Number	Retention	Area	External Units
MTBE BENZENE TOLUENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE OXLENE 4 FB	1 1 2 3 3 4 5 6 7 8	20.425 20.783 25.008 29.716 30.308 34.358 34.983 35.358 36.633 38.308	768.98 273.83 2724.43 6.01 1728.54 14.51 1361.28 1051.90 1808.54 75.72	234.44 ug/L 78.68 ug/L 266.23 ug/L 0.58 ug/L 168.73 ug/L 1.38 ug/L 144.97 ug/L 138.15 ug/L 179.06 ug/L 12.17 ug/L

MTBE 234

10

Benzene 266

1224.40

9813.73

Client: Broad River BP

Collected: 07/10/12

Analysis date: 11/22/2010 08:26:04 Method: E P A 8020

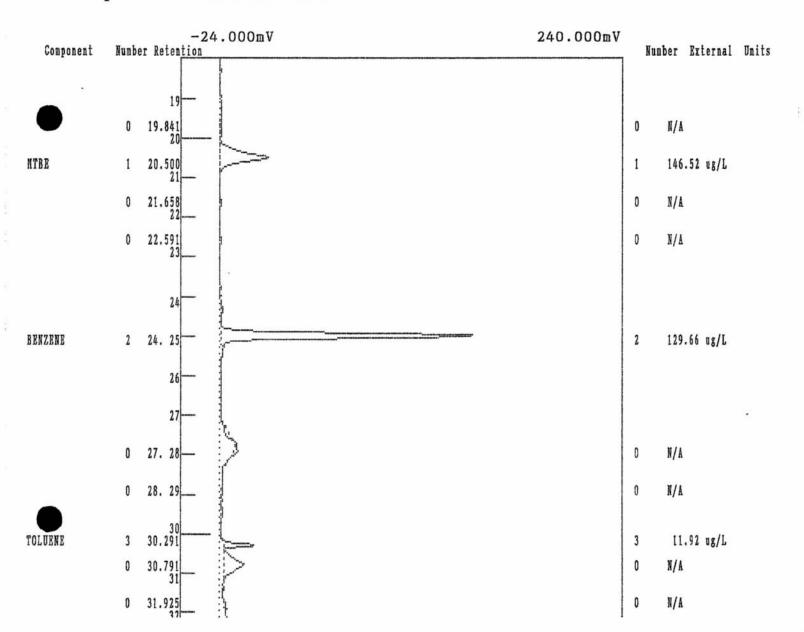
Lab ID: FL-312

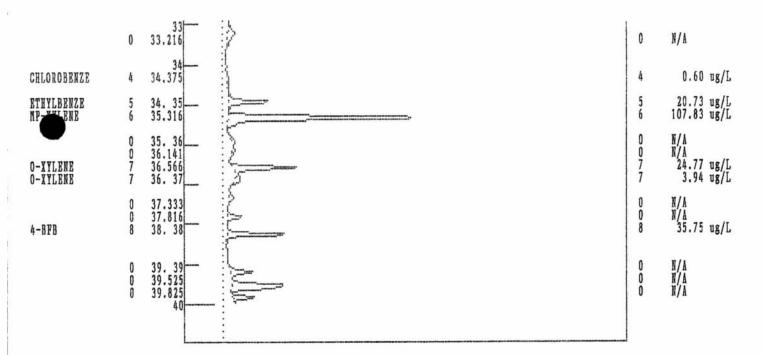
Description : PID DETECTOR

Column : J&W 624 75 METER

Components : 602.CPT Data file : 602.CHR ()

Sample: TW-27-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE O-XYLENE O-XYLENE 4 FB	1 2 3 4 5 6 7 7 8	20.500 24.991 30.291 34.375 34.925 35.316 36.566 36.850 38.258	480.58 1392.44 109.41 6.29 170.21 820.43 234.26 32.45 212.50	146.52 129.66 11.92 0.60 20.73 107.83 24.77 3.94 35.75	ug/L ug/L ug/L ug/L ug/L ug/L ug/L
_			0150 57	401 71	

9

3458.57

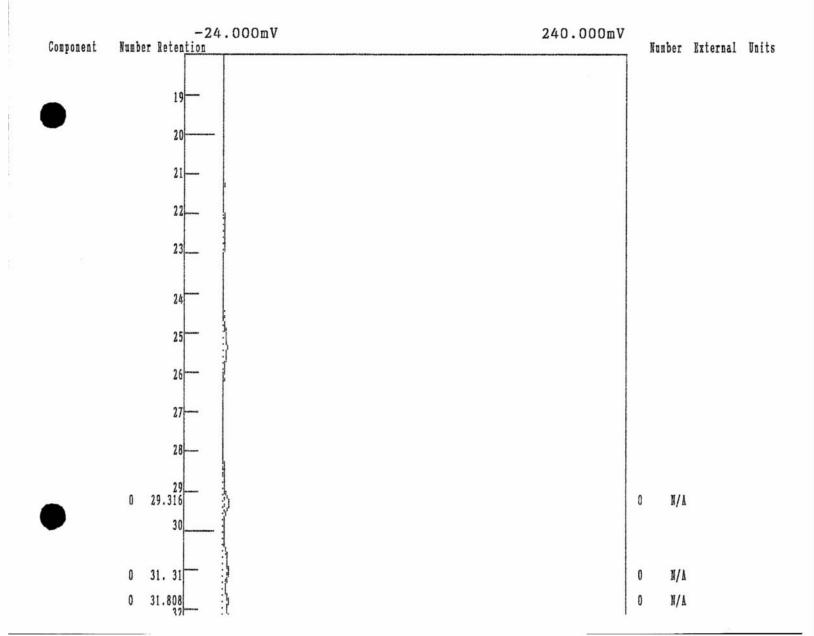
481.71

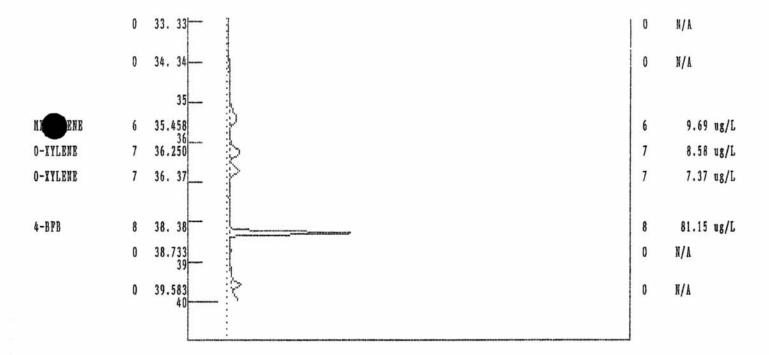
MTBE 147

Benzene 130

MBTCX 446

Client: Broad River BP
Collected: 07/10/12
Analysis date: 11/22/2010 09:10:08
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
 Sample: TW-29
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MP-XYLENE O-XYLENE O-XYLENE 4-BFB	6 7 7 8	35.458 36.250 36.733 38.275	87.28 84.00 69.52 416.12		ug/L ug/L ug/L ug/L
4			656.93	106.79	

MTB E

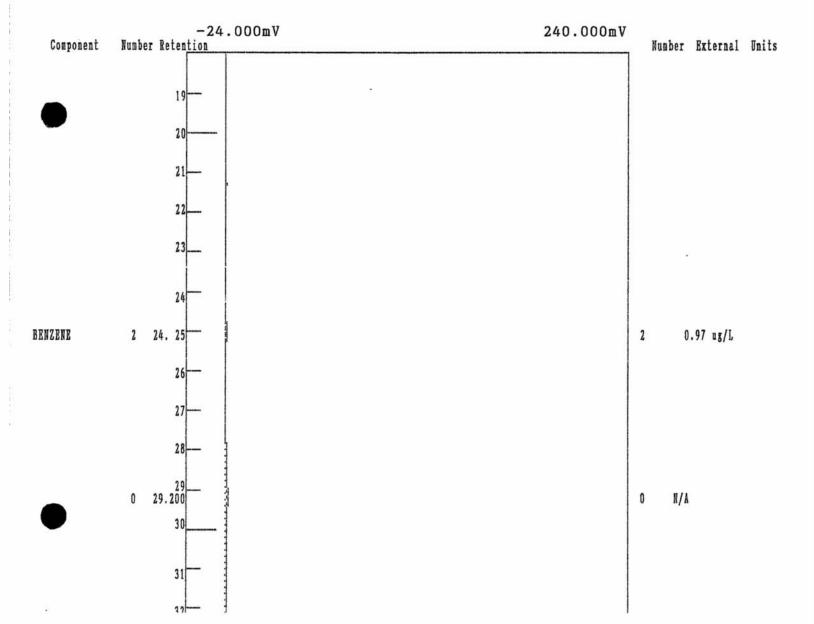
Benzene

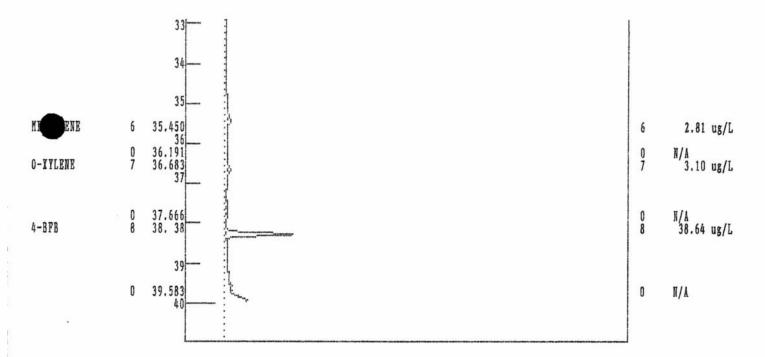
Client: Broad River BP
Collected: 07/10/12
Analysis date: 11/22/2010 09:57:01
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602 CPT

Components: 602.CPT

Data file: 602.CHR () Sample: TW-30

Operator : TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units
BENZENE MP-XYLENE O-XYLENE 4-BFB	2 6 7 8	24.983 35.450 36.683 38.275	10.32 25.30 25.56 225.44	2.81	ug/L ug/L ug/L ug/L
4			286.62	45.52	

MTBE O

Benzerel

Client: Broad River BP Collected: 07/10/12

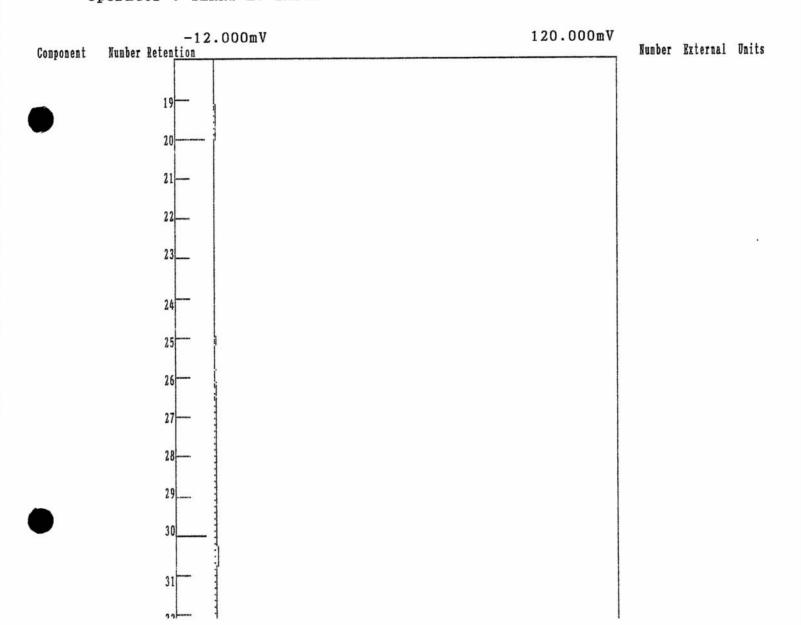
Analysis date: 11/22/2010 10:39:57 Method: E P A 8020

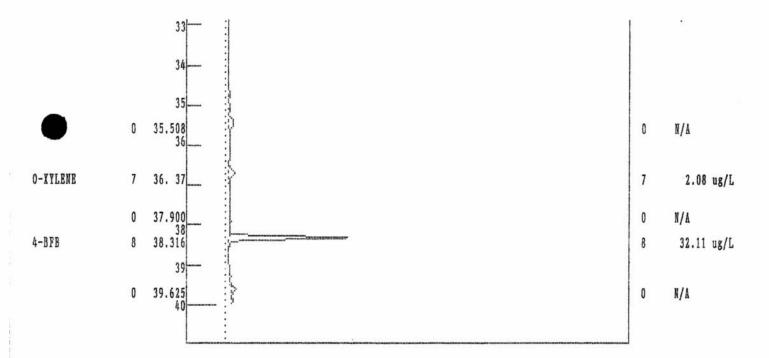
Lab ID: FL-312

Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-31
Operator: TERRY L. TEATE

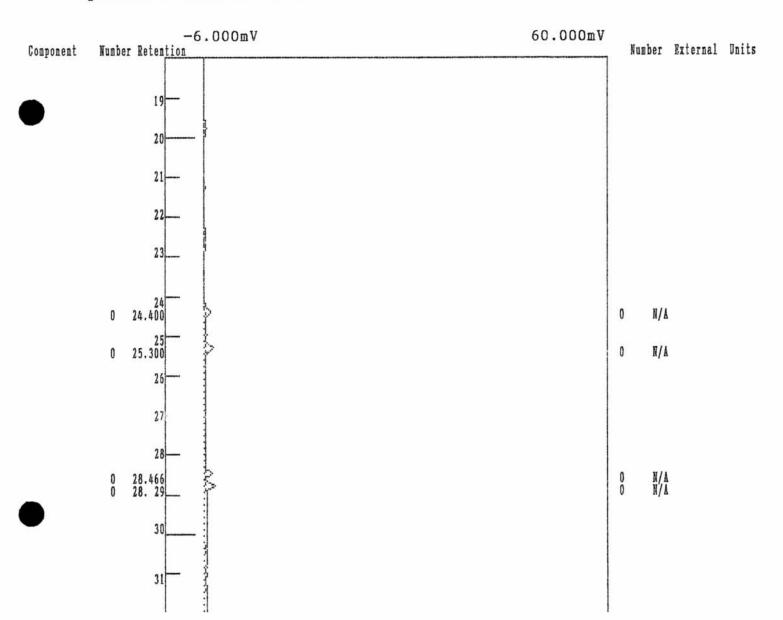


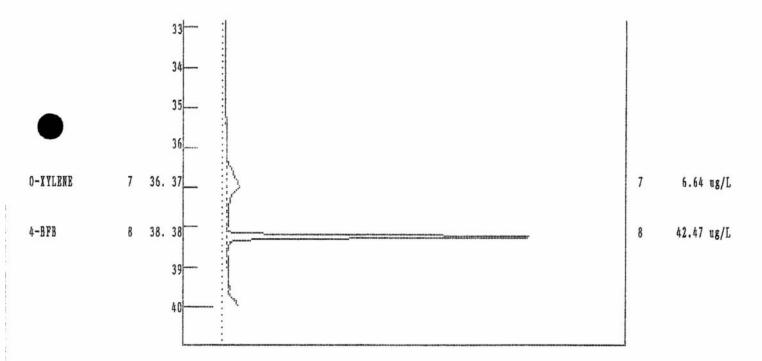


Component	Numbe	er Re	tention	Area	External	Units
O-XYLENE 4-BFB		7 8	36.725 38.316	17.10 196.16	2.08 32.11	ug/L ug/L
	2			213.26	34.19	

MTB E Benzene

Client: Broad River BP
Collected: 7/09/12
Analysis date: 11/22/2010 16:50:28
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
Sample: TW-32
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
O-XYLENE 4-BFB	7 8	36.950 38.233	60.78 242.60	6.64 42.47	ug/L ug/L
	2		303.38	49.10	

MTBE Benzene MBTCX
7

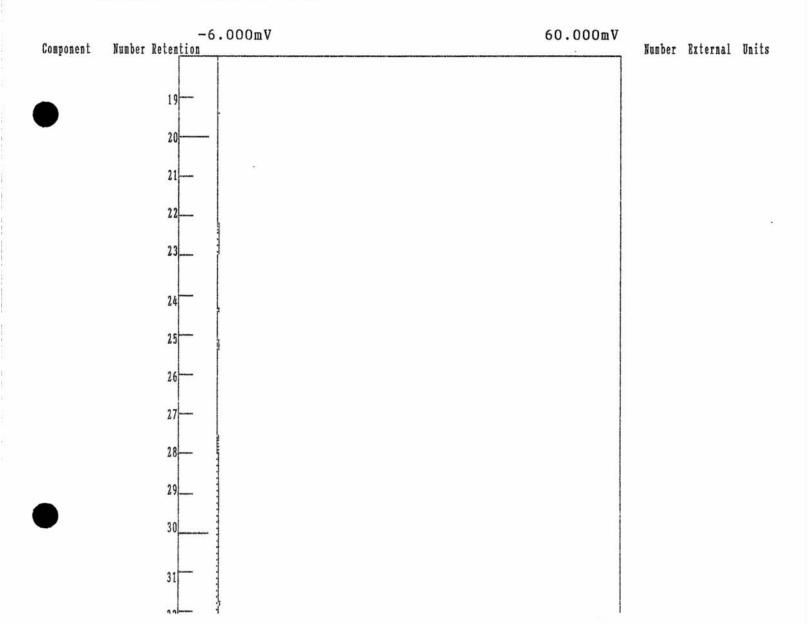
Client: Broad River BP Collected: 7/09/12

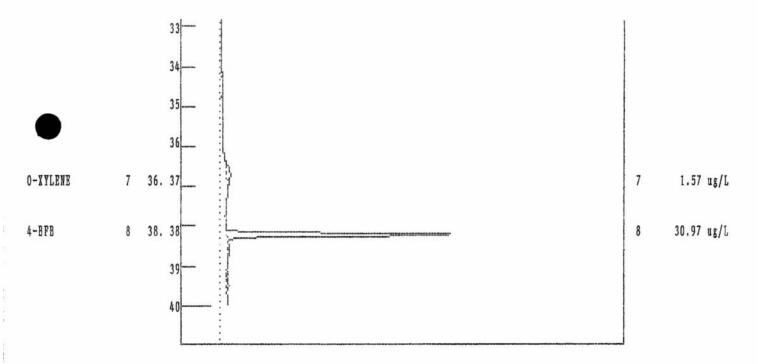
Analysis date: 11/22/2010 17:39:13 Method: E P A 8020 Lab ID: FL-312

Description : PID DETECTOR

Column: J&W 624 75 METER Components: 602.CPT Data file: 602.CHR ()

Sample: TW-33
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
O-XYLENE 4-BFB	7 8	36.708 38.208	12.96 191.04	1.57 30.97	ug/L ug/L
2			204 00	22 54	

MTBE Benzene MBTEX
0 2

Client: Broad River BP

Collected: 7/09/12 Analysis date: 11/22/2010 16:07:49

Method: E P A 8020

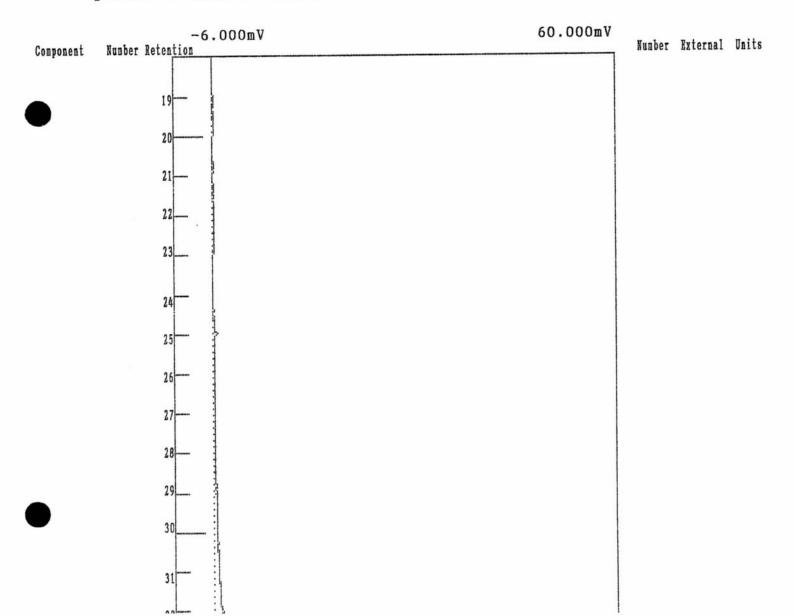
Lab ID: FL-312

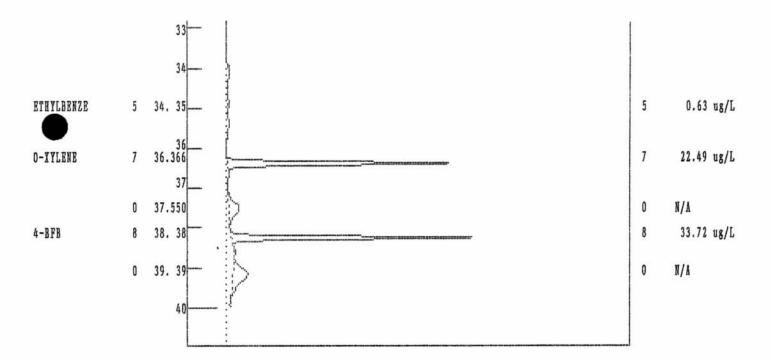
Description: PID DETECTOR

J&W 624 75 METER Column:

602.CPT Components: Data file : 602.CHR ()

Sample: TW-31-D Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
ETHYLBENZE O-XYLENE 4-BFB	5 7 8	34.908 36.366 38.241	5.71 208.88 203.37	0.63 22.49 33.72	
3			417.96	56.83	

MTB E

Benzene

MTBE

Benzene

MBTEX 5.0

Client: Broad River BP

Collected: 07/16/12 Analysis date: 11/25/2010 15:06:50

Method: EPA 8020

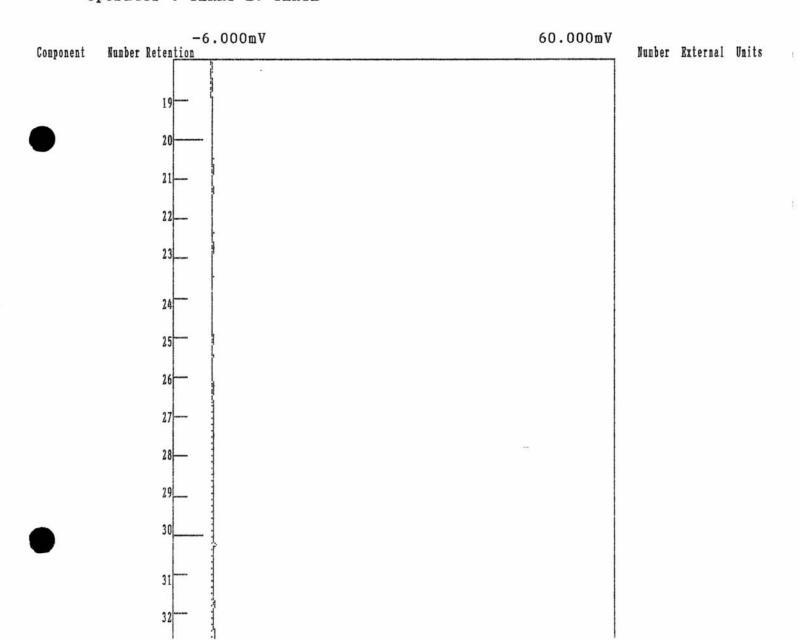
Lab ID: FL-312

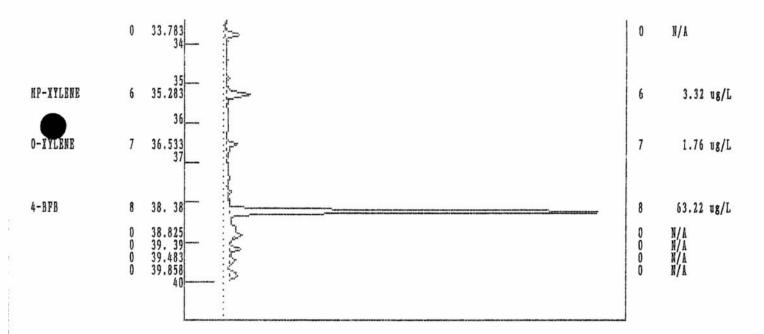
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample: TW-18

Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MP-XYLENE O-XYLENE 4-BFB	6 7 8	35.283 36.533 38.225	29.91 14.48 335.70		ug/L ug/L ug/L
3	i .		380.10	68.30	

MTB E

Benzene

MBTEX O

Client : Broad River BP

Collected: 07/16/12

Analysis date: 11/25/2010 16:22:33

Method: EPA 8020

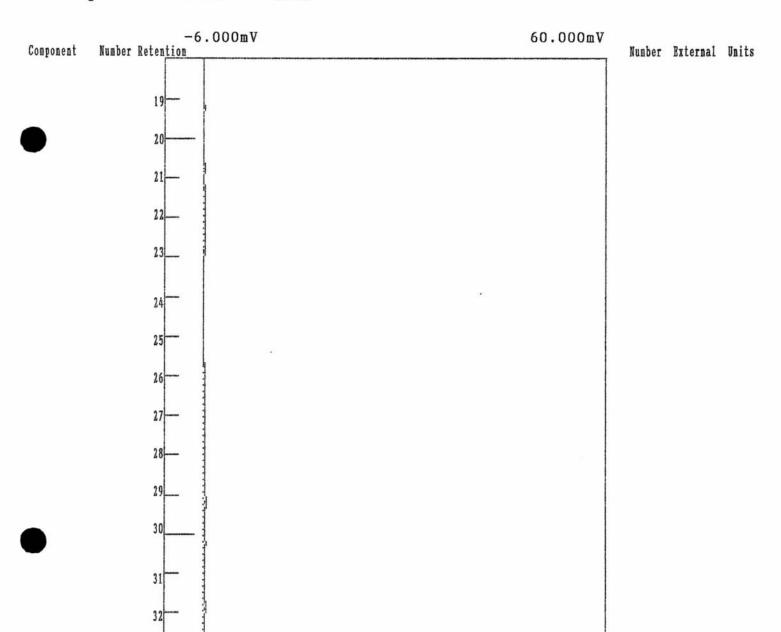
Lab ID: FL-312

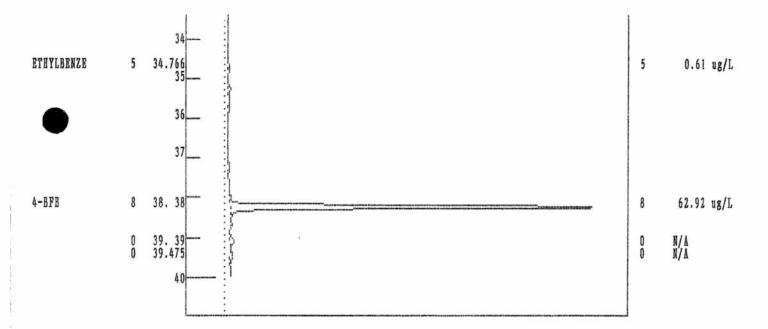
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-19

Operator : TERRY L. TEATE





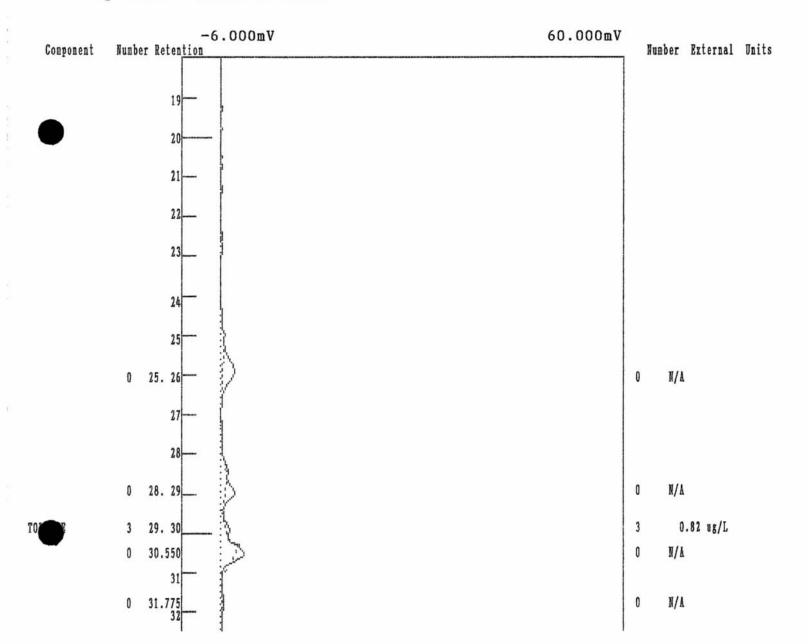
Component	Number	Retention	Area	External	Units
ETHYLBENZE 4-BFB	5 8	34.766 38.225	5.55 334.35	0.61 62.92	ug/L ug/L
	2		339.90	63.53	

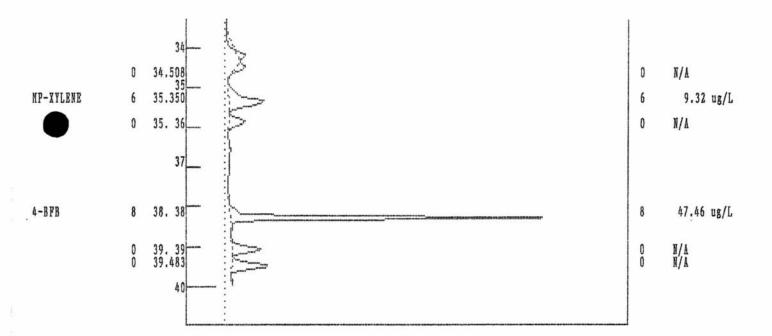
#TB E >1

Berzene 71

MBTEX 9

Client: Broad River BP
Collected: 07/16/12
Analysis date: 11/25/2010 19:11:12
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-20
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
TOLUENE MP-XYLENE 4-BFB	3 6 8	29.958 35.350 38.275	8.60 83.98 265.02		ug/L ug/L ug/L
3			357.61	57.61	

Benzene

MBBEX 4

Client: Broad River BP

Collected: 07/16/12

Analysis date: 11/25/2010 20:00:17 Method: E P A 8020

Lab ID: FL-312

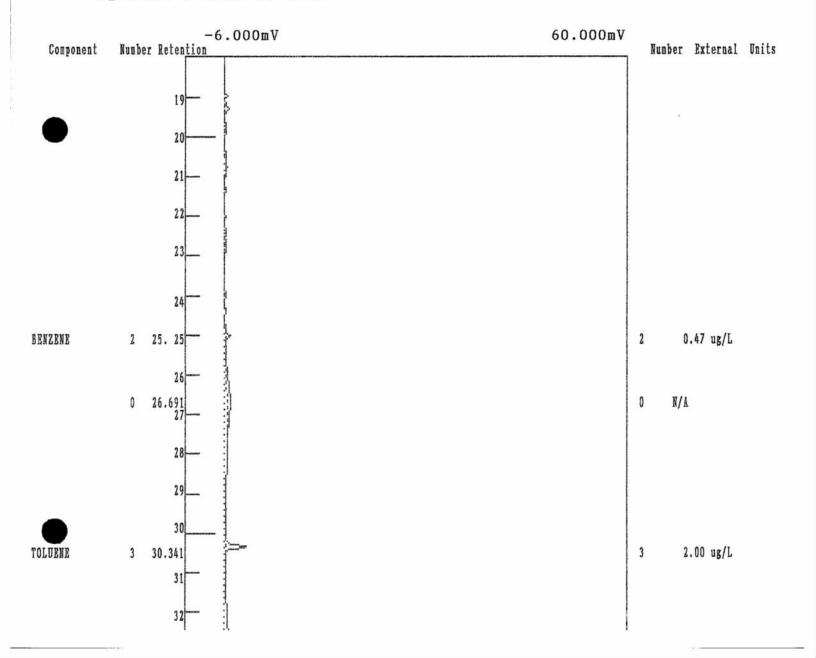
Description : PID DETECTOR

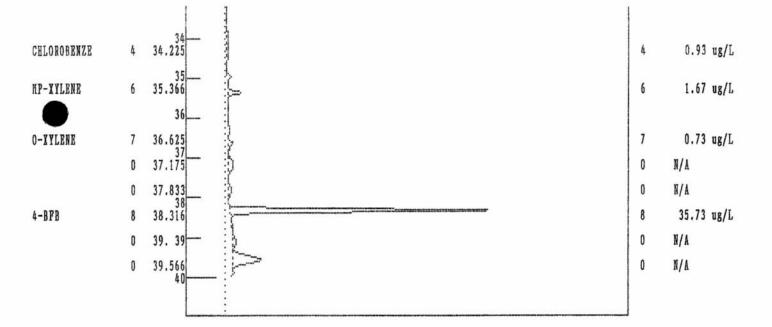
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample : TW-21

Operator: TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units
BENZENE TOLUENE CHLOROBENZE MP-XYLENE O-XYLENE 4-BFB	2 3 4 6 7 8	25.033 30.341 34.225 35.366 36.625 38.316	5.07 20.86 9.75 15.01 6.03 212.38	2.00	ug/L ug/L
		5#	060 10	41 50	

6

269.10

41.53

Berzeve 71

MBTEX

Client : Broad River BP Collected : 07/16/12

Analysis date: 11/25/2010 20:45:10

Method: EPA 8020

Lab ID: FL-312

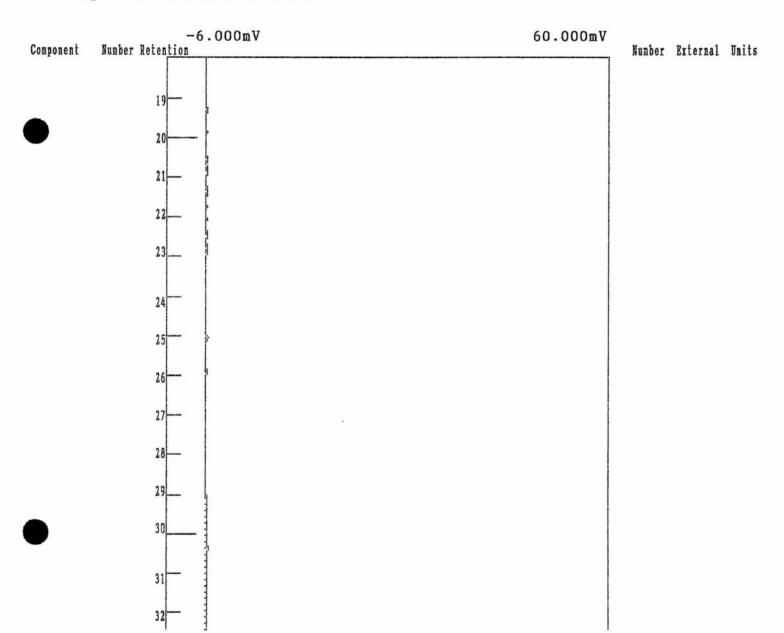
Description : PID DETECTOR

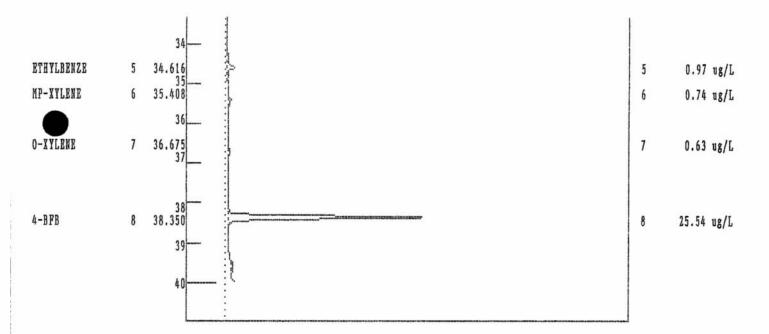
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample: TW-22

Operator: TERRY L. TEATE





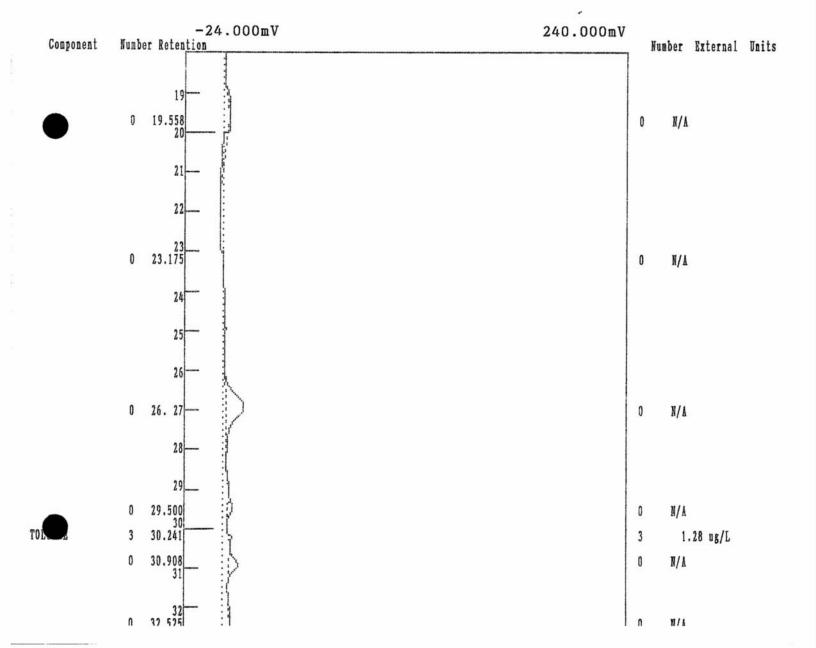
Component	Number	Retention	Area	External	Units	
ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	5 6 7 8	34.616 35.408 36.675 38.350	8.81 6.67 5.17 166.69		ug/L ug/L ug/L ug/L	ď
4			187.34	27.88		

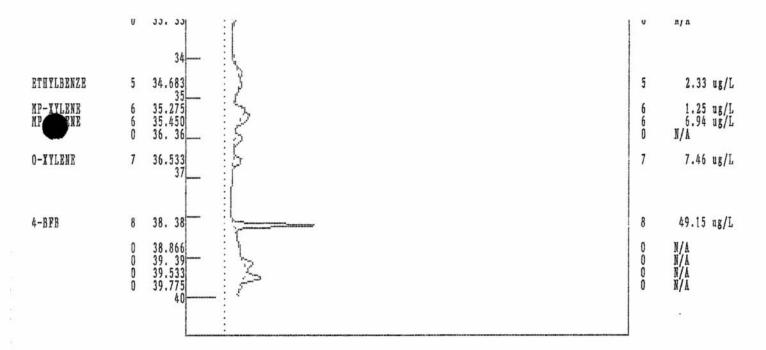
MTB E

Benzene

MBTEX 19

Client: Broad River BP Collected: 07/16/12 Analysis date: 11/26/2010 02:14:33 Method: E P A 8020 Lab ID: FL-312 Description : PID DETECTOR Column: J&W 624 75 METER Components: 602.CPT Data file: 602.CHR () Sample: TW-Deep Well 2.40 Operator: TERRY L. TEATE



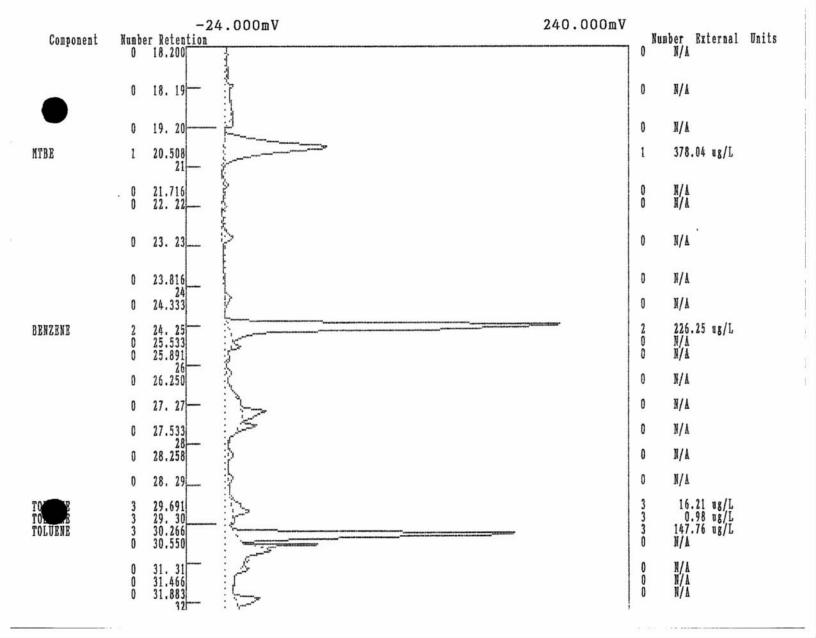


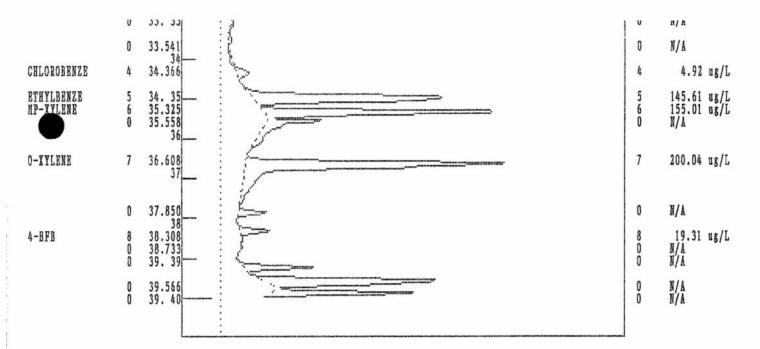
Component	Number	Retention	Area	Externa1	Units
TOLUENE ETHYLBENZE MP-XYLENE MP-XYLENE O-XYLENE 4-BFB	3 5 6 6 7 8	30.241 34.683 35.275 35.450 36.533 38.191	13.39 21.17 11.28 62.50 70.57 272.60	2.33 1.25 6.94	ug/L ug/L ug/L ug/L ug/L ug/L
	6		451.50	68.41	

Benzene 226

MBTEX 1275

Client: Broad River BP
Collected: 07/16/12
Analysis date: 11/26/2010 01:02:56
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-34
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE TOLUENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE OYLENE 4	1 2 3 3 3 4 5 6 7 8	20.508 24.983 29.691 29.950 30.266 34.366 34.966 35.325 36.608 38.308	1239.96 2334.51 158.06 10.21 1525.24 51.64 1367.06 1185.30 2020.40 136.00	200.04	ug/L ug/L ug/L ug/L ug/L ug/L ug/L
				9373A P26942N 28W - 18 0/28W	

10 10028.39 1294.13

MTB E 955 Benzene 125

MBTEX 1100

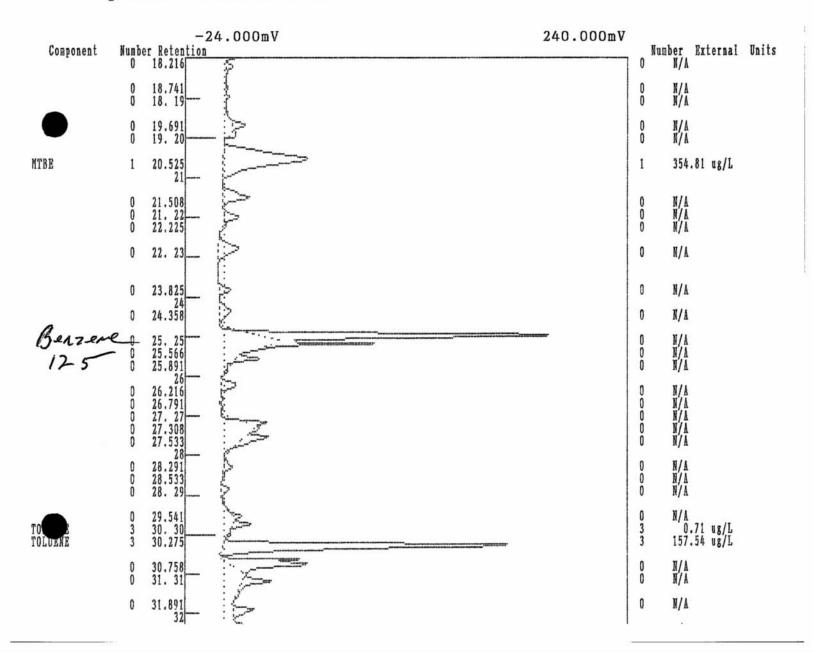
Client: Broad River BP Collected: 07/16/12 Analysis date: 11/25/2010 23:50:58

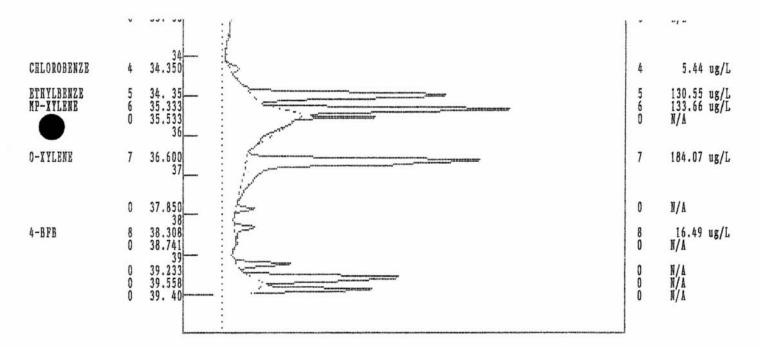
Method: E P A 8020 Lab ID: FL-312

Description: PID DETECTOR
Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-35

Operator: TERRY L. TEATE



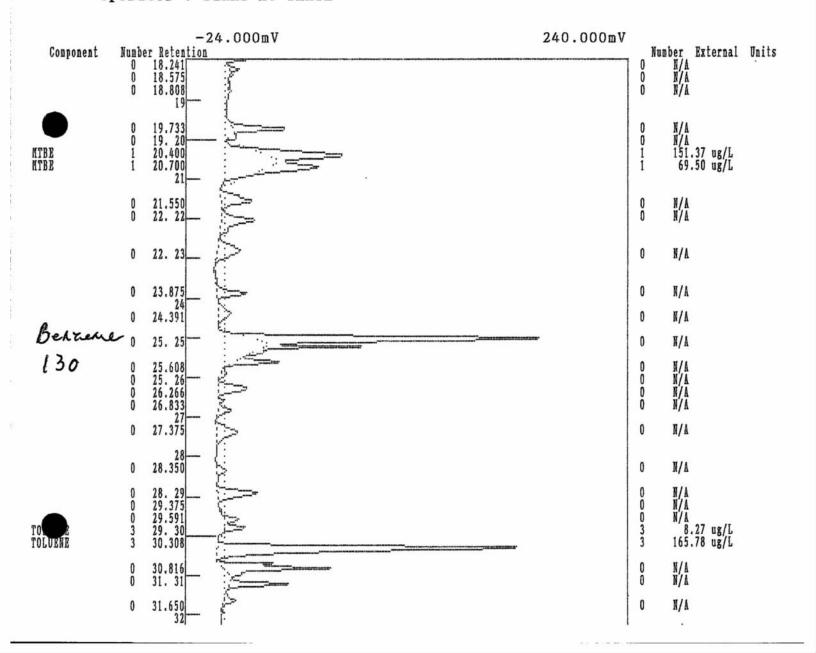


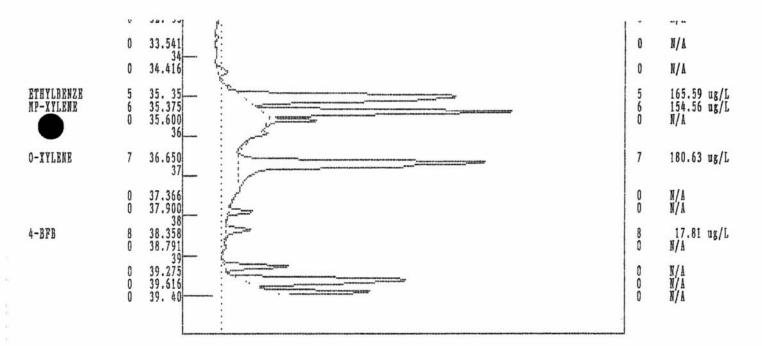
Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE TOLUENE TOLUENE CHLOROBENZE ETHYLBENZE MP-XYLENE OXYLENE 4	1 2 3 3 3 4 5 6 7 8	20.525 24.975 29.733 30.008 30.275 34.350 34.983 35.333 36.600 38.308	1163.79 1352.90 74.08 7.38 1620.06 56.32 1232.03 1016.33 1859.14 112.14	125.60 8.08 0.71 157.54	ug/L ug/L ug/L ug/L ug/L ug/L ug/L
10			8494.17	1116.96	

Berzeae 130

MBTEX 1026

Client: Broad River BP
Collected: 07/16/12
Analysis date: 11/25/2010 22:43:00
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-36
Operator: TERRY L. TEATE





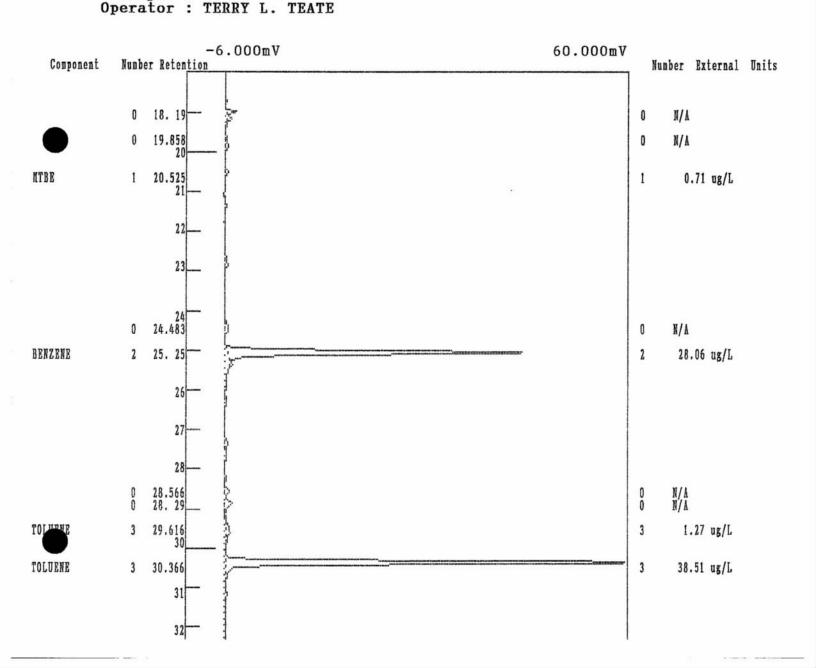
Component	Number	Retention	Area	External	Units
MTBE MTBE BENZENE TOLUENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE 4 PFB	1 1 2 3 3 5 6 7 8	20.400 20.700 25.025 29.800 30.308 35.000 35.375 36.650 38.358	496.50 246.03 1399.26 75.38 1699.95 1546.11 1181.73 1824.35 123.36	151.37 69.50 130.36 8.27 165.78 165.59 154.56 180.63 17.81	ug/L ug/L ug/L ug/L ug/L ug/L
9			8592.66	1043.86	

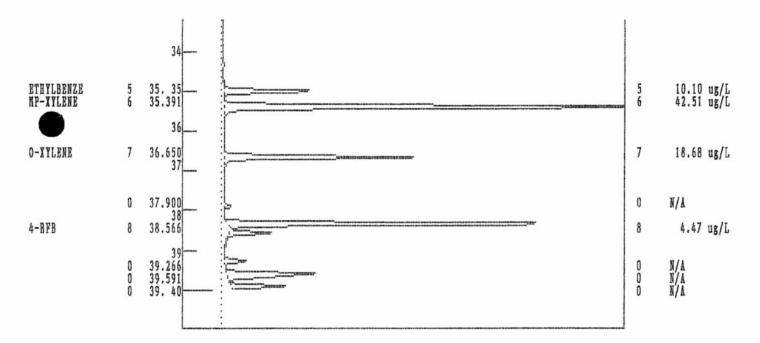
MTB E

Benzene 28

MBTEX 140

Client: Broad River BP
Collected: 07/16/12
Analysis date: 11/25/2010 21:28:41
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
 Sample: TW-38





Component	Number	Retention	Area	External	Units
MTBE	1	20.525	5.59	0.71	ug/L
BENZENE	2	25.058	310.15	28.06	
TOLUENE		29.616	13.29	1.27	ug/L
TOLUENE	3 3 5	30.366	409.52	38.51	ug/L
ETHYLBENZE		35.008	80.67	10.10	ug/L
MP-XYLENE	6	35.391	390.89	42.51	ug/L
O-XYLENE	7	36.650	170.60	18.68	ug/L
4-BFB	8	38.333	276.87	50.11	ug/L
4-RFB	8	38.566	30.41	4.47	ug/L
0			1607 00	104 42	

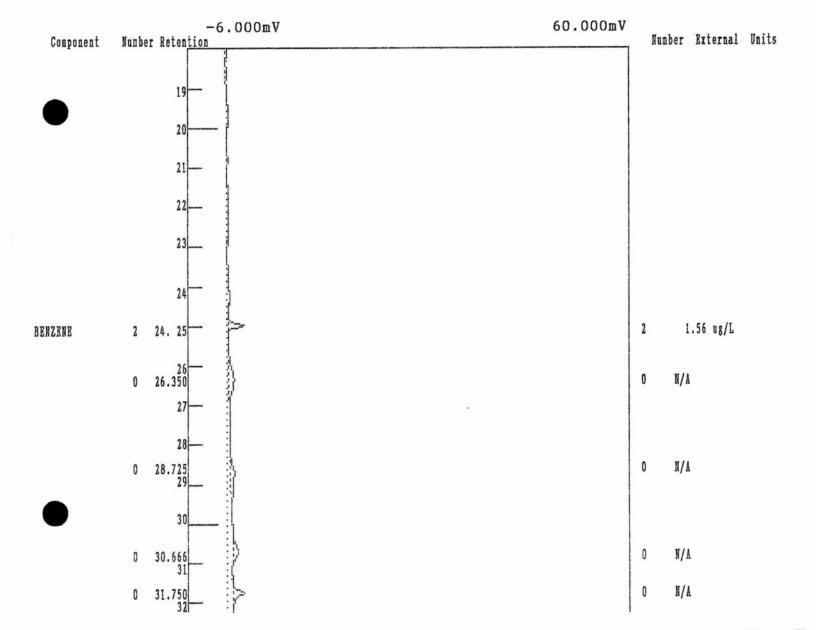
1687.99

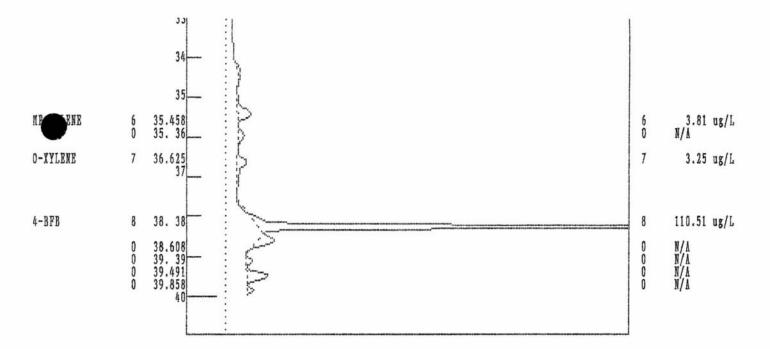
194.42

Benzeul

MBTEX 9

Client: Broad River BP
Collected: 07/18/12
Analysis date: 11/28/2010 18:34:59
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-19-D
Operator: TERRY L. TEATE



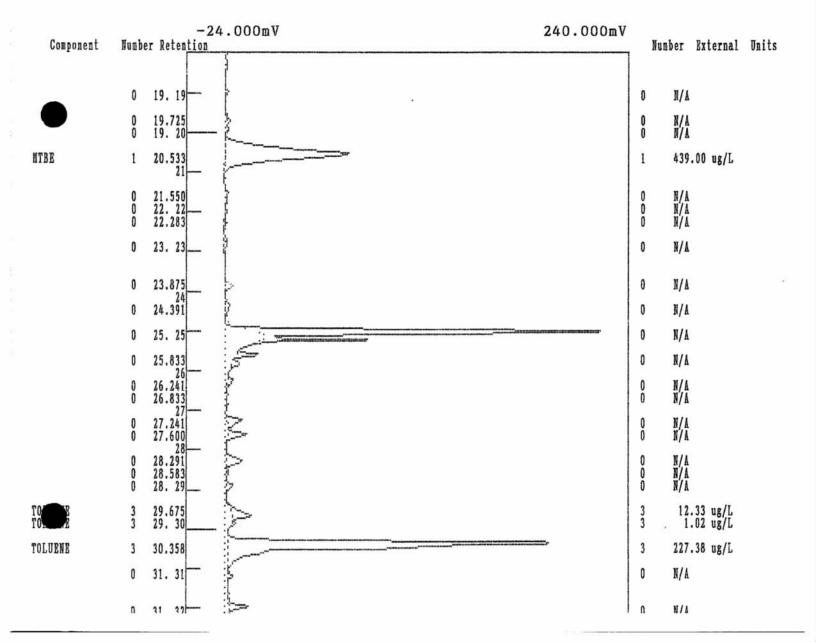


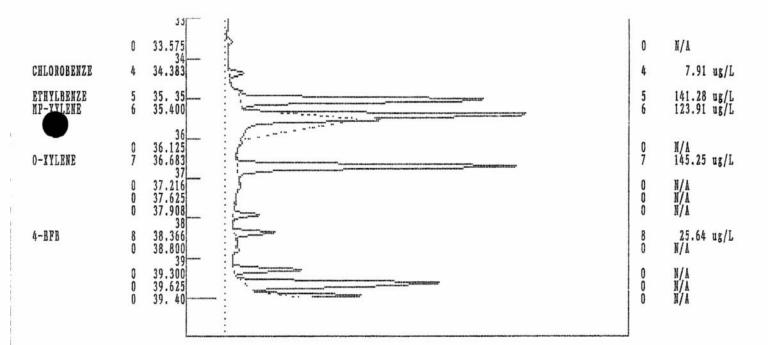
Component	Number	Retention	Area	External	Units
BENZENE MP-XYLENE O-XYLENE 4-BFB	2 6 7 8	24.991 35.458 36.625 38.258	16.68 34.33 26.76 547.78	3.81	ug/L ug/L ug/L ug/L
4			625.56	119.13	

Benjene 138

MTBE / 239

Client: Broad River BP
Collected: 07/19/12
Analysis date: 11/28/2010 22:39:51
 Method: E P A 8020
 Lab ID: FL-312
Description: PID DETECTOR
 Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
 Sample: TW-25-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE	1	20.533	1439.93	439.00	ug/L
BENZENE	2	25.016	1490.38	139.70	ug/L
TOLUENE	3	29.675	114.00	12.33	ug/L
TOLUENE	3	29.850	10.65	1.02	ug/L
TOLUENE	3	30.358	2297.12	227.38	ug/L
CHLOROBENZE	4	34.383	77.58	7.91	ug/L
ETHYLBENZE	5	34.833	11.34	1.25	ug/L
ETHYLBENZE	5	35.016	1328.20	141.28	ug/L
MXYLENE	6	35.400	939.15	123.91	ug/L
OLLENE	7	36.683	1467.02	145.25	ug/L
4-BFB	8	38.366	167.13	25.64	ug/L

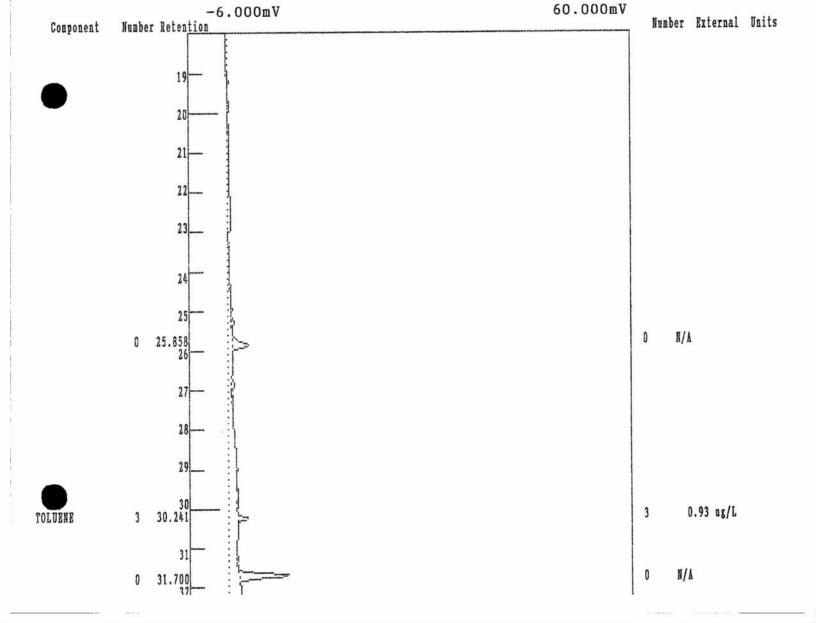
11 9342.52 1264.66

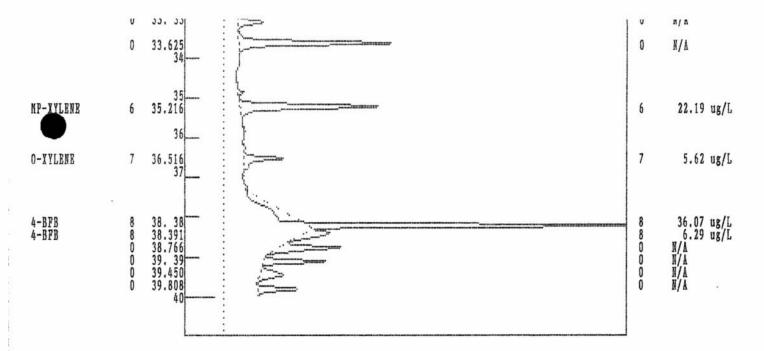
4B FUE

Benzere

MBTEX 28

```
Client: Broad River BP
Collected: 07/18/12
Analysis date: 11/28/2010 17:46:41
    Method: E P A 8020
    Lab ID: FL-312
Description: PID DETECTOR
    Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
    Sample: TW-30-D
Operator: TERRY L. TEATE
```





Component	Number	Retention	Area	External	Units
TOLUENE MP-XYLENE O-XYLENE 4-BFB 4-BFB	3 6 7 8 8	30.241 35.216 36.516 38.208 38.391	9.76 169.56 48.57 213.91 40.02		ug/L
	5		481 R2	71 10	

Benzone 70 Ug/L

MBTEX 170

Client: Broad River BP

Collected: 07/19/12

Analysis date: 11/28/2010 23:28:21

Method: EPA 8020

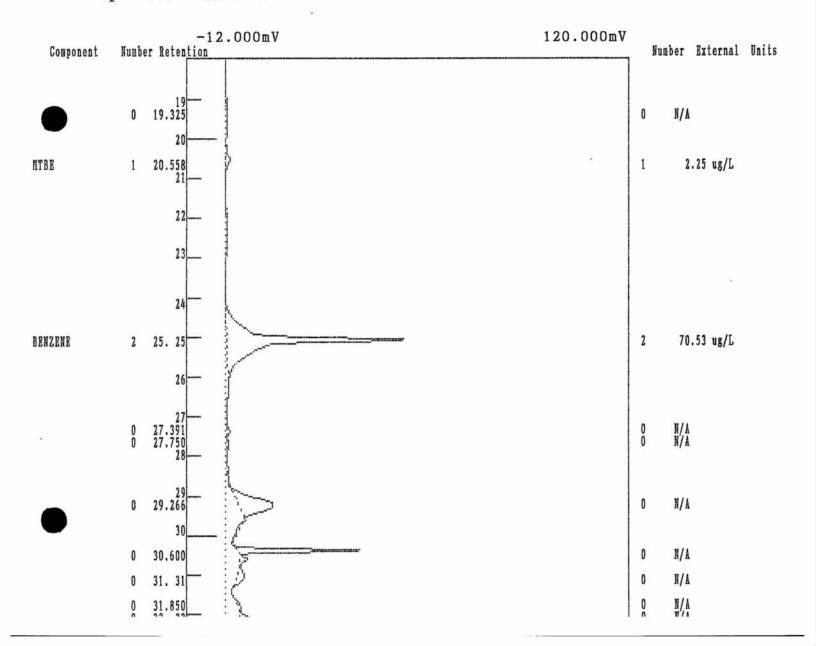
Lab ID: FL-312

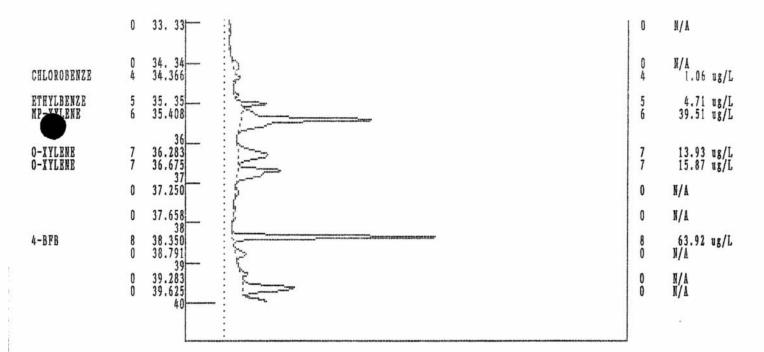
Description : PID DETECTOR

Column : J&W 624 75 METER

Components : 602.CPT Data file : 602.CHR () Sample: TW-32-D

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External Units	
MTBE BENZENE TOLUENE CHLOROBENZE ETHYLBENZE ETHYLBENZE MP-XYLENE O-XYLENE O-XYLENE O-XYLENE 4 FB	1 2 3 4 5 5 6 7 7 8	20.558 25.066 30.383 34.366 34.791 35.016 35.408 36.283 36.675 38.350	17.85 815.74 211.53 11.12 6.79 42.78 369.94 132.50 148.04 338.81	2.25 ug/L 70.53 ug/L 20.94 ug/L 1.06 ug/L 0.75 ug/L 4.71 ug/L 39.51 ug/L 13.93 ug/L 15.87 ug/L 63.92 ug/L	
10			2095.10	233.46	

Benzeve 62

MBTEX 108

Client : Broad River BP Collected : 07/19/12 Analysis date : 11/28/2010 19:21:42 Method : E P A 8020

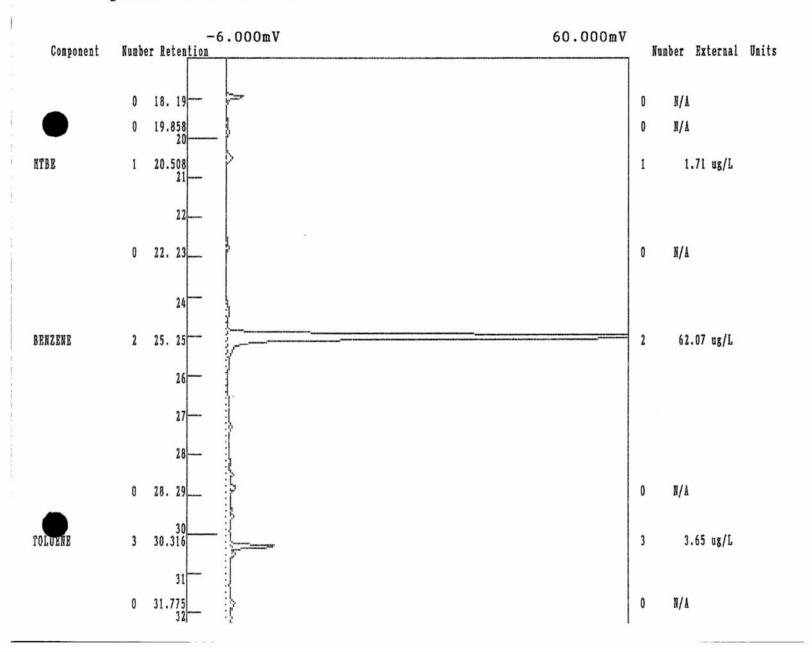
Lab ID : FL-312

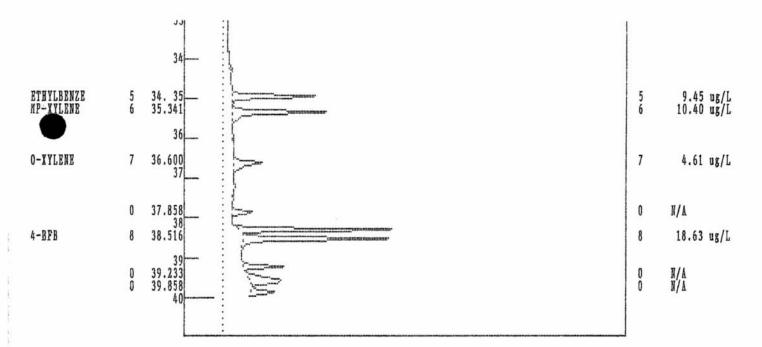
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-37

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External Units
MTBE BENZENE TOLUENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB 4-BFB	1 2 3 5 6 7 8 8	20.508 25.008 30.316 34.958 35.341 36.600 38.291 38.516	13.56 733.24 38.15 76.04 92.26 37.96 116.25 130.26	1.71 ug/L 62.07 ug/L 3.65 ug/L 9.45 ug/L 10.40 ug/L 4.61 ug/L 16.97 ug/L 18.63 ug/L
_	8		1237.71	127.49

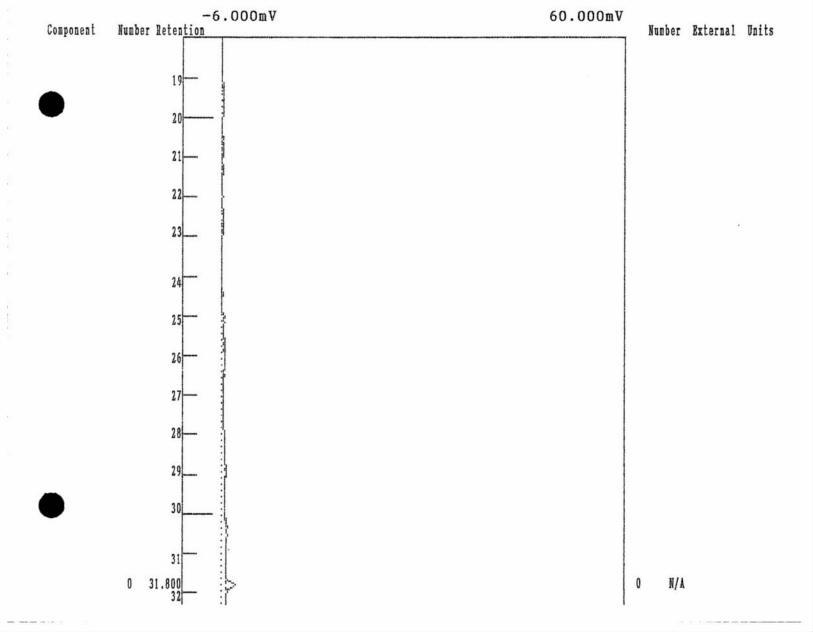
MTBE-

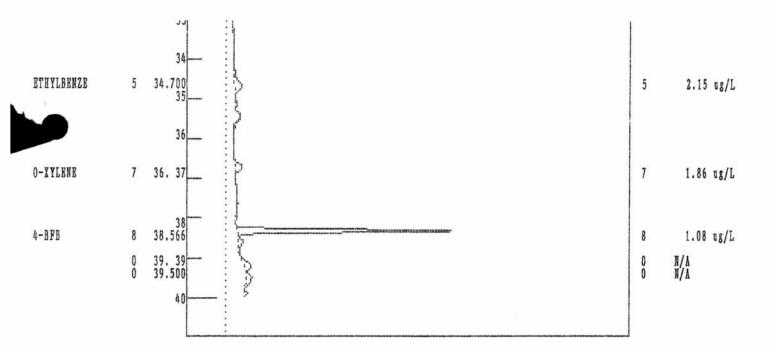
Benjewe

MBBEX

Client: Broad River BP
Collected: 07/19/12
Analysis date: 11/28/2010 21:08:40
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()

Sample: TW-39
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
ETHYLBENZE O-XYLENE 4-BFB 4-BFB	5 7 8 8	34.700 36.733 38.316 38.566	19.52 15.34 173.44 7.36	1.86 27.05	ug/L ug/L ug/L ug/L
4			215.66	32.14	

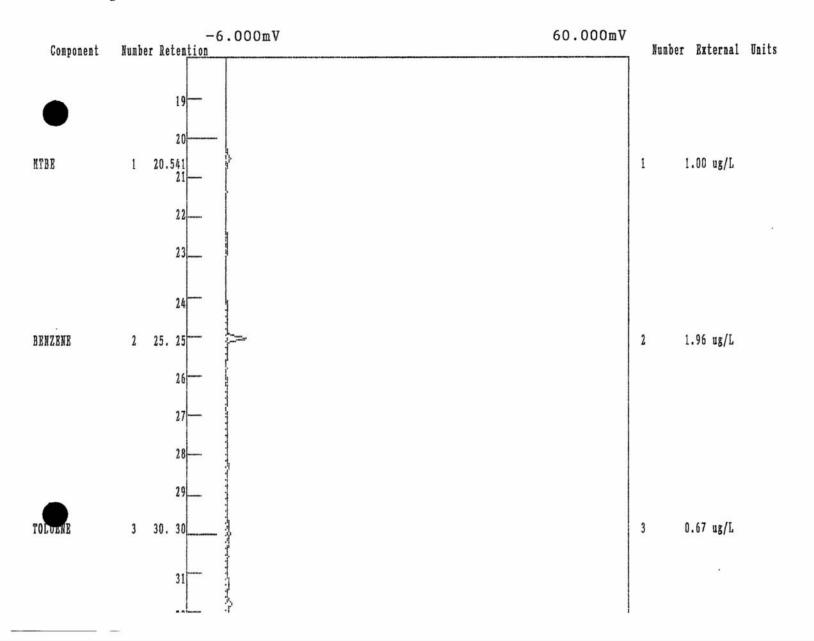
Benzene 2

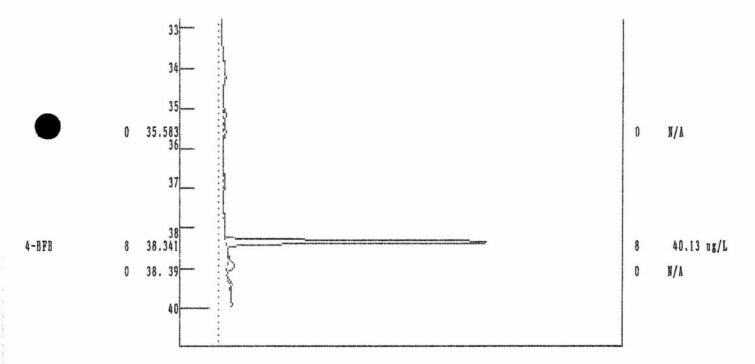
MBTEX

Client : Broad River BP Collected : 07/23/12 Analysis date : 12/02/2010 16:28:59 Method : E P A 8020 Lab ID : FL-312

Description : PID DETECTOR Column : J&W 624 75 METER

: 602.CPT Components Data file: 602.CHR ()
Sample: TW-11-D
Operator: TERRY L. TEATE



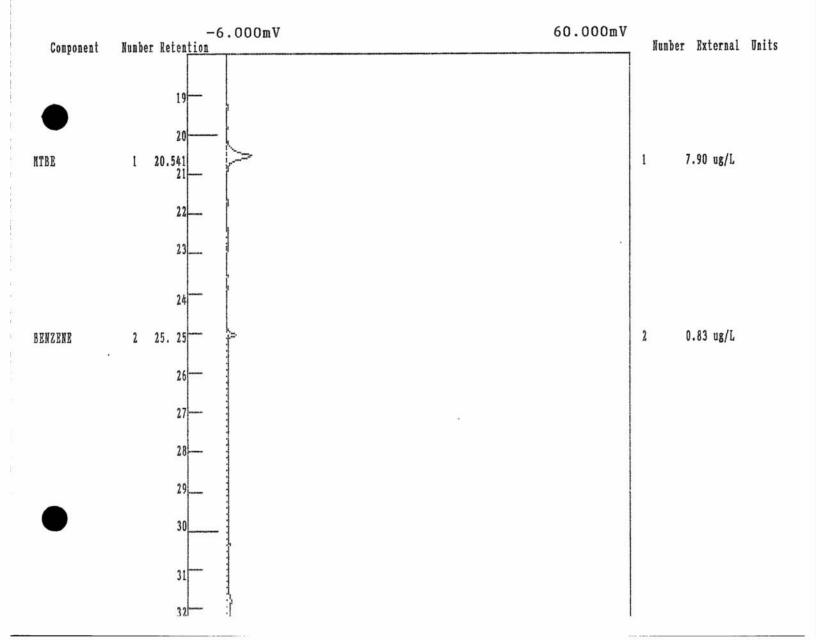


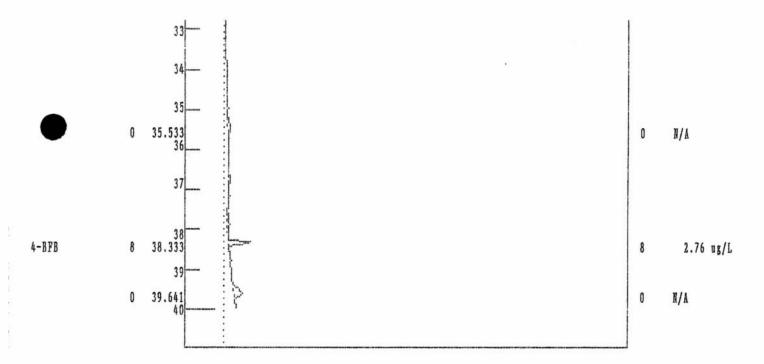
Component	Number	Retention	Area	External	Units
MTBE BENZENE TOLUENE 4-BFB	1 2 3 8	20.541 25.050 30.000 38.341	7.90 20.93 7.04 232.14	1.96	ug/L ug/L ug/L ug/L
	4		268 02	43 76	

Benzene 1

MBTEX 9

Client: Broad River BP
Collected: 07/25/12
Analysis date: 12/02/2010 17:13:29
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-12-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE 4-BFB	1 2 8	20.541 25.058 38.333	52.88 8.84 18.75	0.83	ug/L ug/L ug/L
3	3		80.47	11.49	

Benzere

MBTEX

Client : Broad River BP Collected : 07/23/12 Analysis date : 12/02/2010 12:24:59

Method: EPA 8020

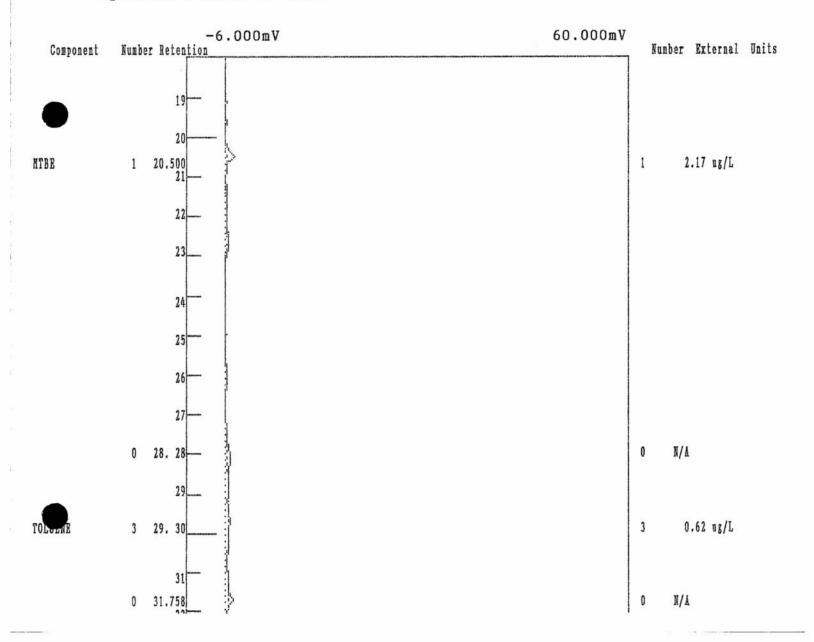
Lab ID: FL-312

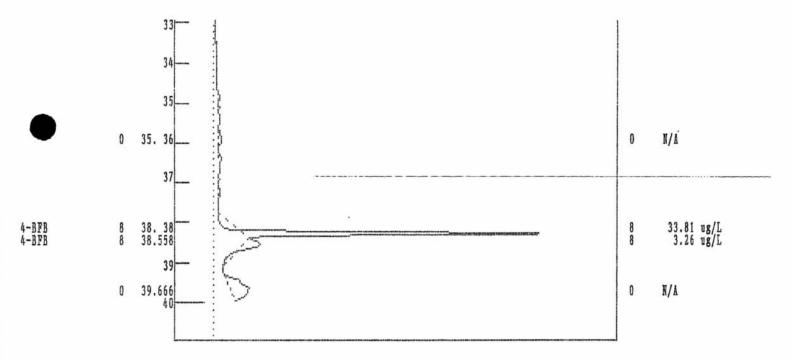
Description : PID DETECTOR

Column J&W 624 75 METER

Components 602.CPT Data file 602.CHR ()

Sample: TW-14-D Operator: TERRY L. TEATE



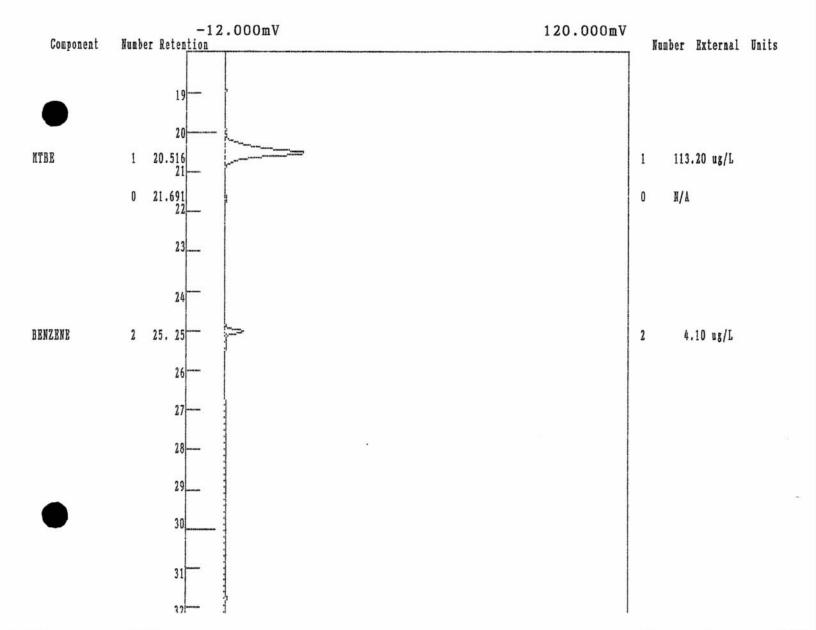


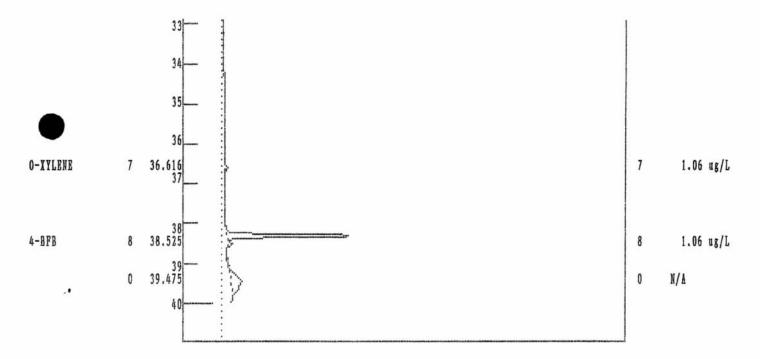
Component		Number	Retention	Area	External	Units
MTBE TOLUENE 4-BFB 4-BFB	8	1 3 8 8	20.500 29.733 38.266 38.558	17.22 6.50 203.78 22.14	0.62 33.81	ug/L ug/L ug/L ug/L
	4			249.63	39.86	

Benzene 4

MBTER

Client: Broad River BP
Collected: 07/23/12
Analysis date: 12/02/2010 13:27:37
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR()
Sample: TW-16-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE BENZENE O-XYLENE 4-BFB 4-BFB	1 2 7 8 8	20.516 25.025 36.616 38.300 38.525	375.30 43.74 8.71 216.06 7.24	1.06 36.55	ug/L ug/L
	5		651.05	155.96	

MBTEX 71 Benzene 71 8

Client: Broad River BP Collected: 07/25/12

Analysis date: 12/02/2010 17:58:30

Method: E P A 8020

Lab ID: FL-312

Description : PID DETECTOR

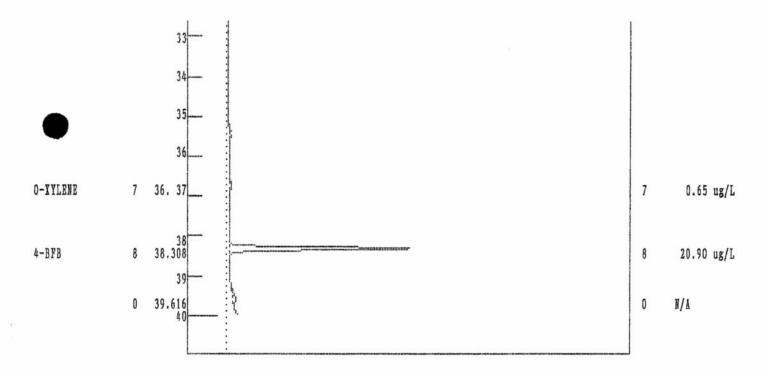
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample : TW-33-D

Operator : TERRY L. TEATE

60.000mV -6.000mV Number Retention Component 19 20 21 22 23 24 25 26 27 28 29 30

Number External Units



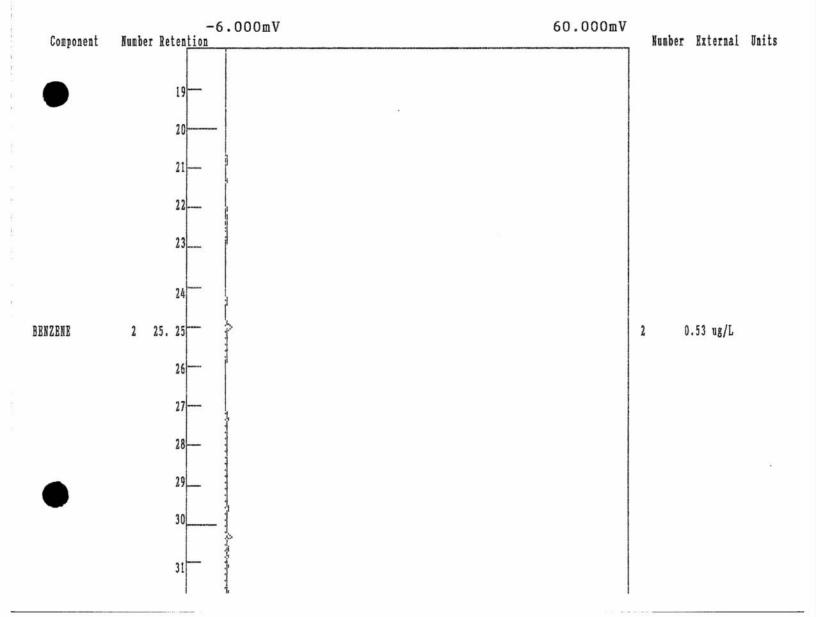
Component	Number	Retention	Area	External	Units
O-XYLENE 4-BFB	7 8	36.758 38.308	5.35 145.88	0.65 20.90	ug/L ug/L
2			151.23	21.55	

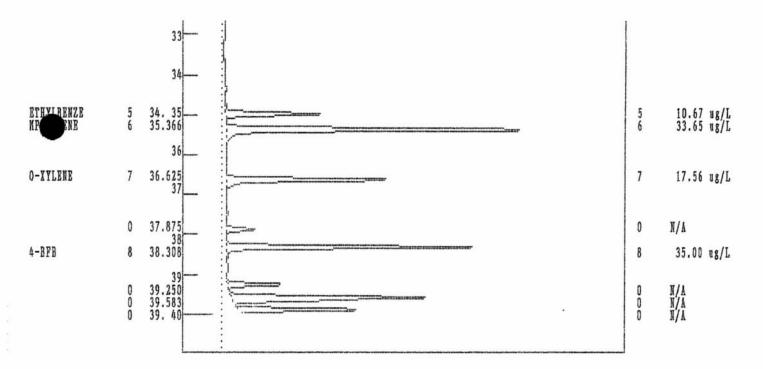
Benzene 71

MBTEX 62

```
Client: Broad River BP
Collected: 07/25/12
Analysis date: 12/02/2010 18:46:19
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
```

Sample: TW-40 Operator: TERRY L. TEATE





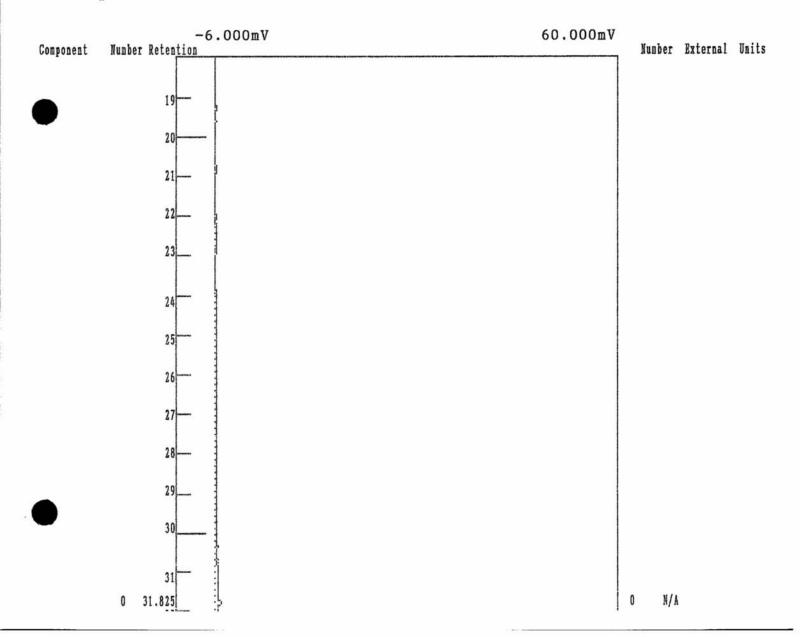
Component	Number	Retention	Area	External	Units
BENZENE ETHYLBENZE MP-XYLENE O-XYLENE 4-BFB	2 5 6 7 8	25.016 34.975 35.366 36.625 38.308	5.64 85.35 302.15 161.58 209.12	0.53 10.67 33.65 17.56 35.00	ug/L ug/L
	5		763.85	97.41	

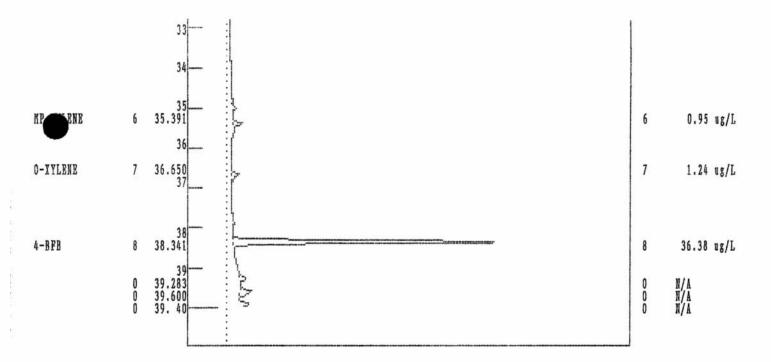
4TBE

Benzene MBTEX 71

Client: Broad River BP
Collected: 07/23/12
Analysis date: 12/02/2010 14:57:54
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602 CPT

Components: 602.CPT Data file: 602.CHR ()
Sample: TW-40-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MP-XYLENE O-XYLENE 4-BFB	6 7 8	35.391 36.650 38.341	8.53 10.21 215.30		ug/L ug/L ug/L
3			234.05	38.57	

Benzene 71

MB TEX

Client: Broad River BP Collected: 07/25/2012

Analysis date: 12/03/2010 13:58:46 Method: E P A 8020

Lab ID: FL-312

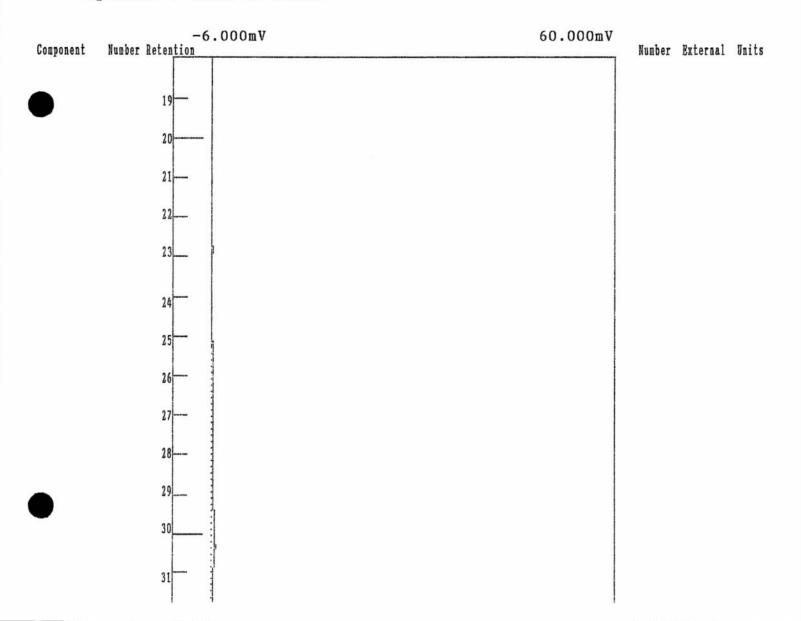
Description : PID DETECTOR

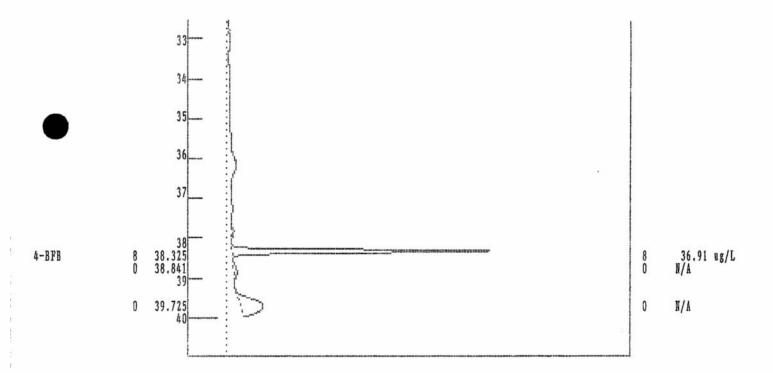
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample: TW-41

Operator : TERRY L. TEATE





Component	Number 1	Retention	Area	External	Units	
4-BFB	8	38.325	217.69	36.91	ug/L	
1			217.69	36.91		

Benzene 71

MBTEX

Client : Broad River BP Collected : 07/26/2012 Analysis date : 12/03/2010 16:33:59

Method: EPA 8020

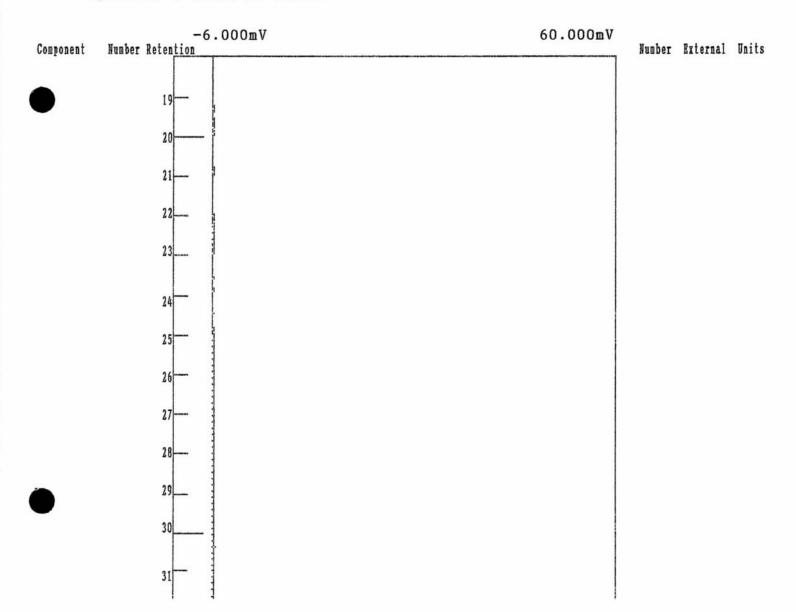
Lab ID: FL-312

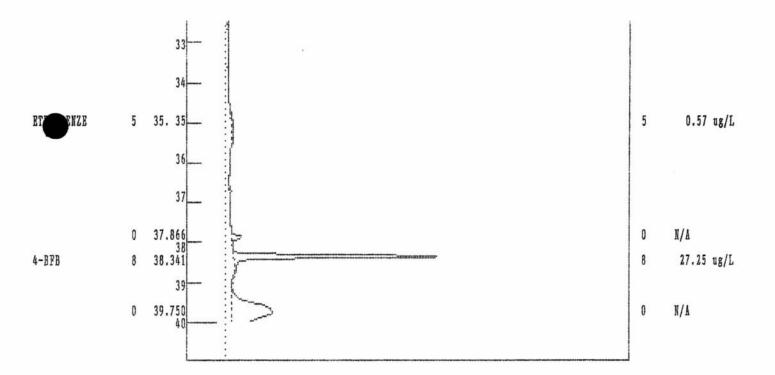
Description: PID DETECTOR
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample: TW-43

Operator: TERRY L. TEATE





Component		Number	Retention	Area	External	Units	
ETHYLBENZE 4-BFB		5 8	35.058 38.341	5.15 174.38	0.57 27.25	ug/L ug/L	
	2			179.53	27.82		

Benzene JeNZe, 71

MBTEX 32

Client: Broad River BP

Collected: 07/25/2012

Analysis date: 12/03/2010 12:17:27

Method: EPA 8020

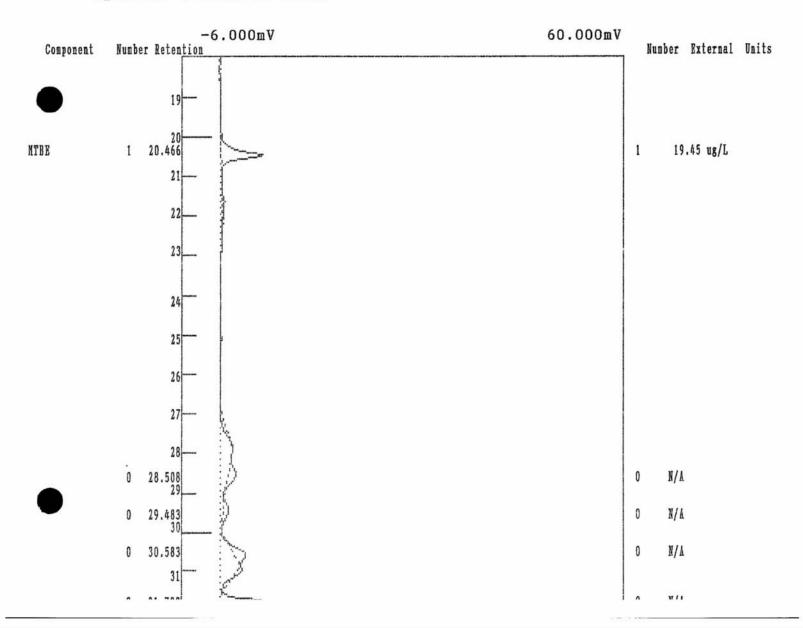
Lab ID: FL-312

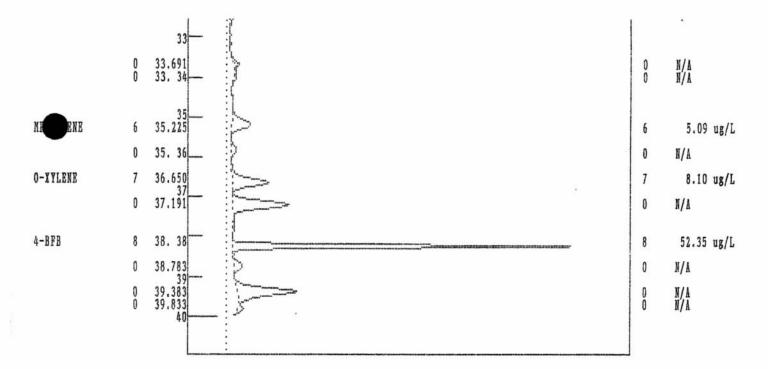
Description : PID DETECTOR Column : J&W 624 75 METER

602.CPT Components Data file: 602.CHR ()

TW-48 Sample:

Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE MP-XYLENE O-XYLENE 4-BFB	1 6 7 8	20.466 35.225 36.650 38.241	91.60 45.84 78.28 286.95		ug/L ug/L
4			502.68	84.99	

Benzene MBTEX 71 42

Client: Broad River BP

Collected: 07/25/2012 Analysis date: 12/03/2010 13:06:06

Method: E P A 8020

Lab ID: FL-312

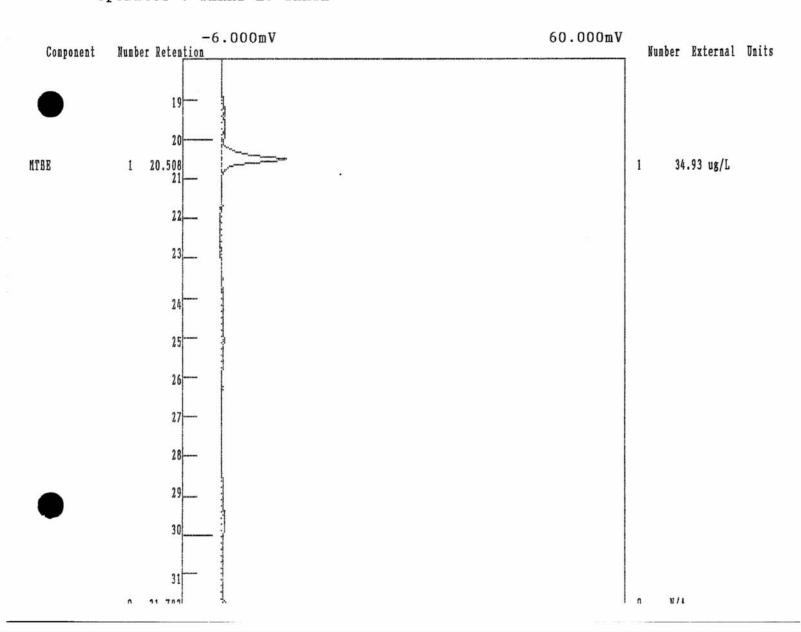
Description : PID DETECTOR

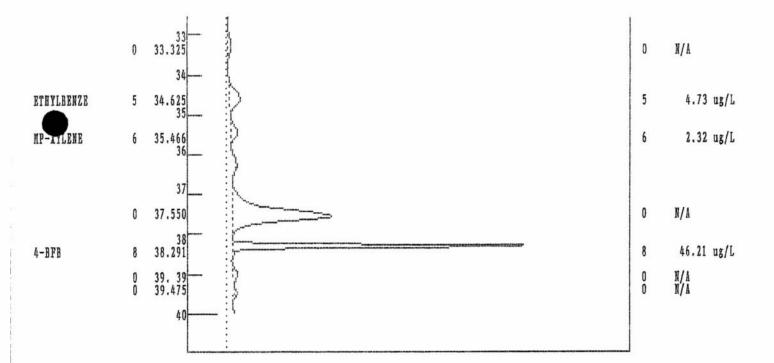
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample: TW-48-D

Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE ETHYLBENZE MP-XYLENE 4-BFB	1 5 6 8	20.508 34.625 35.466 38.291	139.38 42.98 20.87 259.39		ug/L ug/L
2 Section 1	4		462.62	88.19	

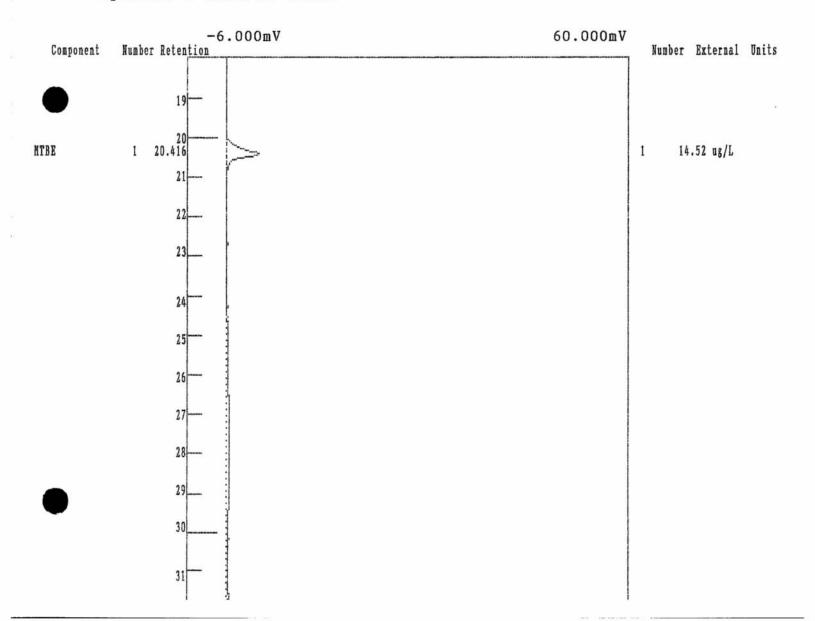
Benzene MBTEX
71 15

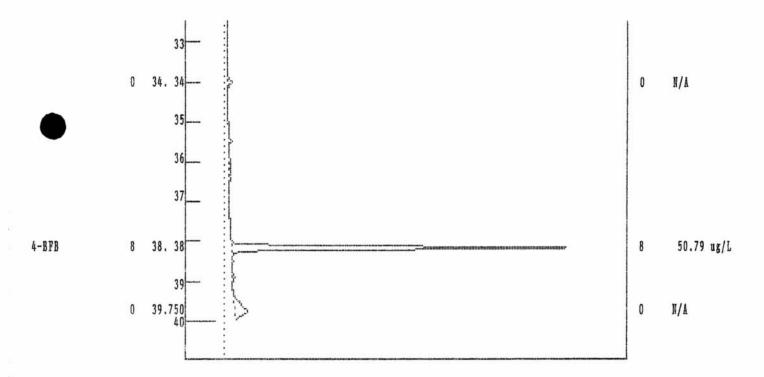
Client: Broad River BP Collected: 07/27/2012 Analysis date: 12/04/2010 07:29:56 Method: E P A 8020 Lab ID: FL-312

Description : PID DETECTOR
Column : J&W 624 75 METER
Components : 602.CPT

602.CHR () Data file

Sample: TW-49 Operator: TERRY L. TEATE

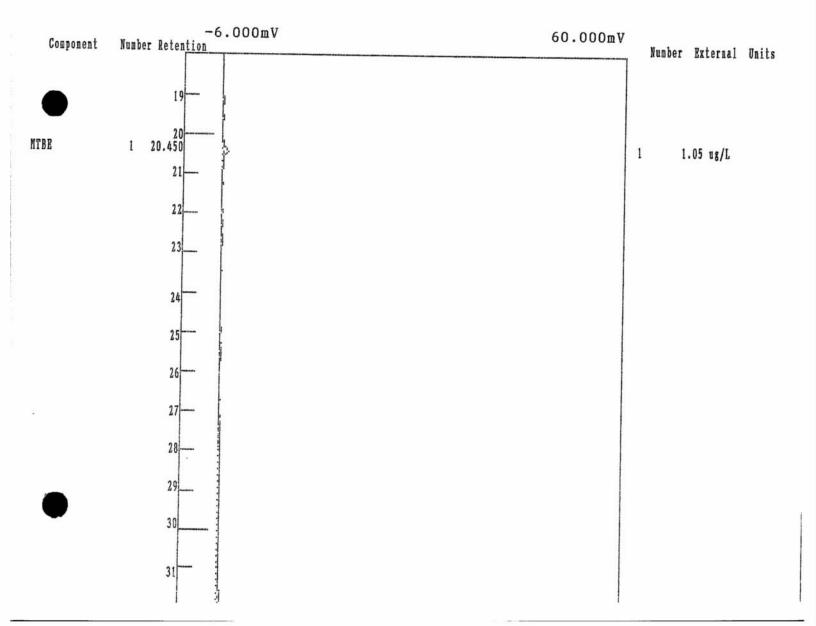


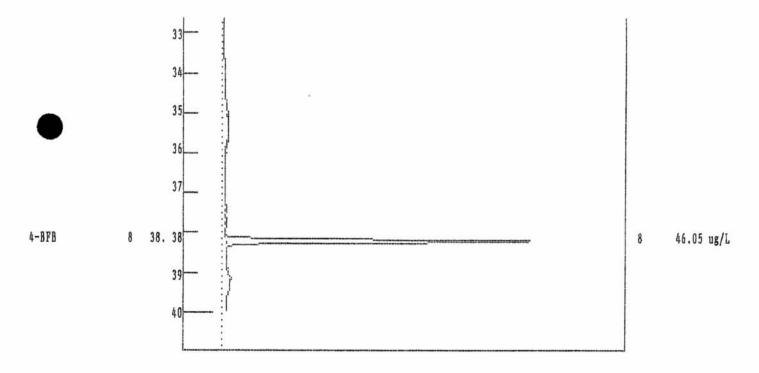


Component	Number	Retention	Area	External	Units	
MTBE 4-BFB	1 8	20.416 38.158	76.40 279.94	14.52 50.79	ug/L ug/L	
2			356.34	65.31		

Benzene MBTEX

```
Client : Broad River BP
Collected : 07/27/2012
Analysis date : 12/04/2010 08:14:10
           Method: EPA 8020
Lab ID: FL-312
  Description : PID DETECTOR
Column : J&W 624 75 METER
    Components: 602.CPT
      Data file: 602.CHR ()
Sample: TW-49-D
        Operator : TERRY L. TEATE
```



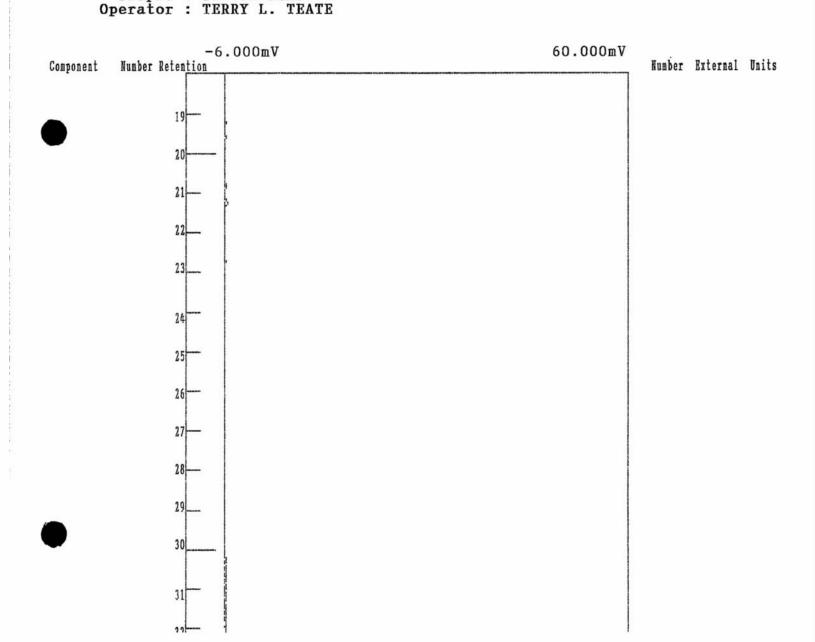


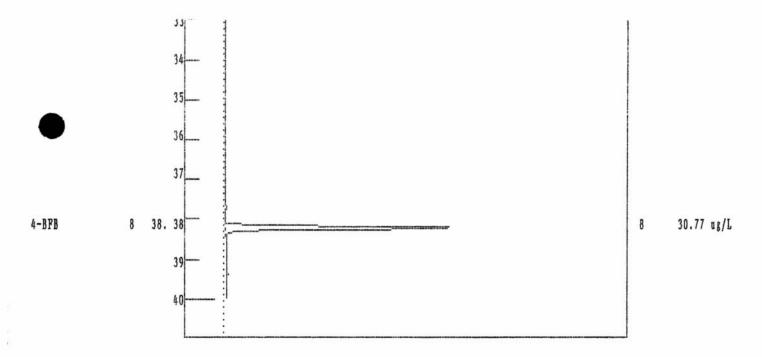
Component	Number	Retention	Area	External Un	its
MTBE 4-BFB	1 8	20.450 38.208	8.29 258.68	1.05 ug 46.05 ug	
	2		266.97	47.10	

MTBE TI Benzene 71

MBTEX 71

Client: Broad Rover Rd
Collected: 08/09/12
Analysis date: 12/12/2010 21:22:23
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-43D SLED





Component		Number	Retention	Area	External	Units	
4-BFB		8	38.208	190.16	30.77	ug/L	
	1			190.16	30.77		

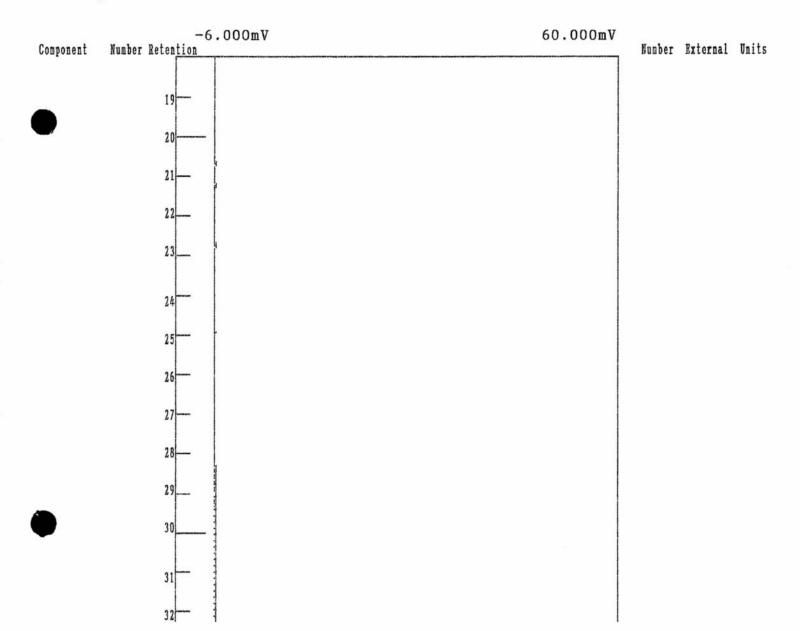
M TB E

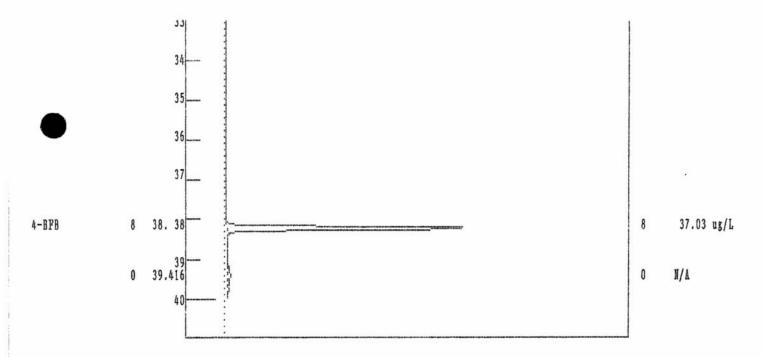
Benzene 71

MBTEX 71

Client: Broad Rover Rd
Collected: 08/09/12
Analysis date: 12/12/2010 08:05:03
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-44 SLED
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units	
4-BFB	8	38.216	218.20	37.03	ug/L	
1			218.20	37.03		

MTBE -71

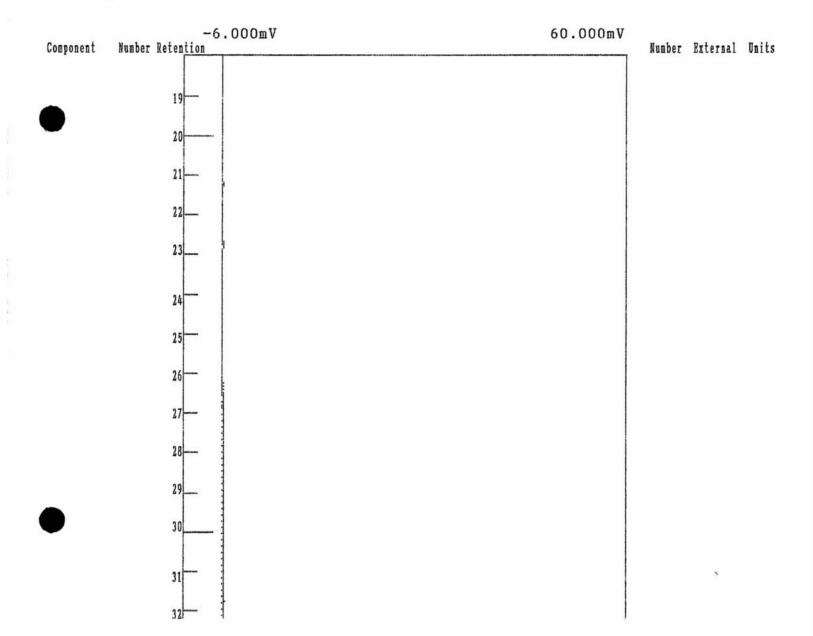
Benzene 71

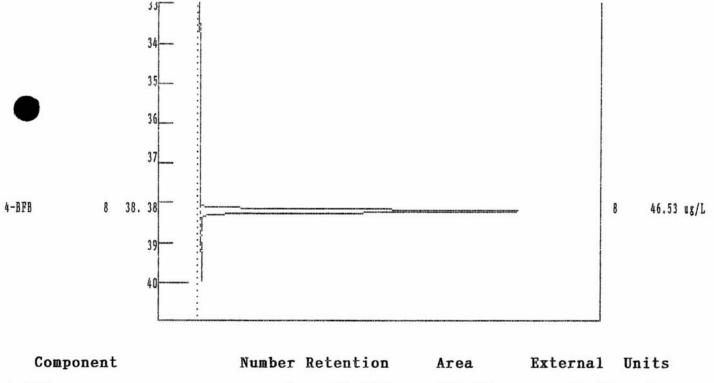
MBTEX >1

Client: Broad Rover Rd Collected: 08/09/12 Analysis date: 12/12/2010 19:18:28 Method: E P A 8020 Lab ID: FL-312

Description: PID DETECTOR
Column: J&W 624 75 METER

Components: 602.CPT
Data file: 602.CHR ()
Sample: TW-44D SLED
Operator: TERRY L. TEATE





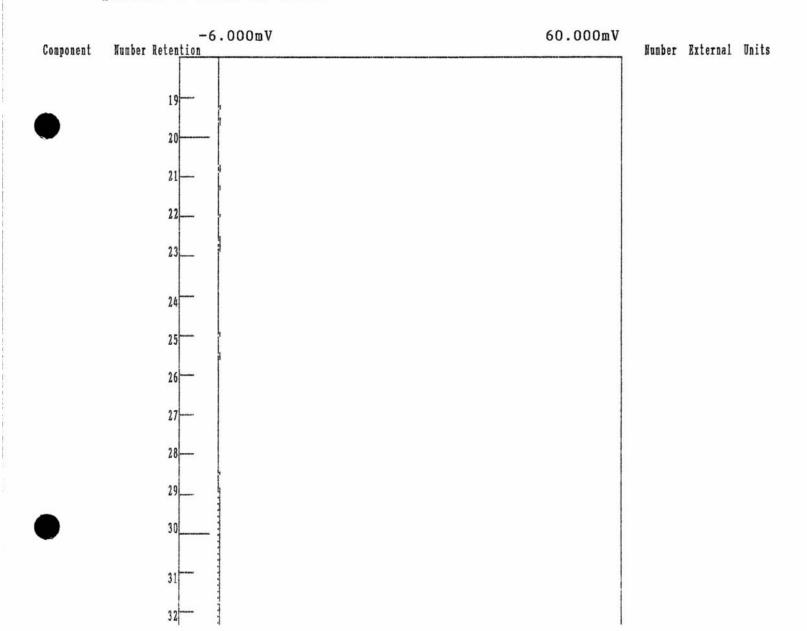
Component	Number	Retention	Area	External Un:	its
4-BFB	8	38.200	260.83	46.53 ug,	/L
	1		260.83	46.53	

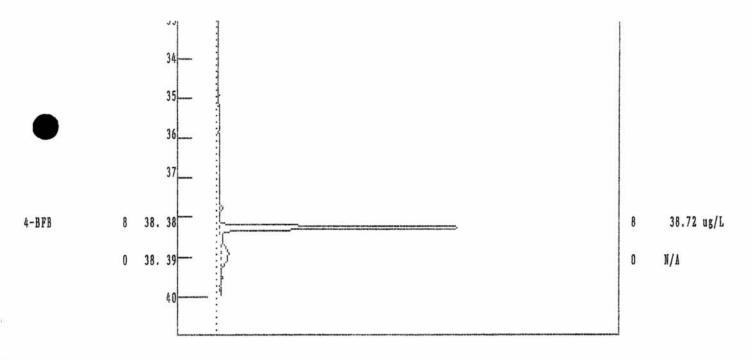
benzenc 71

MBTEX 71

Client: Broad Rover Rd
Collected: 08/09/12
Analysis date: 12/12/2010 05:57:50
Method: E P A 8020
Lab ID: FL-312
Description: PID DETECTOR
Column: J&W 624 75 METER
Components: 602 CPT

Components: 602.CPT Data file: 602.CHR ()
Sample: TW-45 SLED
Operator: TERRY L. TEATE





Component	Number	Retention	Area	Externa1	Units
4-BFB	8	38.258	225.79	38.72	ug/L
	1		225.79	38.72	

Benzene >1

MBJEX 71

Client: Broad Rover Rd Collected: 08/09/12

Analysis date: 12/12/2010 07:13:17

Method: EPA 8020

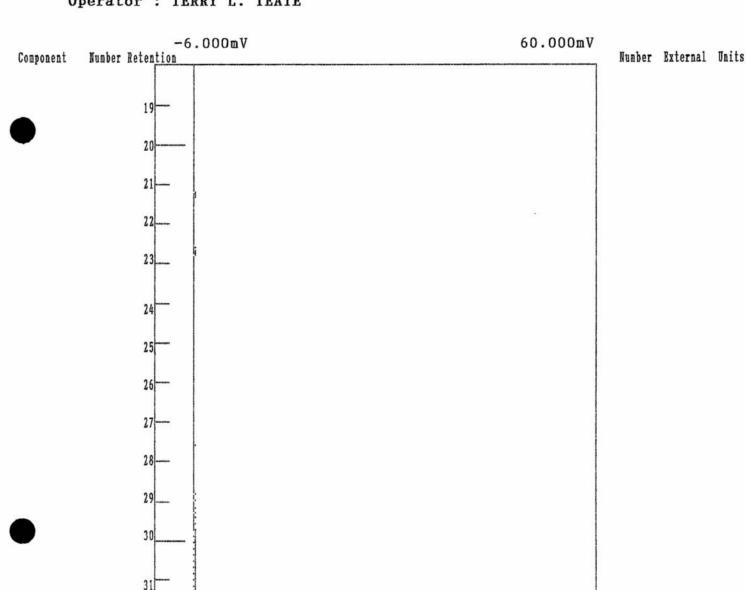
Lab ID: FL-312

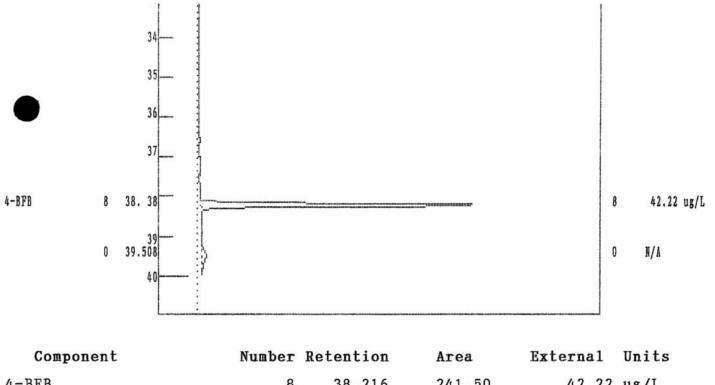
32

Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample: TW-45D SLED Operator: TERRY L. TEATE





Component			Number	Retention	Area	External	Units
4-BFB			8	38.216	241.50	42.22	ug/L
	1	٠			241.50	42.22	

MTB E

benzene MBTEX

Client: Broad Rover Rd

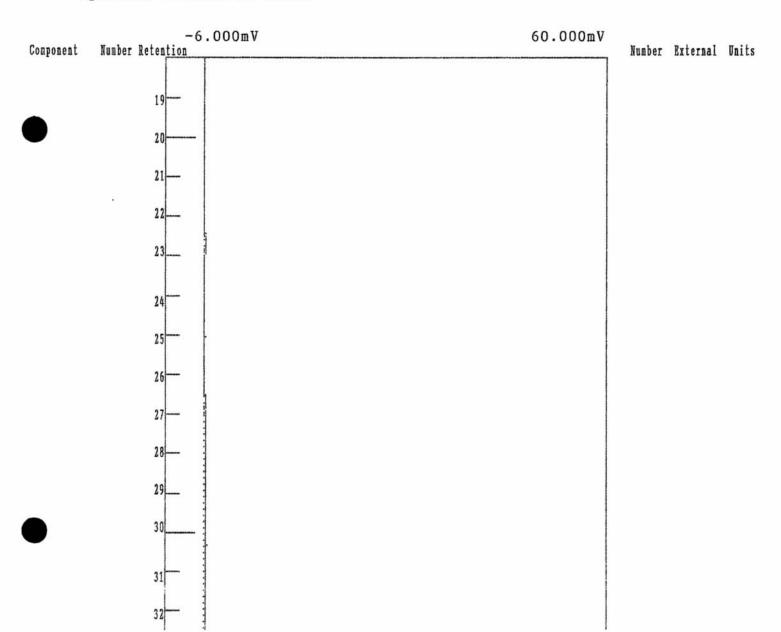
Collected: 08/09/12 Analysis date: 12/12/2010 03:21:56 Method: E.P.A. 8020

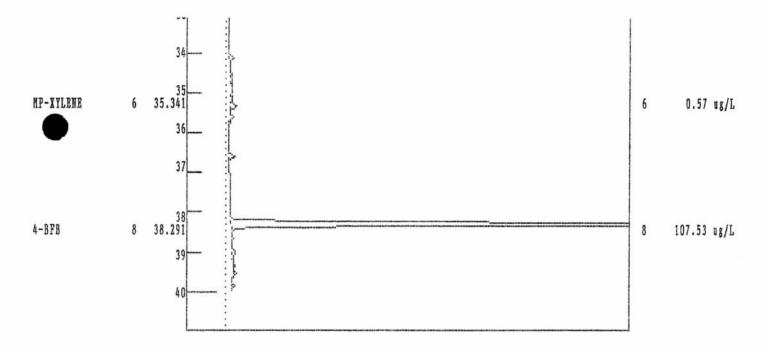
Lab ID : FL-312

Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample : TW-46 SLED Operator : TERRY L. TEATE



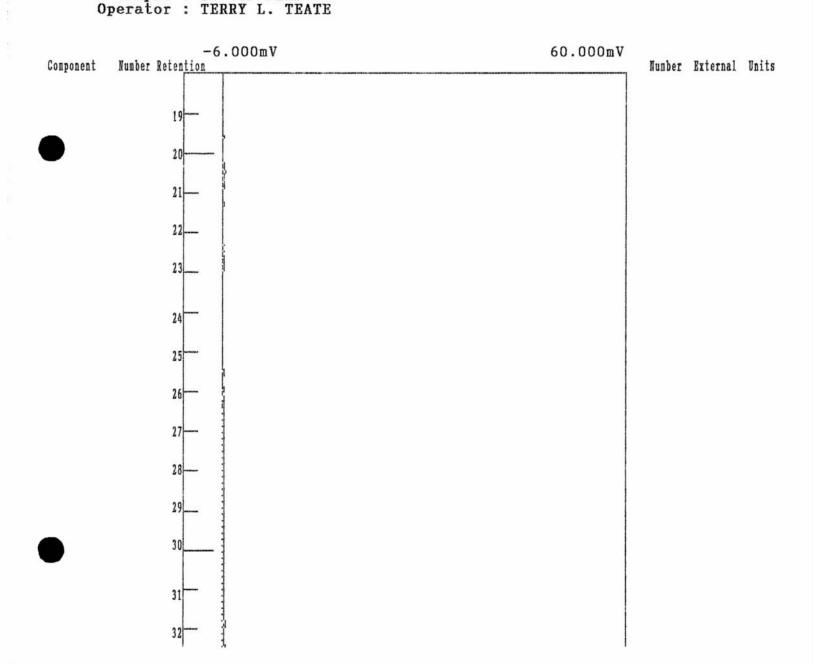


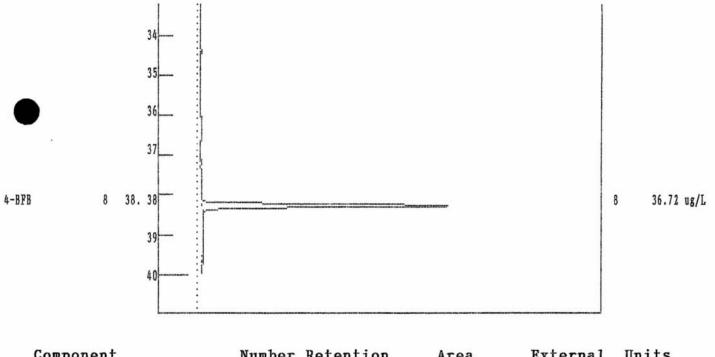
Component	Number	Retention	Area	External Unit	S
MP-XYLENE 4-BFB	6 8	35.341 38.291	5.11 534.42	0.57 ug/L 107.53 ug/L	
2			539.53	108.10	

Benzene >1

MBTEX

```
Client: Broad Rover Rd
Collected: 08/09/12
Analysis date: 12/12/2010 05:13:36
    Method: E P A 8020
    Lab ID: FL-312
Description: PID DETECTOR
    Column: J&W 624 75 METER
Components: 602.CPT
Data file: 602.CHR ()
    Sample: TW-46D SLED
```





Component	Number	Retention	Area	External Units	;
4-BFB	8	38.266	216.82	36.72 ug/L	
1			216.82	36.72	

Benzene

MBTEX

Client: Broad River BP

Collected: 08/13/12 Analysis date: 12/15/2010 20:54:24 Method: E P A 8020

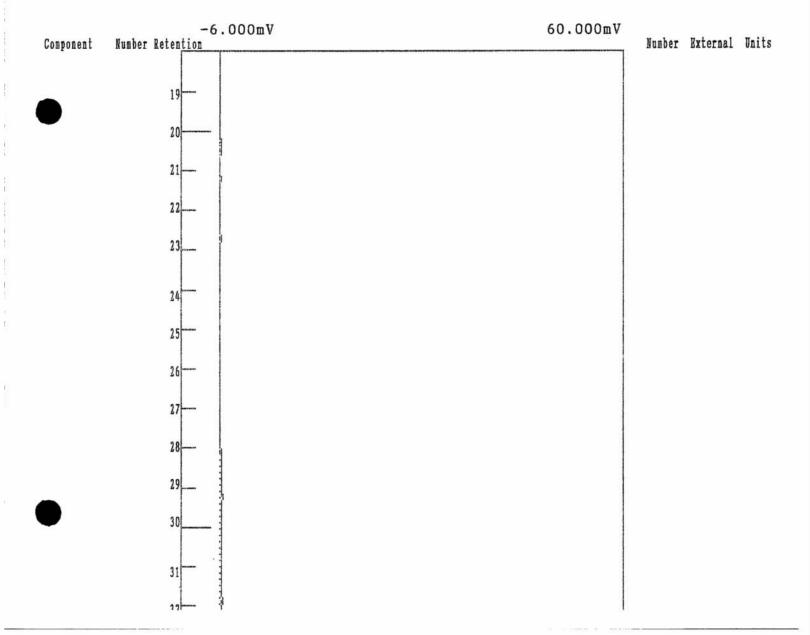
Lab ID: FL-312

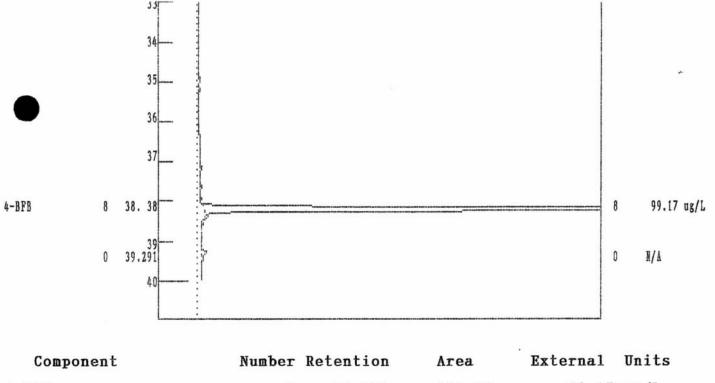
Description : PID DETECTOR Column : J&W 624 75 METER

Components: 602.CPT

Data file: 602.CHR ()

Sample: TW-47 Operator: TERRY L. TEATE





Component		Number	Retention	Area	External	Units
4-BFB		8	38.191	496.92	99.17	ug/L
	1			496.92	99.17	

MTB E

Benzene 2

Client: Broad River BP Collected: 09/14/12

Analysis date: 12/25/2010 18:18:28 Method: E P A 8020

Lab ID: FL-312

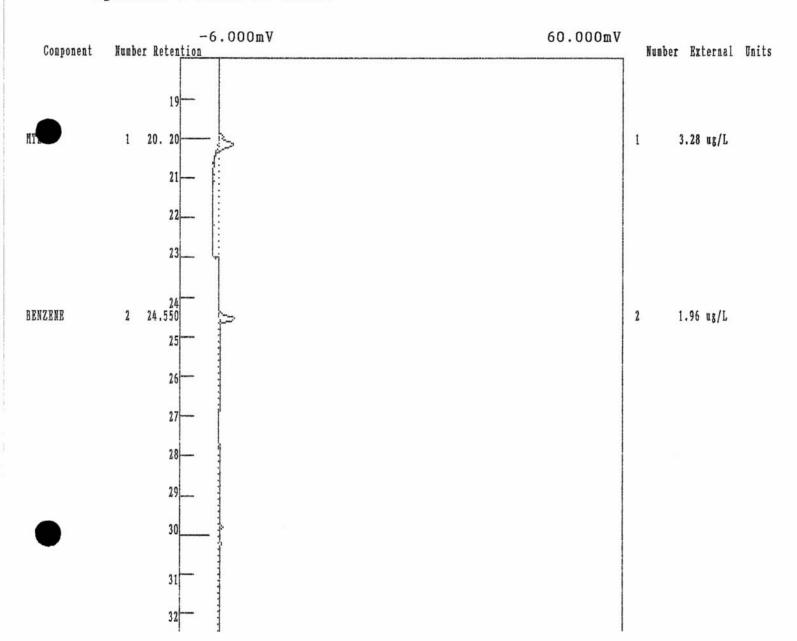
Description : PID DETECTOR

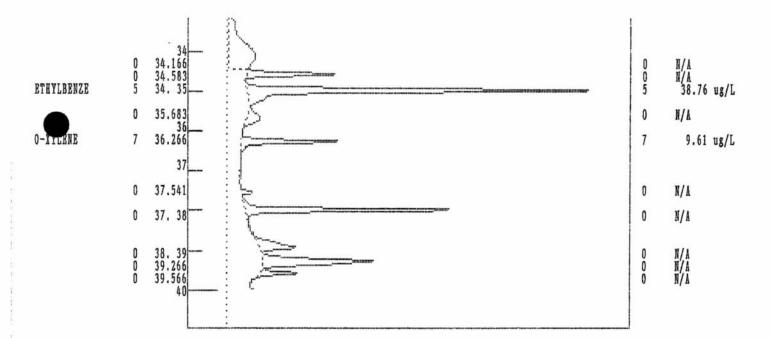
Column: J&W 624 75 METER

Components : 602.CPT Data file : 602.CHR () Sample: TW-26D

Operator: TERRY L. TEATE

TW-26D





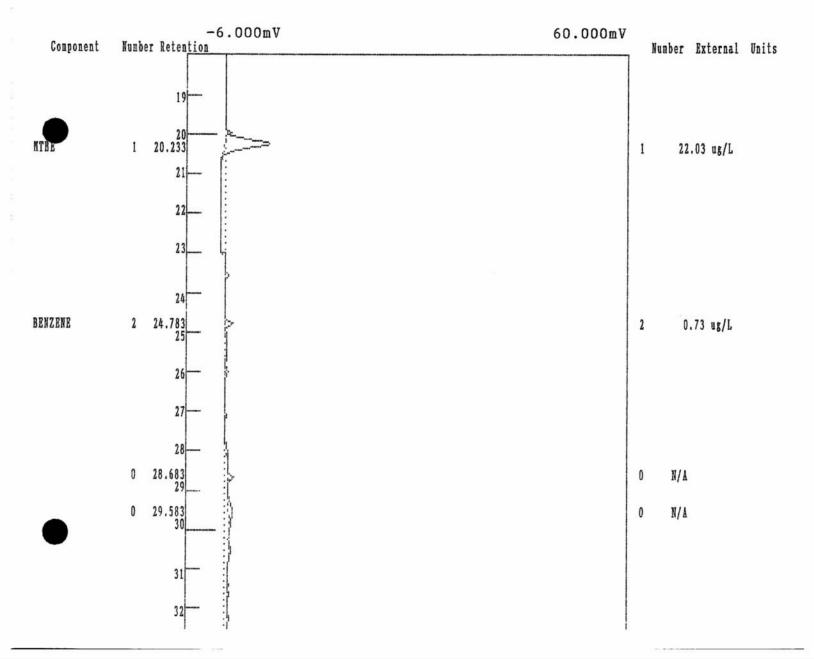
Component	Number	Retention	Area	External	Units
MTBE BENZENE ETHYLBENZE O-XYLENE	1 2 5 7	20.166 24.550 34.983 36.266	26.00 20.95 362.68 96.30	1.96 38.76	ug/L ug/L ug/L ug/L
, i	4		505.93	53.61	

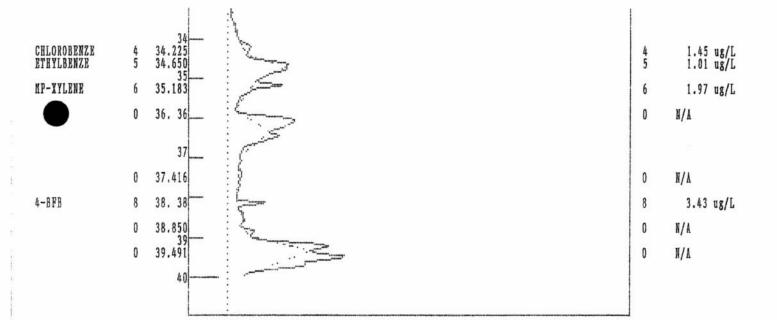
Berrene

MBTEX 27

Client: Broad River BP Collected: 09/14/12 Analysis date: 12/25/2010 17:12:48 Method: E P A 8020 Lab ID: FL-312 Description : PID DETECTOR Column : J&W 624 75 METER Components: 602.CPT Data file: 602.CHR () Sample: TW-26 Operator : TERRY L. TEATE

TW-26





Component		Number	Retention	Area	External	Units
MTBE BENZENE CHLOROBENZE ETHYLBENZE MP-XYLENE 4-BFB		1 2 4 5 6 8	20.233 24.783 34.225 34.650 35.183 38.125	99.58 7.78 15.28 9.17 17.72 23.30	22.03 0.73 1.45 1.01 1.97 3.43	ug/L ug/L ug/L ug/L
_	6			172.83	30.62	

MTB E ->l

Benzene

TW-50-D

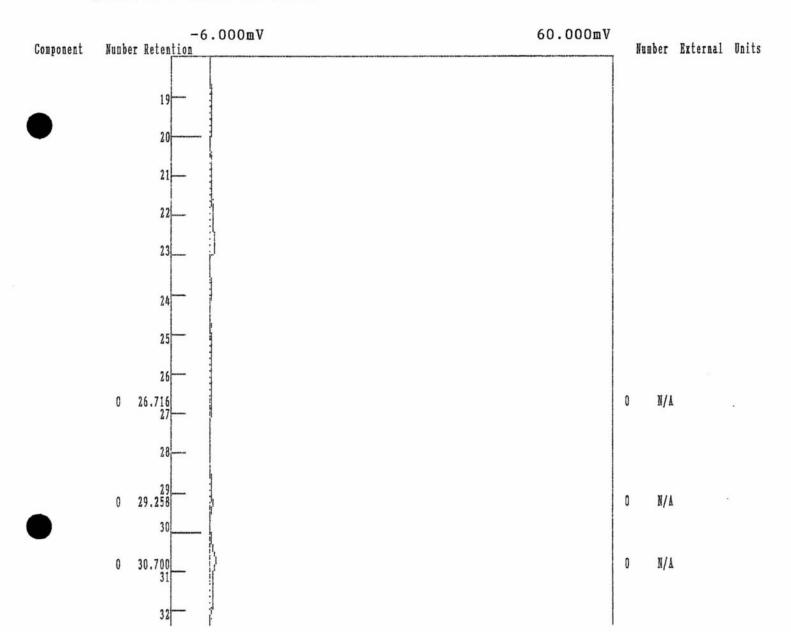
MBTEX

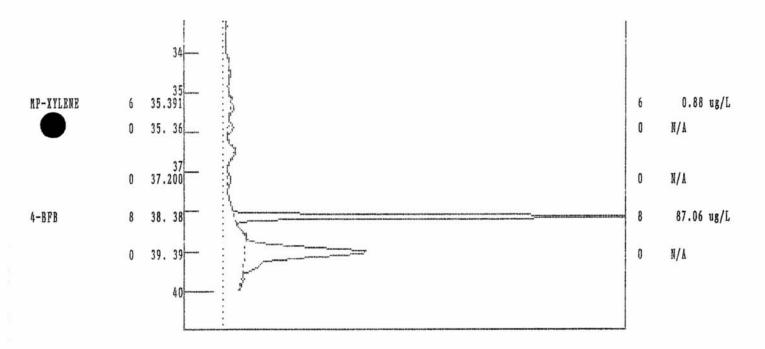
Client: Broad River BP Collected: 09/14/12 Analysis date: 12/25/2010 19:17:33 Method: E P A 8020 Lab ID: FL-312

Description : PID DETECTOR
Column : J&W 624 75 METER

Components: 602.CPT

Data file: 602.CHR ()
Sample: TW-50-D
Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MP-XYLENE 4-BFB	6 8	35.391 38.116	7.89 442.62	0.88 87.06	
	2		450.51	87.94	

MTBE 071 Benzene 71

MBTEX 2

TW-51-0

Client: Broad River BP Collected: 09/14/12

Analysis date: 12/25/2010 20:45:37 Method: E P A 8020

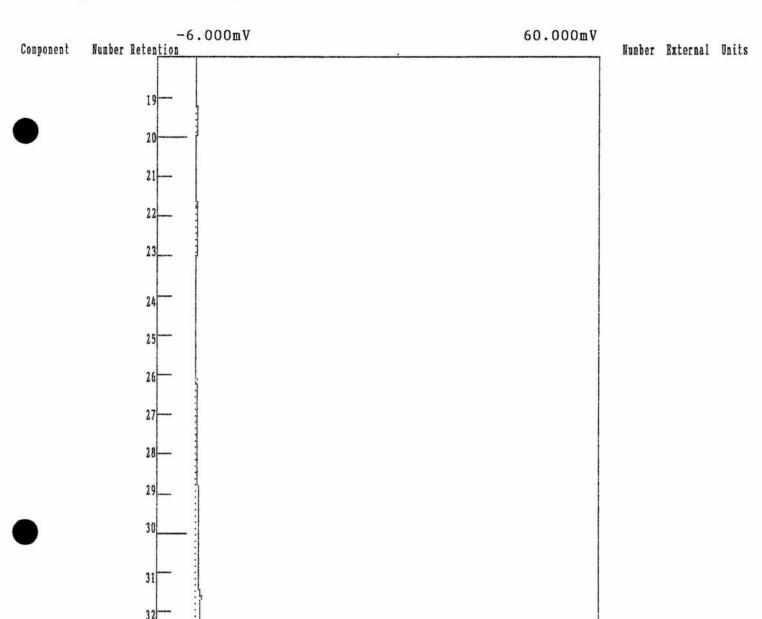
Lab ID: FL-312

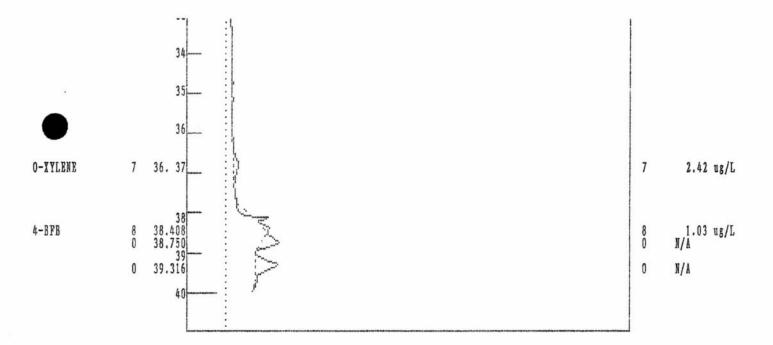
Description : PID DETECTOR

Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample: TW-51-D

Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
O-XYLENE 4-BFB	7 8	36.800 38.408	19.97 7.02	2.42 1.03	ug/L ug/L
2			26.99	3.46	

MTBE

Benzene 71

TW-52-D

MBTEX

Client: Broad River BP

Collected: 09/14/12

Analysis date: 12/25/2010 21:40:12

Method: EPA 8020

Lab ID: FL-312

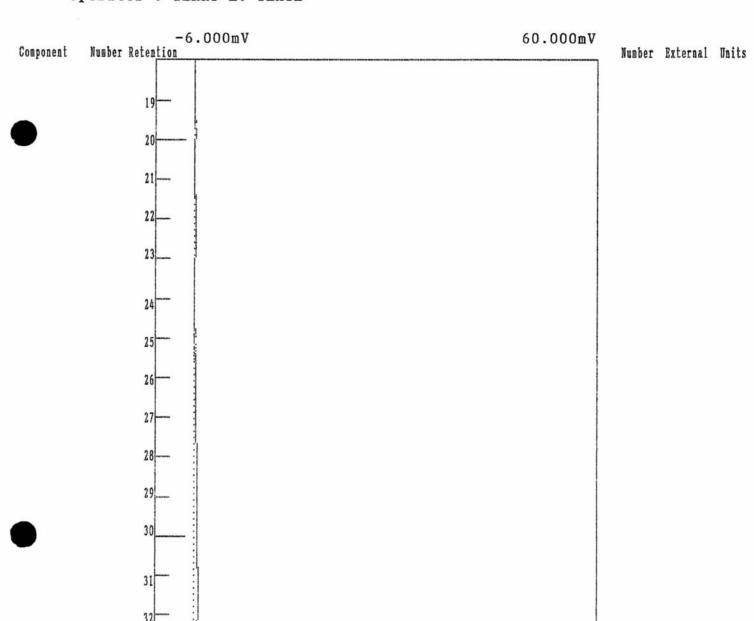
Description : PID DETECTOR

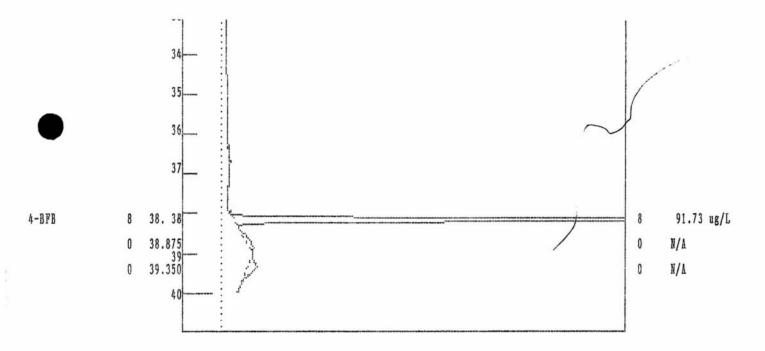
Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR ()

Sample: TW-52-D

Operator : TERRY L. TEATE





Component	Number	Retention	Area	External	Units
4-BFB	8	38.150	463.58	91.73	ug/L
1			463.58	91.73	

MTB E

Benzene 71

MBTEX

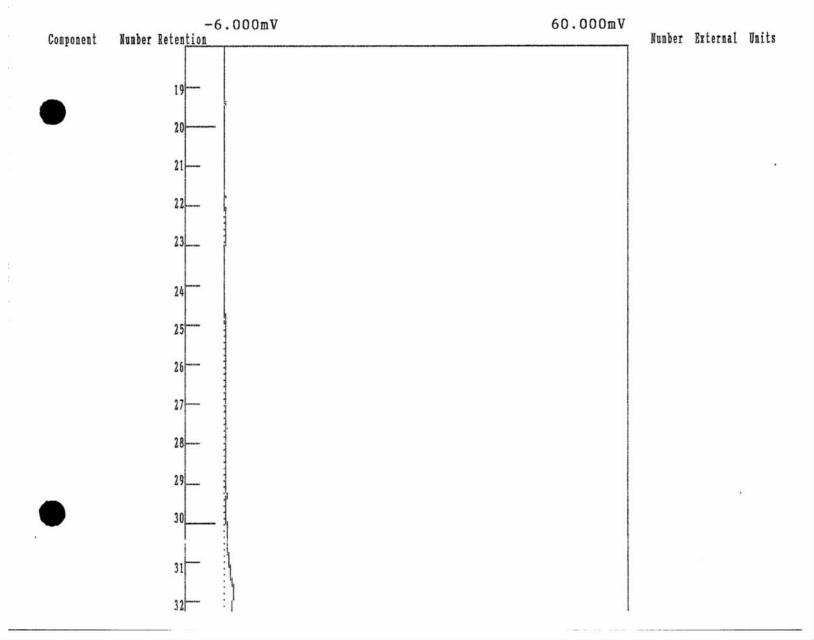
Client: Broad River BP Collected: 09/14/12 Analysis date: 12/26/2010 00:28:41 Method: EPA 8020 Lab ID: FL-312

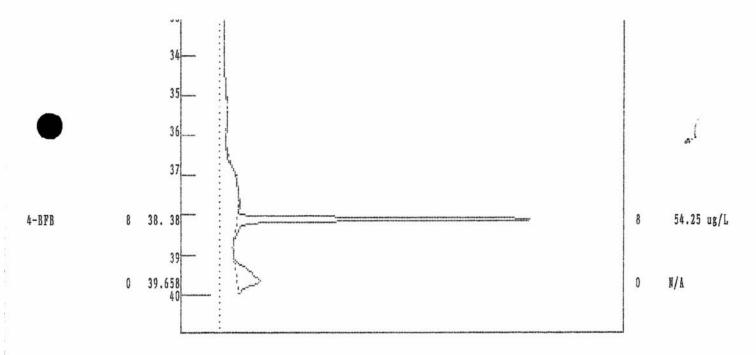
Description : PID DETECTOR Column: J&W 624 75 METER

Components: 602.CPT Data file: 602.CHR () Sample: TW-53-D

Operator: TERRY L. TEATE

TW-53-D





Component		Number	Retention	Area	External	Units
4-BFB		8	38.100	295.47	54.25	ug/L
	1			295.47	54.25	

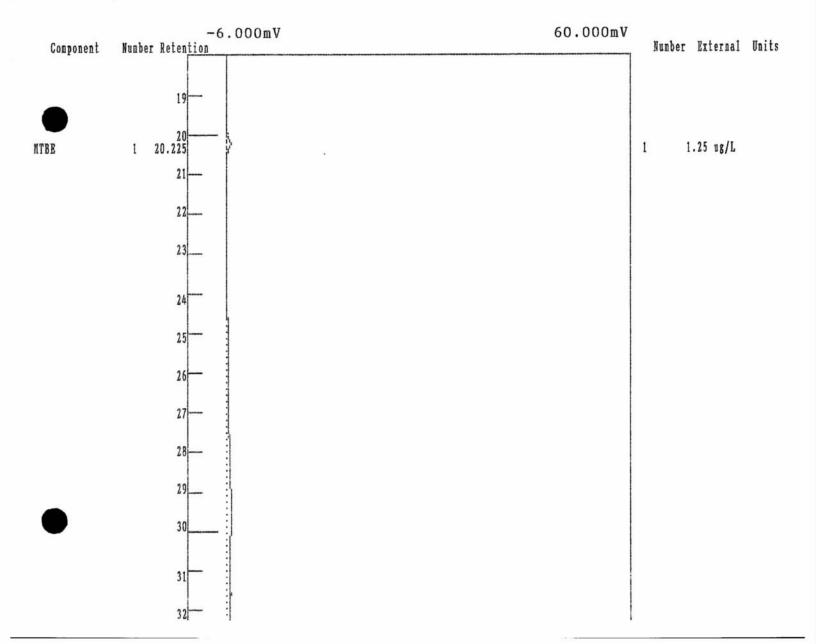
MTBE

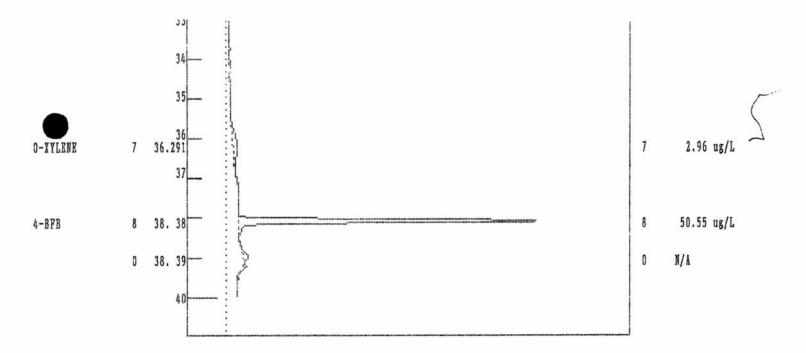
Benzene MBTEX
71

Client: Broad River BP Collected: 09/14/12 Analysis date: 12/26/2010 02:40:30 Method: EPA 8020 Lab ID: FL-312 Description : PID DETECTOR Column: J&W 624 75 METER

TW-54-D

Components: 602.CPT Data file : 602.CHR () Sample: TW-54-D Operator: TERRY L. TEATE





Component	Number	Retention	Area	External	Units
MTBE O-XYLENE 4-BFB	1 7 8	20.225 36.291 38.066	9.90 24.37 278.85	1.25 2.96 50.55	
	3		313.12	54.75	

.

313.12

MTBE 071

Benzene 71

MBTEX >l

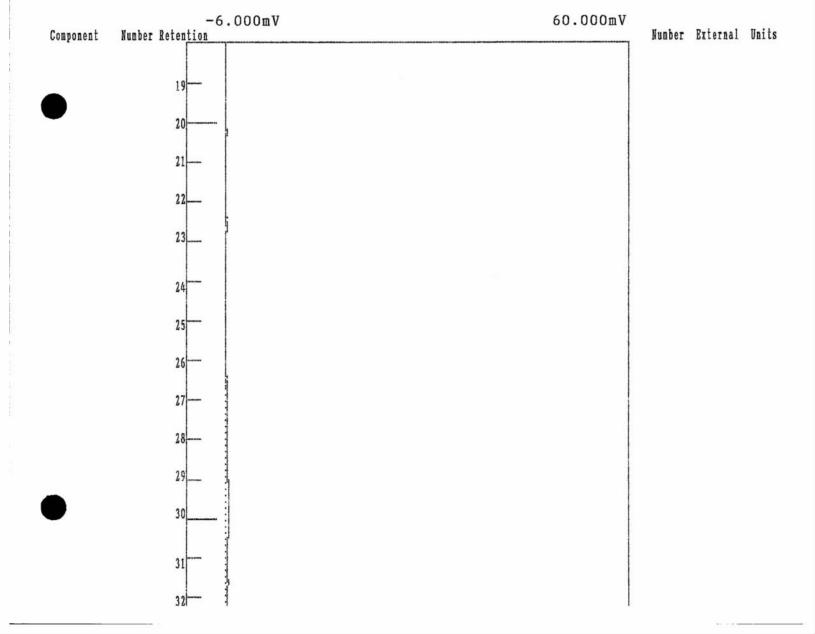
Client: Broad River BP Collected: 09/14/12 Analysis date: 12/26/2010 03:24:24 Method: E P A 8020 Lab ID: FL-312 Description: PID DETECTOR

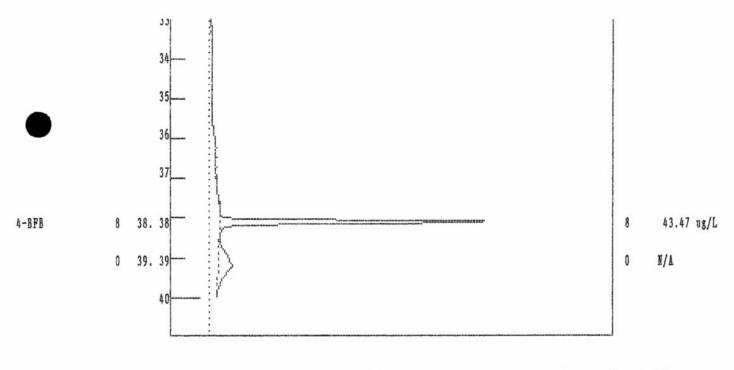
J&W 624 75 METER Column:

602.CPT Components: Data file: 602.CHR () Sample: TW-55-D

Operator : TERRY L. TEATE

TW-55-D





Component	Number	Retention	Area	External	Units
4-BFB	8	38.091	247.09	43.47	ug/L
1			247.09	43.47	

APPENDIX E WELL COMPLETION LOGS & SCDHEC 1903 FORMS

Log of Borehole: MW-6A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Voletile Organia		
	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						9777 200 7
2-	Γ	THE STATE OF THE S	asphalt		1	1				manhole
6-	-2	#				1	Q	7		2" PVC casing
8-		#			2		Q.	g		cement grout
12-	-4	1	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1				bentonite seal
16- 18- 20-	-6	 			4	1			¥	filter pack
22-		# #		-25.5	5	1				2" PVC screen
26-	-8		Fod of Dorobala	20.0		•			:::: 	ени сар
28- -	-0		End of Borehole							
30-	- 10									
34-	.0		J							
38-	– 12									*
تت			18 18 8							

Drill Method: auger rig Drill Date: 8/16/12

Casing Diameter: 2.0"
Total Depth of Well: 25.5



Depth to Water: 18.00' Latitude: N34d03.910' Longitude: W81d07.012'

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Log of Borehole: MW-7A

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

- 1777	S	UBSURFACE PROFILE			SAMPL	.E	Valetile Organia		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-		topsoli		1	1		4		manhole
62					1	<u>0</u>	7		2" PVC casing
8-	#			2)	Q	9		cement grout
12-		Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1				bentonite seal
16-		Sana (maa)		4	(Q	B	¥	filter pack
20-6	\$ H				7				2" PVC screen
22 - - 24-	#		-24	5	}				end cap
		End of Borehole						l i	
26-8	3								
28-									
1 4									
30-		12							
32-									
	10	2410)
34-								45	
1 1			•						
36-									20
38-						2.50			*
1 1	12								
40	12	15					1 1		

Drill Method: auger rig Drill Date: 8/16/12 Casing Diameter: 2.0"

Total Depth of Well: 24.0

A SERVICES, INC.

Depth to Water: 16.60' Latitude: N34d03.910' Longitude: W81d07.012' Log of Borehole: MW-8A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		· s	UBSURFACE PROFILE			SAMPL	E	Valetile Oi-		799
	uden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft.	m _O		Ground Surface	0						0A: 81
2-		H	topsoil /		1	1				manhole
6-	- 2		ŧ			1		8		2" PVC casing
8- 10-			01		2		Q	9		cement grout .
12-	-4	#	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1	0	8		
16-		#			4	1			¥	filter pack
20-	- 6	#			5	1				2" PVC screen
22-			End of Borehole	-23						end cap
26-	- 8									
28-										
32-	- 10									
34- 36-										
38 - 40-	- 12									

Drill Method: auger rig
Drill Date: 8/15/12

Casing Diameter: 2.0"

Total Depth of Well: 23.0'



Depth to Water: 16.84' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: MW-9A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic	1	
	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
0 ft	m _O		Ground Surface	0		1-2012-7				
2-		#	topsoil /		1	1				manhole
4 -	- 2					1	0	8		2" PVC casing
8-	~				2		Q	7		cement grout
10- 12- 14-	-4	#	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		3	1				bentonite seal
16- 18-		#			4	(.		<u> </u>	filter pack
20-	- 6	#			5	1				2" PVC screen
24-			End of Borehole	-23						end cap
26-	-8									
28-						8				
30-										
32-	- 10									
34-	- 10		ž.							
36-			~							
38-										
40-	- 12							i		

Drill Method: auger rig Drill Date: 8/15/12 Casing Diameter: 2.0" Total Depth of Well: 23.0'



Depth to Water: 18.61'
Latitude: N34d03.910'
Longitude: W81d07.012'

Log of Borehole: MW-10A

Project: Broad River Amoco

Client: Cecchini

Location: Columbia, SC

Driller: Michael Carey, cert. #1920

Inspector: Michael Faris

		S	UBSURFACE PROFILE	CHE ISSUE		SAMPL	E	Valetile Ossesie		
	nebtu	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	mo		Ground Surface	- 0						
2-	ľ	HH	topsoil		1	1	Q.	7		manhole 2" PVC casing cement grout bentonite seal
6-	-2	#	Clayey Silt		2	1				
10-		#	dk reddish tan; small percent very fine grained sand (mica)			1		6	¥	filter pack
12-	-4	#			3	}	Q	8		2" PVC screen
16-				-17.5	4	1				
18-	1		End of Borehole				3			end cap
20-	-6		000 18-00 NECTOR SOURCE SOURCE							
22-										
24-	1		э							1
26-	-8									
28-										
30-										
١ -										
32-	- 10									
34-	3,630									
36-										
١ -										
38-										
40-	- 12									

Drill Method: auger rig Drill Date: 8/27/12

Casing Diameter: 2.0"

Total Depth of Well: 17.5'



Depth to Water: 11.05' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-11A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Valetile Ossania		
	nebin	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						
2-		##	topsoil /		1		0	7		manhole 2" PVC casing cement grout
6- 8-	-2	#	Clayey Silt		2					bentonite seal
10-	-4		dk reddish tan; small percent very fine grained sand (mica)		3	(Y	filter pack
16- 18-		# #			4	(<u>_</u>	9		2" PVC screen
20-	-6	46	End of Borehole	-20						end cap
24-	-8									
28- 30-										
32- 34- 36-	– 10									
38-	– 12		*							

Drill Method: auger rig Drill Date: 8/27/12 Casing Diameter: 2.0"

Total Depth of Well: 20.0'



Depth to Water: 10.52' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-12A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$	S	UBSURFACE PROFILE			SAMPLI	=		T	
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-	HH	topsoil /	٨	1	1		7		manhole 2" PVC casing cement grout
6- 8- 10-	##	<i>Clayey Silt</i> dk reddish tan; small		2	\$	0	9		bentonite seal
12-	###	percent very fine grained sand (mica)		3	1	Q	8	¥	filter pack
18-			-20	4	1				2" PVC screen
22-		End of Borehole							end cap
26-8									
30-					0.6 63		1		
32- 34-									
36-									
40-12							:		

Drill Method: auger rig Drill Date: 8/27/12

Casing Diameter: 2.0"
Total Depth of Well: 20.0'

SERVICES, INC.

Depth to Water: 13.95' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-13A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPL	.E	Valetile Ossania	1	
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m	0	Ground Surface	0						
2-		topsoil		1	(manhole
4-	1					<u>o</u>	7		2" PVC casing
6-1-2	2			2					cement grout
10-	#	Clayey Silt	7.				8		bentonite seal
12-	4	dk reddish tan; small percent very fine grained sand (mica)		3	1				filter pack
16-				7721	1		9		-
18-	6			4				Y	2" PVC screen
22-		End of Borehole	-22	5	3				end cap
24		Elid of Borellole							
26	8						1 1		
28-							1		
30-									
	10								
34-									
36-		=							
38-									
40-	12	y			9		:		

Drill Method: auger rig Drill Date: 8/28/12 Casing Diameter: 2.0"

Total Depth of Well: 22.0'



Depth to Water: 19.80' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-14A

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPLI	E			
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0			-			
2-	HHH	topsoll /		. 1	\$	Po	7		manhole 2" PVC casing cement grout
62 8 10-	H	<i>Clayey Silt</i> dk reddish tan; small		2	1	Q	9		bentonite seal
12-4	###	percent very fine grained sand (mica)		3	\$	O.	β	¥	filter pack
16- 18- 206			-20	4	1		i i		2" PVC screen
22-		End of Borehole							ена сар
268 28-									
32-	0								
34- 36- 38- 40-									

Drill Method: auger rig Drill Date: 8/28/12

Casing Diameter: 2.0"
Total Depth of Well: 20.0'



Depth to Water: 14.52' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-15A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		1500	S	UBSURFACE PROFILE			SAMPL	E	Volatila Organia		
	Danth		Symbol	Description	Elev.	Number	Type	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
Г	oft.	E _O		Ground Surface	0						
	2-	-0	###	topsoll /		1	1	Q	7		manhole 2" PVC casing cement grout bentonite seal
I	6- 8- 0-	- 2	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	5	Q	8		filter pack
1	4-	-4	##	Sanu (mica)		3	5	0	8		2" PVC screen
11	67		1		-17	4					end cap
2 2 2 3 3 3 3 3	2-4-6-8-0-2-	-6 -8		End of Borehole							
	8- 0-	- 12									

Drill Method: auger rig Drill Date: 2/18/13 Casing Diameter: 2.0" Total Depth of Well: 17.0'



Depth to Water: 16.01' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-16A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE	_		SAMPL	F		_	
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^{ft}	m		Ground Surface	0						
2-	J	H H H	topsoll /		1	1	Q	7		manhole 2" PVC casing cement grout
6- 8-	-2	# #	Clayey Silt dk reddish tan; small		2		0	9		filter pack
12-	-4		percent very fine grained sand (mica)		3		Q			2" PVC screen
16 -			End of Borehole	-18	4	\$	of the state of th		Y	end cap
20-	-6		2.00					8.		
26-	-8									
30-										
34-	- 10		*			g•				×
38 -	- 12								-2-	

Drill Method: auger rig Drill Date: 2/19/13 Casing Diameter: 2.0" Total Depth of Well: 18.0'



Depth to Water: 16.21' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-18A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		SUBSURFACE PROFILE			SAMPL	E	111.00		
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m	7	Ground Surface	0						
2-	###	topsoil		1	1	Q.	7		2" PVC casing cement grout bentonite seal
6- 8-	2	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	(filter pack
10-			0.8303	3	1	0	9		2" PVC screen
14-	4	End of Borehole	-13						end cap
16-									
20-	6								4
22-									
26 8	8								
30-									
32-	10								
36 - 38 -									
	12								

Drill Method: auger rig Drill Date: 2/26/13 Casing Diameter: 2.0" Total Depth of Well: 13.0'

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 0.85' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-19A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE			SAMPL	E	\f.\\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\		
hand		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft.	m _O		Ground Surface	0						
2-		##	asphalt /		1	1	Q	8		manhole 2" PVC casing cement grout bentonite seal
6- 8- 10-	- 2	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	\$	0	9	¥	filter pack
12-	-4	###		-15	3	1				2" PVC screen end cap
16-			End of Borehole							ена сар
20- 22- 24- 26- 30- 32- 34- 36- 38-	-6 -8									
40-	- 12									

Drill Method: auger rig Drill Date: 2/20/13 Casing Diameter: 2.0"

Total Depth of Well: 15.0'



Depth to Water: 7.95' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-20A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

\equiv	S	UBSURFACE PROFILE			SAMPL	E	T	T	
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m		Ground Surface	0						
2-	##	asphalt /		1	1	<u> </u>	8		manhole 2" PVC casing cement group bentonite seal
62 8-	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1	Q.			filter pack
12-4	H	5	-15	3	1				2" PVC screen
16-		End of Borehole							end cap
20 - 6 22 - 24 - 26 - 8 28 - 30 - 32 - 31 - 36 - 38 -									
40-12				700					

Drill Method: auger rig Drill Date: 2/21/13 Casing Diameter: 2.0"

Total Depth of Well: 15.0'



Depth to Water: 5.05' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-21A

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	S	UBSURFACE PROFILE			SAMPL	F			
Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft m	0	Ground Surface	0						12.33
2-	###	asphalt		1	1	0	8		manhole 2" PVC casing cement group pentonite seal
6-1-2 8-1	2 #	Clayey Silt dk reddish tan; small percent very fine grained sand (mica)		2	1				filter pack
10-			-12	. 3	4				2" PVC screen
14-	4	End of Borehole							end cap
16-								1	
18-	5								
22-									,
24-									
268	3		į.						
30-							1		
	10								
34- 36- 38-									
40-1	12								

Drill Method: auger rig Drill Date: 3/2/13

Casing Diameter: 2.0"

Total Depth of Well: 12.0'



Depth to Water: 0.85' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-6B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E			
4	nebil	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						1400-300000000
-			asphalt /			4				manhole
4-					1)				
6- 8-	-2	#			2	1		4		2" PVC casing
10-	3	#	Clayey Silt			1		3		
12-	-4		dk reddish tan; small percent very fine grained sand (mica); wet at approx. 18.0		3					
16 - - 18 -		#			4			8	_	cement grout
20-	- 6	#				7				
22- - 24-		#		-25	5	1				
26-	-8			20		7				bentonite seal
28-			silty clay tan, a little fine to coarse grained sand, moist	-30	6	}				
30-		1				1				filter pack
32-	- 10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; dry		7					2" PVC screen
36 - 38 -		#	then becomes saturated at 36.0'	-38.5	8	1				
40-	- 12		End of Borehole					:		end cap

Drill Method: auger rig Drill Date: 8/16/12 Casing Diameter: 2.0" Total Depth of Well: 38.5'



Depth to Water: 18.05' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-8B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

౼	_	S	UBSURFACE PROFILE			SAMPL	E	Г		•
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft i	m .		Ground Surface	0					200	300 (V = 0°r29)
2-		##	topsoll /		1	1				manhole
6- 8- 10-	-2	##			2	1				2" PVC casing
12-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 22.0		3	\$				
16- 18- 20-	-6	###			4	\$			-	cement grout
22-				-25	5	}				bentonite seal
28-	-8	#	silty clay tan, a little fine to coarse grained sand, moist	-30	6	1		1		filter pack
32-	- 10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; dry		7	1				
36-		#	then becomes saturated at 37.0'	-37.5	8	\$				2" PVC screen end cap
L	12		End of Borehole							

Drill Method: auger rig Drill Date: 8/15/12

Casing Diameter: 2.0"

Total Depth of Well: 37.5'

A SERVICES, INC.

Depth to Water: 16.60' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-9B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	(*1	SI	UBSURFACE PROFILE		_	SAMPL	E			
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft r	m _O		Ground Surface	0						
2-		#	topsoil /		1	1				manhole
6-	-2		Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 22.0		2	(2" PVC casing
12-	-4				3	(cement grout
16-	.6				4	1			-	bentonite seal
22-						5				
26- 28- 30-	.8		siity clay tan, a little fine to coarse grained sand, moist	-26	6	1				2" PVC screen
32-	10		clayey silt brown, some fine grained sand, a few very coarse angular sand grains; saturated at 31.0' End of Borehole	3 ³¹ .5	7	•				end cap
38- 40-	12									

Drill Method: auger rig Drill Date: 8/15/12

Casing Diameter: 2.0"

Total Depth of Well: 31.5'

ENVIRONMENTAL SERVICES, INC.

Depth to Water: 17.60' Latitude: N34d03.910' Longitude: W81d07.012' Log of Borehole: MW-10B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

\equiv		S	UBSURFACE PROFILE			SAMPL	E	Volatila Organia		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
7	t m		Ground Surface	0						
2-		##	topsoli		1	1				manhole
8-	-2	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 16.5'		2	1				2" PVC casing
12-	4	###		sand (mica); wet at approx.		3	\$			-
16- 18- 20-	-6	#		-20	4	5				cement grout
22 - 24-		##	silty clay tan, a little fine to coarse grained sand, damp		5	5				
28-	-8	#		-27	6	1				bentonite seal
32-	-10	##	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; partially dry then becomes		7	1				2" PVC screen
36- 38-	1	#	saturated at 37.5'	-39	8	1				end cap
40-	- 12		End of Borehole					1 1 1		100 T. C.

Drill Method: auger rig Drill Date: 8/27/12

Casing Diameter: 2.0"

Total Depth of Well: 39.0'



Depth to Water: 13.87'
Latitude: N34d03.910'
Longitude: W81d07.012'

Log of Borehole: MW-11B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

\equiv		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic	1		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks	
o-f	m _O		Ground Surface	0							
2-		#	topsoll/		1	1		4		manhole	
6 -	-2			2	1	•			2" PVC casing		
12-	-4	HHH	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 19.0'	dk reddish tan; small percent very fine grained sand (mica); wet at approx.		3	1			*	cement grout
16- 18- 20-	- 6	###			4	1					
22 - 24 -				-22	5	1				bentonite seal	
26 -	-8	H H	silty clay tan, a little fine to coarse grained sand, damp	-30	6	1				filter pack 2" PVC screen	
30-	-10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains;	-50	7	1					
36-		212	partially dry then becomes saturated at 38.0' End of Borehole	-35						end cap	
38 - 40-	- 12										

Drill Method: auger rig Drill Date: 8/27/12 Casing Diameter: 2.0" Total Depth of Well: 35.0'



Depth to Water: 10.30' Latitude: N34d03.910' Longitude: W81d07.012' Log of Borehole: MW-12B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPI	Æ	Valatila Omania		
	Depth	Symbol	Description	Elev.	Number	Type	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
O-ft	E _O		Ground Surface	0						
2-	Ĭ	#	asphalt /		1	1		,		manhole
6-	-2			2	1				2" PVC casing	
10-		#	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 19.0'		3	1				cement grout ·
14- 16-	-4				3	1			·	
18- 20-	-6		æ		4	}				
22-		#		-25	5	1	i			bentonite seal
26-	-8	###	silty clay tan, a little fine to coarse grained sand, damp	-30	6	1				filter pack . 2" PVC screen
30- 32- 34-	- 10		clayey slit brown, some fine grained sand, a few very coarse angular sand grains; dry then becomes saturated at	-35	7	1				
36- 38- 40-	- 12		36.0' End of Borehole							end cap

Drill Method: auger rig Drill Date: 8/27/12 Casing Diameter: 2.0"

Total Depth of Well: 36.5'

ENVIRONMENTAL SERVICES, INC.

Depth to Water: 16.72' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-13B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
:	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
O-ft	mo		Ground Surface	0						4.500
2-	ľ	#	topsoil		1	1				manhole
6-	-2	+	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 19.0'		2	(2" PVC casing
10- 12- 14-	-4	# # #			3	(cement grout
16-	-6	++++			4	(
22-				-25	5	1				bentonite seal
28-	-8	H H	silty clay tan, a little fine to coarse grained sand, damp	-30	6	1	*			2" PVC screen
32-	- 10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; dry	-33.5	7	1				end cap
34-			then becomes saturated at 36.0'							
38 - 40-	- 12									

Drill Method: auger rig Drill Date: 8/28/12

Casing Diameter: 2.0"

Total Depth of Well: 33.5'



Depth to Water: 19.88' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: MW-14B

Project: Broad River Amoco

Driller: Michael Carey, cert. #1920

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE	Great Control	Γ	SAMPL	E	Voletile Ormania		
Deoth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						
2-		##	asphalt		1	1				manhole
6- 8- 10-	-2	H			2	\$				2" PVC casing
12-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 19.0'		3	5				GV.
18-	-6	###			4	}			•	cement grout
22-				-25	5	1				
26- 28- 30-	-8	##	silty clay tan, a little fine to coarse grained sand, damp	-30	6					bentonite seal
32- 34-	- 10	##	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; dry		7					filter pack 2" PVC screen
36 - 38 -		#	then becomes saturated at 38.0'	-38.5	8	1				end cap
40	- 12		End of Borehole							

Drill Method: auger rig Drill Date: 8/28/12 Casing Diameter: 2.0" Total Depth of Well: 38.5'

ARVINONMENTAL SERVICES, INC.

Depth to Water: 17.27' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-15B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Voletile Ossessie		
:	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
off	m _o		Ground Surface	0						
2-	ľ	#	topsoil /		1	•				manhole
6-	-2	##		ų	2	1				
10-		#	Clayey Silt			1				2" PVC casing
12-	-4		dk reddish tan; small percent very fine grained sand (mica); wet at approx. 18.0'		3	}	gi			8 70
16- 18- 20-	-6	#			4	1			•	cement grout
22-				-25	5					
26-	-8	###	silty clay tan, a little fine to coarse grained sand, damp	-30	6	1				bentonite seal
30- 32- 34-	- 10	##	clayey silt brown, some fine grained		7	1				filter pack
36-	-10	##	sand, a few very coarse angular sand grains; damp then becomes saturated at 38.0'	40	8	1				2" PVC screen
40-	Γ' ²			-40	-			: 1		end cap

Drill Method: auger rig Drill Date: 2/18/13

Casing Diameter: 2.0"

Total Depth of Well: 40.0'

ARA ENVIRONMENTAL SERVICES, INC.

Depth to Water: 17.60' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-16B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE			SAMPL	E		_	
	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						
2-		###	topsoil /		1	1				manhole
6- 8- 10-	- 2	H			2	1				2" PVC casing
12-	-4	##	clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 17.0'		3	\$		0		
16- 18- 20-	- 6	###			4	}			•	cement grout
22-		#		-25	5	\$				bentonite seal
26- 28- 30-	-8	###	silty clay tan, a little fine to coarse grained sand, damp	-30	6	1				filter pack
32-	- 10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; damp then becomes saturated at		7	1				2" PVC screen
36 - 38 -	46	#	36.0' End of Borehole	-37	8	\$	-			end cap
40-	- 12							, 1		

Drill Method: auger rig Drill Date: 2/19/13

Casing Diameter: 2.0"
Total Depth of Well: 37.0'

ARAM ENVIRONMENTAL SERVICES, INC.

Depth to Water: 16.75' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-17B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E			
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o-fi	t m _O		Ground Surface	0						
2-		A A	asphalt		1	1				manhole
6- 8- 10-	-2	##	Clayey Silt dk reddish tan; small		2	1			-	2" PVC casing
12-	-4	H H	percent very fine grained sand (mica); wet at approx. 13.5'		3	1				
16- 18-	- 6				4	1	ì			cement grout
22-		#	silty clay	-21	5	1				
28-	-8	#	tan, a little fine to coarse grained sand, damp	-30	6	1				bentonite seal
32-	- 10	##	clayey silt brown, some fine grained sand, a few very coarse		7	1				filter pack
36-	12	###	angular sand grains; dry then becomes saturated at 38.0'	-39.5	8	1				2" PVC screen
40-	['2		End of Borehole					1 1		end cap

Drill Method: auger rig Drill Date: 2/14/13 Casing Diameter: 2.0"

Total Depth of Well: 39.5'



Depth to Water: 9.05' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-18B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Veletile Organia		F-12 30 NA-1
Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ^{ft}	m _o		Ground Surface	0						
2-		#	topsoil /		1	1			•	manhole
8-	-2	1 + +			2	1				2" PVC casing
12-	- 4	###	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approx. 13.0'		3	1		i i		cement grout
16-	- 6	#			4	1				
22-				-25	5	1				bentonite seal
26- 28- 30-	-8	H H	silty clay tan, a little fine to coarse grained sand, damp	-30	6			1		filter pack
32-	- 10	##	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; dry then becomes saturated at	-35	7	1				2" PVC screen
36- 38- 40-	- 12		33.0' End of Borehole							end cap

Drill Method: auger rig Drill Date: 2/26/13 Casing Diameter: 2.0"

Total Depth of Well: 35.0'



Depth to Water: 1.05' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-19B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

$\overline{}$		S	UBSURFACE PROFILE			SAMPL	Ē	Valadia Ossasia		
-	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	mo		Ground Surface	0					Esterno Joseph Company	35.00
2-		#	asphalt		1	1				manhole
6-8-	-2	1	Clayey Silt		2	(-	2" PVC casing
10- 12- 14-	-4	+++++	dk reddish tan; small percent very fine grained sand (mica); wet at approx. 15.0'		3	(cement grout
16-	-6	++++		-20	4	(
22-		H H	silty clay		5	1				bentonite seal
26-	-8	# #	tan, a little fine to coarse grained sand, damp	-30	6	1				filter pack
30-	- 10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; mostly	-34	7	\$				2" PVC screen
36-			dry then becomes saturated at 34.0' End of Borehole							end cap
40-	- 12			1						

Drill Method: auger rig Drill Date: 2/06/13

Casing Diameter: 2.0"

Total Depth of Well: 34.0'

A SERVICES, INC.

Depth to Water: 8.35' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: MW-20B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	_	S	UBSURFACE PROFILE		-7/1/2	SAMPL	E	V-1-47- 0		
Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _C		Ground Surface	0						
2-		#	asphalt /		1	1			-	manhole
6- 8-	-2	#	Clayey Silt		2	1				2" PVC casing
12-	-4	1	dk reddish tan; small percent very fine grained sand (mica); wet at approx. 17.5'		3	1				cement grout
16-	•	 		-20	4	1				
22-	-0	##	silty clay		5	1				bentonite seal
28-	-8	##	tan, a little fine to coarse grained sand, damp	-30	6	(filter pack
32-	- 10	###	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; mostly dry then becomes saturated	-35	7	1				2" PVC screen
36- 38- 40-	- 12		at 34.5' End of Borehole	4						ени сар

Drill Method: auger rig Drill Date: 2/21/13

Casing Diameter: 2.0"

Total Depth of Well: 35.0'



Depth to Water: 4.11'
Latitude: N34d03.910'
Longitude: W81d07.012'

Log of Borehole: MW-21B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

Έ	io and		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		-
	Depth		Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
Ι,	ft r	m		Ground Surface	0						
2	,		##	topsoil		1				¥	manhole
10	+	-2		Clayey Silt		2	1				2" PVC casing
12	<u>.</u> - -	-4	H H	dk reddish tan; small percent very fine grained sand (mica); wet at approx. 19.0'		3	\$				cement grout
18	;	-6	H			4	}				
22	4			silty clay	-22	5	}				bentonite seal
28	;	8		tan, a little fine to coarse grained sand, damp	-30	6	5				filter pack
32	4	10	#	clayey silt brown, some fine grained sand, a few very coarse angular sand grains; mostly dry then becomes saturated	-35	7	1				2" PVC screen end cap
38	;	12		at 32.5' End of Borehole							ени сар
40	<u>H</u>	12							* 1		

Drill Method: auger rig

Drill Date: 3/2/13

Casing Diameter: 2.0"

Total Depth of Well: 35.0'

ARV ENVIRONMENTAL SERVICES, INC.

Depth to Water: 1.35' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: MW-22B

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Michael Faris

Location: Columbia, SC

	7,100	S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
7	t m		Ground Surface	0						100 00 000
2-		##	topsoli /		1				•	manhole
6- 8-	-2	H H	<i>Clayey Silt</i> dk reddish tan; small		2					2" PVC casing
12-	-4	 	percent very fine grained sand (mica); wet at approx. 18.5'		3					cement grout
16- 18-	-6	1		-20	4					
22-		#\#	silty clay		5					bentonite seal
26- 28- 30-	-8	HH.	tan, a little fine to coarse grained sand, damp	-30	6					filter pack
32-	-10	H H	clayey slit brown, some fine grained sand, a few very coarse angular sand grains; mostly dry then becomes saturated	-35	7	1				2" PVC screen
36- 38- 40-	- 12		at 34.5' End of Borehole							Gild Cap

Drill Method: auger rig Drill Date: 2/14/13

Casing Diameter: 2.0"

Total Depth of Well: 35.0'



Depth to Water: 2.10' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: RW-1

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	Volatile Organic		
	nebiu	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
o-ft	m _O		Ground Surface	0						
2-	Ĭ	#	asphalt /		1	1				manhole
6- 8-	-2	#			2	(4" PVC casing
10-	-4	###	Clayey Silt dk reddish tan; small percent very fine grained		3	1				cement grout
14- 16- 18-		# #	sand (mica); wet at approximately 18.5'		4	(*	bentonite seal
20-	- 6	##		-25	5	1				
26-	-8	H	silty clay tan, a little fine and coarse grained sand, damp to moist	-30	6	1				filter pack
32-	– 10	##	clayey silt brown, some fine grained sand present, a few very		7					2" PVC screen
36- 38-	- 12	###	coarse angular sand grains; dry, then becomes saturated at 36.0'	-40	8	1				
40-		/ /	i Ra					5 5 L		end cap

Drill Method: auger rig Drill Date: 2/28/12

Casing Diameter: 4"
Total Depth of Well: 40.0'

ARVIRONMENTAL SERVICES, INC.

Depth to Water: 17.26' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: RW-2

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

		S	UBSURFACE PROFILE	- N. 10		SAMPL	E	V 1		
3	nden	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m _O		Ground Surface	0						
2-		#	asphalt		1	(manhole
6-8-	-2	##			2	1				4" PVC casing
12-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at		3	1				cement grout
16- 18-		# # #	approximately 18.5'		4	1			.	bentonite seal
22-	-6	###		-25	5	1				
26- 28- 30-	-8	###	silty clay tan, a little fine and coarse grained sand, damp to moist	-30	6	1				filter pack
32-	- 10	##	clayey silt brown, some fine grained sand present, a few very		. 7	1				2" PVC screen
36-	– 12	##	coarse angular sand grains; dry, then becomes saturated at 36.0'	-40	8	1				
40-		/	•					2 J.		end cap

Drill Method: auger rig

Drill Date: 2/28/12 Casing Diameter: 4"

Total Depth of Well: 40.0'

ARVINONMENTAL SERVICES, INC.

Depth to Water: 16.96' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: RW-3

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

	_	S	UBSURFACE PROFILE			SAMPL	E			3-10-11 (* 13-20-40)
Denth		Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	m		Ground Surface	0				POR OTRANSPORTURE POR SOURCE PRANTICO	1000	
2-		#	asphalt /		1					manhole
6 -	-2	##			2	(4" PVC casing
10-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained		3	(cement grout
16-		##	sand (mica); wet at approximately 18.5'		4	{				bentonite seal
22-	-6	###		-25	5	(
26- 28- 30-	-8	###	silty clay tan, a little fine and coarse grained sand, damp to moist	-30	6	1				filter pack 2" PVC screen
32-	-10	##	clayey silt brown, some fine grained sand present, a few very		7	1				2 FVO SUIDON
36- 38-	- 12	#	coarse angular sand grains; dry, then becomes saturated at 37.0'		8	1				
40-	12			-41	9	*		3		end cap

Drill Method: auger rig

Drill Date: 3/1/12

Casing Diameter: 4"

Total Depth of Well: 41.0'



Depth to Water: 17.41' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: RW-4

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	E	Volatile Organic		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Concentration ppm 1000 2000 3000	Well Data	Remarks
oft	mo		Ground Surface	0						100 C C C C C C C C C C C C C C C C C C
2-	ľ	#	asphalt /		1	1				manhole
6- 8-	-2				2	1	2			4" PVC casing
12-	-4	+	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approximately 18.5'		3	1				cement grout
16- 18- 20-	- 6	1	7,00		4	1			.	bentonite seal
22-				-25	5	1				filter pack
26- 28- 30-	-8	##	silty clay tan, a little fine and coarse grained sand, damp to moist	-30	6	1				2" PVC screen
32-	- 10	##	clayey silt brown, some fine grained sand present, a few very		7	1				
36- 38- 40-	- 12	###	coarse angular sand grains; dry, then becomes saturated at 36.5'	-40.5	8	1				end cap
-	1		End of Borehole					9		

Drill Method: auger rig Drill Date: 3/1/12 Casing Diameter: 4"

Total Depth of Well: 40.5'

A SERVICES, INC.

Depth to Water: 16.73' Latitude: N34d03.910' Longitude: W81d07.012' Log of Borehole: RW-5

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	Ē	Veletile Ossesie		
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
o ft	mo		Ground Surface	0						
2-		#	asphalt		1	1				manhole
6- 8- 10-	-2	#			2	1				4" PVC casing
12-	-4	##	Clayey Silt dk reddish tan; small percent very fine grained sand (mica); wet at approximately 18.5'		3	1				cement grout
16- 18- 20-	- 6		, , , , , , , , , , , , , , , , , , , ,		4	1	Juste		Y	bontonilo seai
22-		#		-25	5	1		1		filter pack
26- 28- 30-	- 8	###	silty clay tan, a little fine and coarse grained sand, damp to moist	-30	6	1	SQ.			2" PVC screen
32 - 34 -	- 10	###	clayey silt brown, some fine grained sand present, a few very coarse angular sand grains;		7	\$				2,3 22 23 23
36 - 38-	-12	#	dry, then becomes saturated at 35.5'	-38.5	8	\$		3 \$		end cap
40-	- 12		End of Borehole					×		

Drill Method: auger rig

Drill Date: 3/4/12 Casing Diameter: 4"

Total Depth of Well: 38.5'

ARV ENVIRONMENTAL SERVICES, INC.

Depth to Water: 17.64' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: DMW-1

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

I	*	_	S	UBSURFACE PROFILE			SAMPL	E	Valatila Oi-		
	dies	nebill	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
-[ft	E _C		Ground Surface	0		l — gragel				
	2 4		H	asphalt /		1	1	3	5		
	0 2 4 6 8 10 10 10 10 10 10 10 10 10 10 10 10 10	- 2	H	Clayey Silt		2	\$	80	16		
١	12- 14-	-4	H	dk reddish tan; small percent very fine grained sand (mica); wet at		3	5		3066		← 6" PVC casing
١	16 18 20	- 6	H	approximately 18.5'		4	5		1022	•	v o i vo casing
ı	22- 24- 26-	•	#		-25	5	3		1993		
	28- 30-	-8	#	silty clay tan, a little fine and coarse grained sand, moist	-30	6	3	18	5		cement grout
ŀ	32- 34- 36-	- 10	#	clayey silt brown, some fine grained		7	}	1	3		Secretaria de Caracteria de Ca
	38 - 40-	- 12		sand present, a few very coarse angular sand grains; dry, then becomes saturated	-40	8	}	6	2		
ŀ	42- 44- 46-	- 14	#	silty clay		9	}	8	2		— 2" PVC casing
ŀ	48- 50-		#	grayish brown, some fine grained sand; wet		10)	6	5		
ŀ	52 54 56	- 16	#	clayey silty sand	-55	11	1				5)
	58 -	- 18	1	grayish tan, sand is mostly fine to medium grained	-60	12	1				bentonite seal filter pack
16	62- 64- 66-	- 20		sand mix of clear, white, black,	-65	13	1		:		2" PVC screen end cap
	38 - 70-			tan; medium to coarse grained; sub-rounded quartz, angular feldspars							
ŀ	72 - 74 - 76 -	- 22		End of Borehole							
ŀ	78 -	- 24									

Drill Method: auger rig Drill Date: 9/11/12 Casing Diameter: 2", 6"

Total Depth of Well: 65.0'



Depth to Water: 18.21' Latitude: N34d03.910' Longitude: W81d07.012'

Log of Borehole: DMW-2

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

		S	UBSURFACE PROFILE			SAMPL	.E	V-1-6"- O	_	
	Depth	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
of f	m 0		Ground Surface	0				-		
1 2	Ŧ°	//	\ asphalt /			4				
4	1		C		1	1	3	5		
6-	L。		Clayey Silt	7.5	-55			T		
I 8-	4	1	dk reddish tan; small		2		2	R	1111—1111	
10-	1		percent very fine grained	13						
12-	1-4	1	sand (mica); a few quartz		3		_	_		
16-	3		pebbles at 15', wet at approximately 18.5']		6" PVC casing
18-	1		approximately 16.5		4	•	83			ence the in the series and the
20	-6			-21			3.	5		
22	3	1			5			i 1		
24-	1		silty clay				4	1		
26-	† 8		tan, a little fine and coarse		6		1			
28 - 30-	1		grained sand, mostly dry	-30	·		3	9		cement grout
32	١.,	1	clayey silt		7		1			Cernerit grout
34	F 10		dark tan to light brown,		'		14	3		
36-	1	1	some fine grained sand present, a few very coarse	-38			4	' !		l l
38-	L		angular sand grains and	-00	. 8		6.	5		
40	Γ"	1	sub-angular quartz pebbles;					1		
42- 44-	1		dry, then becomes saturated at 33.5'		9		6			
46-	L 14	1						ຶ່		2" PVC casing
48-	1		silty clay grayish brown, some fine		10		اء			
50-		M	grained sand; wet	-51			5	9		
52	- 16		clayey silty sand		11	И				
54 56	1		grayish tan, sand is mostly	-57		ш				
58-	•		fine to medium grained	-5/	12	И		· i		bentonite seal
60-	18		sand			4				filter pack
62-		•	mix of clear, white, black, tan; medium to coarse		13					2" PVC screen
64-	1	<u> </u>	grained; sub-rounded	-65		И				end cap
66-	-20		quartz, angular feldspars							end cap
68-			End of Borehole							
70- 72-	-22		Maria de la Maria de Caracteria de Caracteri							
74-	Γ"	1								1
76-										
78-	-24									
80-			0.01430					1 1	1.50	HISER THEFT

Drill Method: auger rig Drill Date: 12/21/12

Casing Diameter: 2", 6" Total Depth of Well: 65.0'

Depth to Water: 9.40' Latitude: N34d03.910'

Longitude: W81d07.012'

Log of Borehole: DMW-3

Project: Broad River Amoco

Driller: Todd Allred, cert. #1446

Client: Cecchini

Inspector: Todd Allred

Location: Columbia, SC

\equiv		S	UBSURFACE PROFILE			SAMPL	F	***************************************		
	nebtr	Symbol	Description	Elev.	Number	Туре	Recovery	Volatile Organic Concentration ppm 1000 2000 3000	Well Data	Remarks
off	m		Ground Surface	0						
2- 4- 6-	-0	A	asphalt /		1	1	3.	5	▼	Ŷ
6- 8- 10-	-2	A	Clayey Silt dk reddish tan; small percent very fine grained		2	1	2	8		
12- 14-	-4	A	sand (mica); a few quartz pebbles at 15', wet at		3	\$	3.	5		6" PVC casing
16- 18- 20-	-6	1	approximately 18.5'	-20	4	\$	3.	5		o PVC casing
22 - 24 -		H	silty clay tan, a little fine and coarse		5	3	4	1		
26- 28- 30-	-8	#	grained sand, dry	-30	6	5	3	9		cement grout
32 - 34-	- 10	#	clayey silt dark tan to light brown, some fine grained sand		7	3	4	2		•
36- 38- 40-	- 12		present, a few very coarse angular sand grains and sub-angular quartz pebbles;	-37	8	5	5.	5		
42 - 44-		4	dry, then becomes saturated at 35.0'		9	5	5	7		2" PVC casing
46- 48- 50-	T 14		silty clay grayish brown, some fine grained sand; wet	-50	10	3	5	2		- 1 1 2 1 1 1 1
52- 54- 56-	- 16	1	clayey silty sand grayish tan, sand is mostly		11					
58 -	– 18		fine to medium grained sand	-58	12					bentonite seal filter pack
62 - 64 - 66-	- 20	• .	mix of clear, white, black, tan; medium to coarse grained; sub-rounded	-65	13	И				2" PVC screen end cap
68 - 70-	E-FLEE		quartz, angular feldspars End of Borehole) ** *(
72 - 74 - 76 -	-22									
78- 80-	- 24									

Drill Method: auger rig Drill Date: 1/14/13 Casing Diameter: 2", 6"

Total Depth of Well: 65.0'

Depth to Water: 2.10' Latitude: N34d03.910' Longitude: W81d07.012'



I. WELL OWNER INFORMATION:		7. PERMIT NUMBER: LINKSV 24502			
Name: Fredrick Cecchini		UMW-24502			
	rst)	8. USE:			
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process			
City: Columbia State: SC Zip: 2	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency			
- Signatura - Sinsi SC 24.2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	☐ Test Well ☑ Monitor Well ☐ Replacement			
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 5/17/12			
2. LOCATION OF WELL: COUNTY: Rich	land	15.0 ft. Date Completed: 5/17/12			
Name: Broad River Amoco		10. CASING: Threaded Welded			
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below			
City: Columbia Zip: 29210		Type: PVC Galvanized Surface U.U' ft.			
Selection and approximately the selection of the selectio	2020	Steel Other Weight b_/ft. 1.0			
Latitude: N34d03.910' Longitude: W81d07.0)12'	in. toft. depth			
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM	TAR AUUMDED.	11 SCREEN:			
N/A	IN NUMBER:	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'			
		Slot/Gauge: 0.010' Length: 5.0'			
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS			
Grouted Depth: from 15.0 ft. to 0.0	4	ft. andft. USE SECOND SHEET			
*Thickness		Sieve Analysis ☐ Yes (please enclose) ☑ No			
Formation Description of	Bottom of	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours			
Stratum	Stratum	13. PUMPING LEVEL Below Land Surface. ft. after hrs. Pumping G.P.M.			
See attached log		T. atter nrs. Pumping G.P.M. Pumping Test: ☐ Yes (please enclose) ☑ No			
		Yield:			
		14. WATER QUALITY			
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No			
		Please enclose lab results.			
(15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No			
		Installed from ft. to ft.			
£		Effective size Uniformity Coefficient			
		16. WELL GROUTED? ☑ Yes ☐ No			
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other			
		Depth: From <u>15</u> ft. to <u>0.0</u> ft.			
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction			
		Type Well Disinfected ☐ Yes ☑ No Type: Amount:			
		18. PUMP: Date installed: Not installed 🗸			
		Mfr. Name: Model No.:			
		H.P Volts Length of drop pipe ft. Capacity gpm			
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine			
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal			
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921			
		Address: (Print) Level: A B C D (circle one)			
		P.O. Box 50285 Columbia, SC 29250			
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587			
THE STATE OF THE S		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under			
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.			
5. REMARKS:					
TMW-1		Staned: Anchen line #1356 (for) Date: 5/7/13			
L		Signed: Andlew lul #1356 (for) Date: 5/7/13			
		Well Driller			
	Bored	If D Level Driller, provide supervising driller's name:			
	Driven				
☐ Cable tool ☐ Other					



PROMOTE PROTECT PROSPER	2000 20	
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UNIW-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
Church 1	71 00010	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Works		9. WELL DEPTH (completed) Date Started: 5/17/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY	6n:-111	SIGNAL TO TO SELECTION THE SECOND CONTROL OF SECOND
1	Richland	15.0 ft. Date Completed: 5/17/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Dlam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 2	9210	Type: PVC Galvanized Surface U.U' ft.
2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	V	☐ Steel ☐ Other Weight — ib.fft. 1.0 in. to 10.0 ft. depth ☐ Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude: W81	d07.012'	in, toft. depth Drive Snoe? If Yes Iz No
	SYSTEM NUMBER:	11. SCREEN:
N/A	1-6	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
nu er energia anticonica anticoni		Set Between: 10.0 ft. and 10.0 ft. NOTE: WULTIPLE SCREENS
Grouted Depth: from 15.0 ft. to 0	.0 ft.	Sieve Analysis Yes (please enclose) No
	kness Depth to	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours
Formation Description	of Bottom of	
Stra	atum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
		Pumping Test: ☐ Yes (please enclose) ☑ No
2	0	Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
13 Paris	A STATE OF THE STA	Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From 15.0 ft. to 0.0 ft.
1000		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
centing is		Type
- Ve-librario III		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed
25 CONTRACTOR (1975)		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		AND THE REPORT OF THE PROPERTY
TMW-2		111 6 5/1
1.V1.VV -Z		Signed: Andrew Wil #1356 (For Date: 13/13
		Signed: Mell Delles
	<u>188</u>	YYON DINIER
6. TYPE: Mud Rotary Jetted	☑ Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rotary	☐ Driven	V-0-427 - 227 - 2004.
☐ Cable tool ☐ Other		Social system Section 1 for the Section 1



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	O1V1 W - 2-4302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City-Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/17/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
29210	☐ Steel ☐ Other Weight — lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 10.0 ft. depth Drive Shoe?
	In. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from <u>15.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
l	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 15.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
the Heat Web Books 7	
*Indicate Water Bearing Zones	Columbia, SC 29250
	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed) 5. REMARKS:	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed)	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed) 5. REMARKS: TMW-3	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-3 6. TYPE: Mud Rotary Jetted Bored	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-3 6. TYPE: Dug Dug Driven	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Archive Hell Driller Hell Driller Hell Driller
(Use a 2nd sheet if needed) 5. REMARKS: TMW-3 6. TYPE: Mud Rotary Jetted Bored	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Archive Hell Driller Hell Driller Hell Driller



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UNIW-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
Aboth Charles Committee Co	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Talanhanas Warks Harras	9. WELL DEPTH (completed) Date Started: 5/17/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	
	15.0 ft. Date Completed: 5/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Dlam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	
City: Columbia Zip: 29210	크로프로그램 :
	☐ Steel ☐ Other Weight — lb_/ft. 1.0in. to 10.0ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth Drive Snoe? If Yes Iz No
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
PRINTED TO WRITE STREET WAS STREET TO STREET THE STREET TO STREET TO STREET THE STREET TO STREET THE STREET TO STREET THE STREET TO STREET THE	ft. andft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? [7] Yes □ No
00 TOURTH FOR HITCH HATTIMES TO THE STATE OF	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
1 1	Meat Cement Bentonite Bentonite/Cement Other
	Depth: From 15.0 ft. to 0.0 ft.
	Depth: From <u>15.0</u> ft. to <u>0.0</u> ft.
	Depth: From 15.0 ft. to 0.0 ft.
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction direction Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction ft_ direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction ft_ direction Type Well Disinfected □ Yes ☑ No Type: Amount: 18. PUMP: Date installed: Not installed ☑ Mfr. Name: Model No.:
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction ft_ direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
*Indicate Water Bearing Zones	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
*Indicate Water Bearing Zones	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS:	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed)	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS:	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS: TMW-4	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS: TMW-4 6. TYPE: Mud Rotary Jetted Bored	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS: TMW-4 6. TYPE: Mud Rotary Jetted Dug Air Rotary Driven	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
(Use a 2nd sheet if needed) 5. REMARKS: TMW-4 6. TYPE: Mud Rotary Jetted Bored	Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4333 Bload River Rd.	Residential Public Supply Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
CANADA CA	☐ Test Well ☑ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 5/17/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	The Artificial Control of Control
	15.0 ft. Date Completed: 5/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.; 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Type: PVC Galvanized Surface U.U' ft.
City: Columbia Zlp: 29210	☐ Steel ☐ Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 10.0 ft. depth Drive Shoe? Yes I No
Edition 113-403.910 Edigition 1401407.012	In. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
Andrewstern and the second sec	ft, andft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 12.5 (CDC.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
1 1	
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No
	Effective size Uniformity Coefficient 16. WELL GROUTED?
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft.
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
	Effective size Uniformity Coefficient 16. WELL GROUTED?
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type
	Effective size Uniformity Coefficient
	Effective sizeUniformity Coefficient
	Effective sizeUniformity Coefficient
	Effective sizeUniformity Coefficient
	Effective size
	Effective size
	Effective size
*Indicate Water Bearing Zones	Effective size
	Effective size
(Use a 2nd sheet if needed)	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed)	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-5	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-5 6. TYPE: Mud Rotary Jetted Bored	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-5	Effective size



Water Well Record

PROMOTE PROTECT PROSPER					
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502				
Name: Fredrick Cecchini	U.W.W-24302				
(last) (first)	8. USE:				
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process				
CHARLES AND THE ACTUAL BUT OF	☐ Irrigation ☐ Air Conditioning ☐ Emergency				
City: Columbia State: SC Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement				
Les Appropriate State Control of the	9. WELL DEPTH (completed) Date Started: 5/18/12				
Telephone: Work: Home:	Participant unique action of the state of th				
2. LOCATION OF WELL: COUNTY: Richland	15.0 Date Completed: 5/18/12				
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded				
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below				
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.				
29210	☐ Steel ☐ Other Weight — b/ft.				
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No				
	in. toft. depth				
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:				
N/A	Type: PVC Diam.: 1.0"				
	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'				
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS				
N.OVA SEVE	ft. and ft. USE SECOND SHEET				
Grouted Depth: from 15.0 ft. to 0.0 ft.	Sleve Analysis ☐ Yes (please enclose) ☑ No				
*Thickness Depth to	12. STATIC WATER LEVEL 12.5 (enc.) ft. below land surface after 24 hours				
Formation Description of Bottom of					
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.				
See attached log	ft. after hrs. Pumping G.P.M.				
See almostor tog	Pumping Test: ☐ Yes (please enclose) ☑ No				
	Yield:				
	14. WATER QUALITY				
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No				
	Please enclose lab results.				
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No				
	Installed from ft. to ft.				
	Effective size Uniformity Coefficient				
	16. WELL GROUTED? Z Yes No				
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other				
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction				
	Туре				
	Well DisInfected ☐ Yes ☑ No Type: Amount:				
	18. PUMP: Date installed: Not installed 🗹				
	Mfr. Name: Model No.:				
	H.P Volts Length of drop pipe ft. Capacity gpm				
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine				
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal				
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921				
	Address: (Print) Level: A B C D (circle one)				
	P.O. Box 50285				
	Columbia, SC 29250				
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587				
AC.	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under				
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.				
5. REMARKS:	A DEMONSTRATE OF A PROCESS FOR HER SIGN HOLD FOR STORE OF THE OF THE OUTSIDE O				
	1 1 1 1 6 11				
TMW-6	Signed: Archen Will # 135 (For Date: 5/7/13				
	Signed:				
	Well Driller				
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored	If D Level Driller, provide supervising driller's name:				
☐ Dug ☐ Air Rotary ☐ Driven	Property of the control				
☐ Cable tool ☐ Other					
	- 1 to 1 t				



Water Well Record

1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502				
Name: Fredrick Cecchini	UMW-24502				
(last) (first)	8. USE:				
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process				
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency				
Sily-Columbia Sales SC 29210	☐ Test Well ☐ Monitor Well ☐ Replacement				
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/18/12				
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/18/12				
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded				
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below				
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.				
	□ Steel □ Other Weight — □ Ib./ft. 1.0 in. to 10.0 ft. depth □ Drive Shoe? □ Yes ☑ No				
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth				
A PURI IS SVOTEM NAME. PURI IS SVOTEM NUMBER	14 SCDEEN				
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBE N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'				
	Slot/Gauge: 0.010' Length: 5.0'				
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS				
Constant Double from 15.0 # 45.00	ft. and ft. USE SECOND SHEET				
Grouted Depth: from 15.0 ft. to 0.0 ft. to 0					
Formation Description of Bottom					
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.				
See attached log	ft. after hrs. Pumping G.P.M.				
	Pumping Test: ☐ Yes (please enclose) ☑ No Yield:				
	14. WATER QUALITY Chemical Analysis ☑ Yes □ No Bacterial Analysis □ Yes ☑ No				
	Please enclose lab results.				
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No				
	Installed from ft. to ft.				
	Effective size Uniformity Coefficient				
	16. WELL GROUTED? ☑ Yes ☐ No				
Communication and the second of the second o	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other				
	Depth: From <u>15.0</u> ft. to <u>0.0</u> ft.				
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction				
	Туре				
	Well Disinfected ☐ Yes ☑ No Type: Amount:				
	18. PUMP: Date installed: Not installed [2]				
	Mfr. Name: Model No.:				
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine				
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal				
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921				
	Address: (Print) Level: A B C D (circle one)				
	P.O. Box 50285				
	Columbia, SC 29250				
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587				
(Use a 2nd sheet if needed)	 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 				
5. REMARKS:	ing an south and the report to the to the best of his alterneeds and belief				
	1				
TMW-7	Signed: Archen hel # 1356 (fg) Date: 5/7/13				
	Signed: Well Driller				
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored					
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:				
☐ Cable tool ☐ Other					
	A PARTIE AND A PAR				



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	4 —111		ON111-24502
(last)	. (firs	t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Chy. Columbia State. SC	Zip. 29	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 5/18/12
2. LOCATION OF WELL: CO		and	15.0 ft. Date Completed: 5/18/12
Name: Broad River Amoco	Z Kichi	and	10. CASING: ☑ Threaded ☐ Welded
	n. 1		Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River	Rd.		Type: PVC Galvanized Surface U.U' ft.
City: Columbia	Zlp: 29210		☐ Steel ☐ Other Weight — lb_/ft.
Lettlyde: NT24402 0101 Lengthyde	. 11701 107 01	101	1.0 In. to 10.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude	. W81d07.01	12	in. to ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	A NUMBER.	44 CORESI.
N/A	BLIC STSTE	W NUMBER:	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
			Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
3743743X	1227-227		ft. and ft. USE SECOND SHEET
Grouted Depth: from 15.0 f		ft.	Sieve Analysis Yes (please enclose) No
1/2L 845 (2.4 SOOT	*Thickness	Depth to	12. STATIC WATER LEVEL 12.5 (enc.) ft. below land surface after 24 hours
Formation Description	of	Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum	Stratum	Tt. POWPING LEVEL Below Land Surface. ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: Yes (please enclose) No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑ No Bacterial Analysis. ☐ Yes ☑ No
			Please enclose lab results.
ESTABLISH ST.			
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Installed from ft. to ft.
			Installed from
*Indicate Water Bearing Zones			Installed from
AMP 12 10100 1000 21 12			Installed from
(Use a 2nd sheet if needed)			Installed from
AMP 12 10100 1000 21 12			Installed from
(Use a 2nd sheet if needed)			Installed from
(Use a 2nd sheet if needed) 5. REMARKS:			Installed from
(Use a 2nd sheet if needed) 5. REMARKS:			Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-8			Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-8 6. TYPE: Mud Rotary		Bored	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-8		Bored Oriven	Installed from



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	CWW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
- Columbia	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/18/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/18/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.0' ft. Steel Other Weight
	1.0 in. to 10.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NU	MBER: 11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT:	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONWEN I: LZ Yes LI NO .	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 15.0 ft. to 0.0	
	ft. Sleve Analysis ☐ Yes (please enclose) ☑ No pth to 12. STATIC WATER LEVEL 12.5 (enc.) ft. below land surface after 24 hours
Formation Description of Bot	tom of
Stratum St	tatum 13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
I E	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	ft. to ft.
	ft. to ft.
	Installed from ft. to ft. Effective size Uniformity Coefficient 16. WELL GROUTED?
	Installed from
*Indicate Water Bearing Zones	Installed from
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	Installed from
	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed)	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-9	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-9 6. TYPE: Mud Rotary Jetted Bored	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-9	Installed from



Water Well Record

PROMOTE PROTECT PROSPER	Committee of the Commit
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	ON 11 -2-1302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/18/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/18/12
Name: Broad River Amoco	10. CASING: Threaded Welded
	Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Type: PVC Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Other Weight
Letthydox N2 4402 010L Lengthydox XV01 407 010L	1.0 in. to 10.0 ft. depth Drive Shoe? Yes 🗹 No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
2 DUDI IC CVCTEM NAME. DUDI IC CVCTEM NUMBER	44 COREEN.
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUME	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
W.C.YG 2014	ft. and ft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0	ft. Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth	to 12 STATIC WATER LEVEL 12.5 (enc.) # below land surface after 24 hours
Formation Description of Botton	of
Stratum Stratu	13. PUMPING LEVEL Below Land Surface ft, after hrs. Pumping G.P.M.
See attached log	Pumping Test: Yes (please enclose) I No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
0.00	Depth: From 15.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
SAFET STATE OF STATE	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-10	1:11 6 -11
	Signed Arches Wil # 1356 Fragte: 5/7/13
	signed: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Well Driller
TYPE D Mad Patron D	— Yfdi Dilliol
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other	— Yfdi Dilliol



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	01111 2 13 0 2
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony. Columbia Sales SC 29. 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/24/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/24/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam : 1.0" Height: Above /Relow
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	Type: PVC Galvanized Surface U.U' ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 10.0 ft. depth
10.000,000	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONINENT. E 165 LI NO	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 15.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET
*Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 12.5 (EDC.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
	Pumping Test: ☐ Yes (please enclose) ☑ No
L	Yield:
	14. WATER QUALITY
1	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Installed from ft. to ft. Effective size Uniformity Coefficient ft.
	Installed from
	Installed from ft. to ft. Effective size Uniformity Coefficient ft.
	Installed from
*Indicate Water Bearing Zones	Installed from
*Indicate Water Bearing Zones	Installed from
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	Installed from
	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed)	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-11	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-11 6. TYPE: Mud Rotary Jetted Bored	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-11	Installed from



FROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	WANTED TO THE PARTY OF THE PART
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/24/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 Date Completed: 5/24/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: 🗹 PVC 🗆 Galvanized Surface 0.0' ft.
a let sharting active	Steel Other Weight lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 10.0 ft. depth Drive Shoe?
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT:	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
- Addition Settles Settles (Set les (Settl	ft. andft. USE SECOND SHEET
Grouted Depth: from <u>15.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 12.5 (CDC.) ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	13. PUMPING LEVEL Below Land Surface. ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: Yes (please enclose) I No
- MTD ()	Yield:
	14. WATER QUALITY
	14. WAIER QUALIT Chemical Analysis ☑ Yes □ No Bacterial Analysis □ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack)
	Effective size Uniformity Coefficient
	_ 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 15.0 ft. to 0.0 ft.
(10) to 10	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
2007 200	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
- Wa 700 - 8	- 18. PUMP: Date installed: Not installed ☑ Mfr. Name: Model No.:
54800000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-12	
	Signed: Archen wil #1356 for Date: 5/2/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	ii D 20701 Dilliot, provide daportioling dilliot o fidillio.
☐ Cable tool ☐ Other	
200-25	A Legal test to the second test to the second test test test test test test test tes



PROMOTE PROTECT PROSPER		2000 00	an offeet, columbia, 60 2020 1-17 00, (000) 000-4000
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UMW-24502
(last)	(first)		8. USE:
Address: 4335 Broad River Rd.			Residential Public Supply Process
City: Columbia State: S	C Zip: 2921	0	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
58 CS (a) 275 28			O WELL DEDTIL (- - - - - - -
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 5/24/12
2. LOCATION OF WELL:	COUNTY: Richland	d	15.0 Date Completed: 5/24/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Riv	or Dd		Diam.: 1.0" Height: Above /Below
City: Columbia	Zlp: 29210		Type: 🗹 PVC 🖂 Galvanized Surface U.U'
Columbia	29210		☐ Steel ☐ Other Weight
Latitudo: N34403 0101 Longitus	do: 33701 d07 0101		1.0 In. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitud	16. W81007.012		in. toft. depth
A BUBLIA OVOTELLULAR			11. SCREEN:
	PUBLIC SYSTEM N	UMBER:	Type: PVC Diam.: 1.0"
N/A			Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: Yes [] No	777	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from 15.0	ft to 0.0	ft	Sleve Analysis Yes (please enclose) No
Ground Dopan Holli 3315		Depth to	
Formation Description		ottom of	12. STATIC WATER LEVEL 12.5 (enc.) ft. below land surface after 24 hours
Tomaton Boompaon	1,0741117592	Stratum	13. PUMPING LEVEL Below Land Surface.
G 1 11		Medi	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			the second secon
			Chemical Analysis ☑ Yes ☐No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			Please enclose lab results.
	1 1		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 15.0 ft. to 0.0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			500 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
			Type Well DisInfected ☐ Yes ☑ No Type: Amount:
10000-			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Set (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
2100			19. WELL DRILLER: Joshua Register CERT. NO.: 1921
1797017			Address: (Print) Level: A B C D (circle one)
LOTS WATER ECLE			P.O. Box 50285
1 100 3 C 3 C 3 C 3 C 3 C 3 C 3 C 3 C 3 C 3			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
AND REPORT AND RESIDENCE AND RESIDENCE AND SERVICE.	1		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
endos barantes de acasa o			
TMW-13	1 1		N 10 N 0 #1717(1) C/10
			Signed Huchen Wiln #1356 (fer) ato: 5/7/13
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jette	d ☑ Bore	d I	If D. Level Deller, provide supendelpa dellede semen
□ Dug □ Air R		_	If D Level Driller, provide supervising driller's name:
	otary LI Drive		
☐ Cable tool ☐ Othe		011	



Water Well Record

PROMOTE PROTECT PROSPER	289 7.27	
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		
(last) (first)		8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 2921	10	☐ Irrigation ☐ Alr Conditioning ☐ Emergency
City: Columbia State: SC Zip: 2921	10	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 5/24/12
2. LOCATION OF WELL: COUNTY: Richlan		15.0
A P A SECOND CONTROL OF THE PARTY OF THE PAR	ıa	15.0 ft. Date Completed: 5/24/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.		
City: Columbia Zip: 29210		Type: PVC Galvanized Surface 0.0' ft. Steel Gother Weight ft.
		10 100
Latitude: N34d03.910' Longitude: W81d07.012'		
		In. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM	NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A		Type: PVC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No		Slot/Gauge: 0.010 Length: 5.0
		Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 15.0 ft. to 0.0	#	ft. andft. USE SECOND SHEET
	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
	Bottom of	12. STATIC WATER LEVEL 12.5 (enc.) ft. below land surface after 24 hours
The state of the s	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
1 1		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes [7] No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From 15.0 ft. to 0.0 ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Туре
		Well DisInfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed [7]
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		. 1
TMW-14		1 1 1 1 1 1 1 1 1
		Signed: Archen Ceril # 1398 (For) Date: 5/7/13
2	35,8077/4	Signed: Well Driller
e Par Cui a		Tion Dillioi
6. TYPE: Mud Rotary Jetted Bord		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driv	ven	
☐ Cable tool ☐ Other		



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMITNUMBER: UMW-24502
Name: Fredrick Cecchini	U1V1 W -243U2
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	Residential Public Supply Process
TACH CONTRACTOR OF THE CONTRACTOR AND CONTRACTOR AN	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
SAMESALCI EL SAMESALCI EL MUNICIPA MAS	9. WELL DEPTH (completed) Date Started: 5/25/12
Telephone: Work: Home:	10.3 \$10.4 \$10.0 \$
2. LOCATION OF WELL: COUNTY: Richland	15.0 Date Completed: 5/25/12
Name: Broad River Amoco	10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
29210	☐ Steel ☐ Other Weight ————————————————————————————————————
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 10.0 ft. depth Drive Shoe?
	In. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0"
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
granav sp. an	ft. and ft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
Doc amone 105	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
1 1	
	Installed from ft. to ft.
	Installed fromft. Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft.
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Effective size
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 15.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date installed: Not Installed
	Effective size Uniformity Coefficient 16. WELL GROUTED?
	Effective size
*Indicate Water Bearing Zones	Effective size
*Indicate Water Bearing Zones	Effective size
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	Effective size
	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed)	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-15 6. TYPE: Mud Rotary Jetted Bored	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-15 6. TYPE: Mud Rotary Jetted Bored	Effective size



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	0141 W - 24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	☐ Test Well
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/25/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/25/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
PRODUCTIONS	Steel Other Weight — b./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 10.0 ft. depth Drive Shoe? Yes I No
	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMB	ER: 11. SCREEN: Time: PVC Diam: 1.0"
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
572721 V272	ft. and ft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0	ft. Sieve Analysis 🗆 Yes (please enclose) 🗹 No
*Thickness Depth	12. STATIC WATER LEVEL 12.0 COLO.1 IL DEIDW land surface after 24 nours
Formation Description of Stratum Stratu	of
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☑No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>15.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if predad)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-16	1 1 1 1 1 the CO CO II
	Signed: Arleen wel #1356 (m) Date: 5/7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	if D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	
	and the second s



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OMN 27002
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 5/25/12
2. LOCATION OF WELL: COUNTY: Richland	15.0 ft. Date Completed: 5/25/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	
City: Columbia Zip: 29210	
	□ Steel □ Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
A ABAIDOIMEIT. E 100 E 110	Set Between: 10.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS ft. USE SECOND SHEET
Grouted Depth: from 15.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 13.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	13. PUMPING LEVEL Below Land Surface. ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
10.000	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>15.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Well Disinfected □ Yes ☑ No Type: Amount:
	18. PUMP: Date Installed: Not installed Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
Madada W.A. Barda B	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	and an arrange and arrange arrange and arrange arrange arrange and arrange
TMW-17	/ / /
*****	Signed: Holew Well Driller Well Driller
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D I and Dilles provide constitute dell'ada parasi
□ Dug □ Air Rotary □ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



Water Well Record

City: Columbia State: SC Zip: 29210 Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Irrigation	Process Emergency
Residential Public Supply Resi	
Address: 4335 Broad River Rd. City: Columbia State: SC Zip: 29210 Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03,910' Longitude: W81d07.012' 8. USE: Residential Public Supply In Residential Introduction Int	
City: Columbia State: SC Zip: 29210 Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Irrigation	
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Test Well ☑ Monitor Well ☑ Monitor Well ☑ Monitor Well ☑ Monitor Well ☑ Steel ☑ Nation Steel ☑ Monitor Well ☑ Steel ☑ Monito	Emergency
Telephone: Work: Home: 9. WELL DEPTH (completed) Date Started: 6/13/12	
2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Location of Well. 19.0 10. CASING: Interested Interested Interested Interested: 6/13/12 10. CASING: Interested: 6/13/12	Replacement
Name: Broad River Amoco Street Address: 4335 Broad River Rd. 10. CASING: ☐ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below Surface U.U' City: Columbia Zip: 29210 Type: ☐ PVC ☐ Galvanized ☐ Other Steel ☐ Other Weight ☐ Drive Shoe? ☐ Yes ☐ Other Latitude: N34d03,910' Longitude: W81d07.012' In. to ☐ 14.0 ☐ ft. depth Drive Shoe? ☐ Yes ☐ Other	
Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03,910' Longitude: W81d07.012' 10. CASING: Threaded Welded Diam.: 1.0" Type: PVC Galvanized Steel Other In. to 14.0 ft. depth In. to 14.0 ft. depth Drive Shoe? Yes G	
Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Diam.: 1.0" Type: PVC Galvanized Surface U.U' Surface U.U' Weight Drive Shoe? PYes G	
City: Columbia	
Latitude: N34d03.910' Longitude: W81d07.012' Steel	ft.
Latitude: N34d03.910' Longitude: W81d07.012' 1.0 in. to 14.0 ft. depth in. toft.	lb./ft.
in. toft. depth	
44 CODETA	
) 3. PUBLIC STSTEW NAME: PUBLIC STSTEW NUMBER; 11. SCREEK.	
N/A Type: PVC Diam.: 1.0"	
N/A PUBLIC SYSTEM NUMBER: Type: PVC Slot/Gauge: 0.010' Length: 5.0'	
4. ABANDONMENT: ☑ Yes ☐ No Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE	ESCREENS
ft, andft. USE SECOND SH	
Grouted Depth: from 19.0 ft. to 0.0 ft. Sieve Analysis ☐ Yes (please enclose) ☑ No	
*Thickness Depth to 12. STATIC WATER LEVEL 16.0 (enc.) ft. below land surface	ce after 24 hours
Formation Description of Bottom of	TO GILLO EV HOURS
Stratum Stratum 13. PUMPING LEVEL Below Land Surface.	CRV
See attached log	G.P.W.
Pumping Test: Yes (please enclose) No	
Yield:	
14. WATER QUALITY	
Chemical Analysis ☑ Yes ☐No Bacterial Analysis ☐ Yes ☑	No
Please enclose lab results.	
15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No	
Installed from ft. to	ft.
Effective size Uniformity Coefficient	
16. WELL GROUTED? ☑ Yes ☐ No	100 BANAW
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other	
Depth: From 19.0 ft. to 0.0	
17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft.	
Type	direction
Well Disinfected ☐ Yes ☑ No Type: Amount:	76%s
18. PUMP: Date Installed: Not Instal	IRG [A]
Mfr. Name:	onm.
H.P Volts Length of drop pipe ft. Capacity TYPE: Submersible Jet (shallow) Turbine	аып
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal	
19. WELL DRILLER: Joshua Register CERT. NO.: 1921	D (alrela ana)
Address: (Print) Level: A B C	D (circle one)
P.O. Box 50285 Columbia, SC 29250	
*Indicate Water Bearing Zones Telephone No.: 803-783-3314 Fax No.: 803-783-25	587
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under	
(Use a 2nd sheet if needed) my direction and this report is true to the best of my knowledge and bell	lef.
5. REMARKS:	intel/k
TMW-18	5/2/12
A. L.	11/13
Signed: Archee Wel #1356 for Date:	•
TMW-18 Signed: Auleu hiel #1355 for Date:	
TOTAL STATE OF THE	
Tran Diller	



Water Well Record

1. WELL OWNER INFORMATION: Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4555 Bload River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 6/13/12
2. LOCATION OF WELL: COUNTY: Richland	19.0 ft. Date Completed; 6/13/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
	☐ Steel ☐ Other Weight — ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 14.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Education 1434005.910 Edigitade. 4481007.012	In. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
STATE OF THE STATE	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
*	ft. and ft. USE SECOND SHEET
Grouted Depth: from 19.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 16.5 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite Other
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0.0 ft.
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 19.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 19.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type Well Disinfected Yes No Type: Amount:
	16. WELL GROUTED? Yes No Not Near Cement Bentonite Bentonite/Cement Other Depth: From 19.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date Installed: Not installed
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
	16. WELL GROUTED?
	16. WELL GROUTED? Yes No Neat Cement
	16. WELL GROUTED? Yes No Neat Cement
	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-19	16. WELL GROUTED?
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-19 6. TYPE: Mud Rotary Jetted Bored	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-19	16. WELL GROUTED?



1. WELL OWNER INFORMATION:	7 DEDMITNIMPED.
Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4353 Bload River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 6/13/12
2. LOCATION OF WELL: COUNTY: Richland	19.0 ft. Date Completed: 6/13/12
Name: Broad River Amoco	10. CASING: I Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: 7 PVC Galvanized Surface U.U'
Columbia 29210	☐ Steel ☐ Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 14.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
11.2	ft. and ft. USE SECOND SHEET
Grouted Depth: from 19.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 18.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: Yes (please enclose) I No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 19.0 ft. to 0.0 ft.
2768	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
A PARTY OF THE PAR	
	18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
	[1] 사용 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
Indicate frater bearing zories	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	my and such and the report to the to the boat of my minimage and sentin
	1.0.
TMW-20	Signed Archen brick#1358 (for) ato: [7/13
	Signed: 7 13 Sate: 7 13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	2 2010. Stiller, provide departioning district of futition
☐ Cable tool ☐ Other	



Water Well Record

PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	TOTAL MARTINE MARKET
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
OIL	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Totalone Western Union	9. WELL DEPTH (completed) Date Started: 6/13/12
Telephone: Work: Home:	© 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2. LOCATION OF WELL: COUNTY: Richland	19.0 ft. Date Completed: 6/13/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
	Steel Other Weight lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 14.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0"
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
100	ft. and ft. USE SECOND SHEET
Grouted Depth: from 19.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 18.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 19.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft, direction
	Type
100 mWs 3	Well Disinfected ☐ Yes ☑ No Type: Amount:
Content south	18. PUMP: Date installed: Not installed
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd shoot if seeded)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	500
TMW-21	1 1 1 1 6 60 5/1-
	Signed Ardiew Wel # 1398 (for) Date: [7/13
	Signed: Well Driller
C TYPE DATE DATE	s a week definitives
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored	
	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven☐ Cable tool ☐ Other☐	If D Level Driller, provide supervising driller's name:



Water Well Record

PROMOTE PROTECT PROSPER	- 7		T DEDUCTABLIANCE.
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		ı	
(last) (first)		1	8. USE:
Address: 4335 Broad River Rd.		- 1	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 2921	, I	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 2921	٠ I	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Ho	ome:	ı	9. WELL DEPTH (completed) Date Started: 6/13/12
2. LOCATION OF WELL: COU			19.0 pate Completed: 6/13/12
	WI . Richiano	4	10. CASING: Threaded Welded
Name: Broad River Amoco	A72:	- 1	1.01
Street Address: 4335 Broad River R	ld.	- 1	
City: Columbia Zip	p: 29210	- 1	Type: PVC Galvanized Surface 0.0" ft.
AND CONTRACTOR AND STREET THE CONTRACT OF CONTRACT OF CONTRACTOR STREET			1.0 in. to 14.0 ft. depth Drive Shoe? Yes 🗹 No
Latitude: N34d03.910' Longitude: V	W81d07.012'		
			In. to ft. depth
[1] [1] [2] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4	LIC SYSTEM N	IUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	o		
Grouted Depth: from 19.0 ft. to	to 0.0	ff	
		Depth to	
Formation Description		ottom of	12. STATIC WATER LEVEL 18.0 (enc.) ft. below land surface after 24 hours
	Stratum S	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. PumpingG.P.M.
See attached tog			Pumping Test: ☐ Yes (please enclose) ☑ No
		- 1	Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ Nó
	1		Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		21.10	Installed from ft. to ft.
			Effective size Uniformity Coefficient
AND THE RESERVE AND THE PARTY OF THE PARTY O		- 1	16. WELL GROUTED? ☑ Yes ☐ No
- AVVIOLENCE OF THE PROPERTY O	17 - 1	- 1753	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 19.0 ft. to 0.0 ft.
	0.000		
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
	1	l l	Well Disinfected ☐ Yes ☐ No Type: Amount:
			18. PUMP: Date installed: Not installed [2]
	- 1		Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			TYPE: Submersible Jet (shallow) Turbine
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			TYPE: Submersible Security Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Jet (shallow) Turbine Centrifugal Centrifugal Centrifugal Centr. No.: 1921 Level: A B C D (circle one)
			TYPE: Submersible Jet (shallow) Turbine Second Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register CERT. No.: 1921 Address: (Print) Level: A B C D (circle one) P.O. Box 50285
41.0			TYPE: Submersible Jet (shallow) Turbine Second Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register CERT. No.: 1921 Address: (Print) Level: A B C D (circle one) P.O. Box 50285
41.0			TYPE: Submersible Jet (shallow) Turbine Second Certifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed)			TYPE: Submersible Jet (shallow) Turbine Second Certifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:			TYPE: Submersible Jet (shallow) Turbine Second Certifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:			TYPE: Submersible Jet (shallow) Turbine Second Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed) 5. REMARKS: TMW-22			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Hallell Later 1356 Well Driller
(Use a 2nd sheet if needed) 5. REMARKS: TMW-22 6. TYPE: Mud Rotary Jetted	☑ Bore	200	TYPE: Submersible Jet (shallow) Turbine Second Certifugal 19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-22		200	TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Joshua Register Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Healeul Latel 1356 Well Driller



1. WELL OWNER INFORMATION: Name: Fredrick Cecchini (ast)	PROMOTE PROTECT PROSPER		
Substitute Color Columbia State: SC Zip: 29210 Substitute Color Columbia State: SC Zip: 29210 Substitute Color Color Columbia State: SC Zip: 29210 Substitute Color Colo	1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: TIMEN 24502
Address: 4335 Broad River Rd. City: Columbia State: SC Zip: 29210 Tatephone: Work Home: Tatephone: Work Totalphone: Work Lo LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Lestitude: N34d03.910' Longitude: W81d07.012' 3. PUBLIC SYSTEM NAME: N/A ABANDONMENT: Zi Yes No Grouted Depth: from 20.0			U1V1 W -2-13U2
City: Columbia State St. Zip: 29210	\$2,410.00	(first)	8. USE:
September Sep	Address: 4335 Broad River Rd.		
Totalephone: Work: Home: 2. LOCATION OF WELL: COUNTY:Richland Name: Broad River Amono Street Address: 4335 Broad River Rd. City: Columbia Zpc. 29210 Letitude: N34403.910' Longitude: W81407.012' 3. PUBLIC SYSTEM NAME: NAME: NAME: NAME: NAME: Street NAME:	City: Calambia State: SC 71a; 20210		☐ Irrigation ☐ Air Conditioning ☐ Emergency
20.0	City: Columbia State: SC 2ip: 29210		☐ Test Well ☐ Monitor Well ☐ Replacement
20.0 1.	Telephone: Work:	Home:	9. WELL DEPTH (completed) Date Started: 6/19/12
Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Type: Zip: PVC Gladwatzed Gladwat	2. LOCATION OF WELL: CO		20.0 ft. Date Completed: 6/19/12
Diam: 1.0" Steel Clay: Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Longitude: W81d07.0	,	- Authura	
City Columbia Zpr 29210 Latitude: N34d03.910' Longitude: W81d07.012' Latitude: N34d03.910' Longitude: N34d03.910		· P.d	1.00
Steel Other Logitude: Wstad07.012' Logitude: Wstad07.012' Logitude: Wstad07.012' Logitude: Wstad03.910' Longitude: Wstad07.012' Logitude: Wstad03.910' Longitude: Wstad07.012' Logitude: Wstad03.910' Longitude: Lo			
S. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A	Columbia	. 29210	☐ Steel ☐ Other Weight — lb_/ft.
1. SCREEN: 1.0	Latitude: N34d03.910' Longitude	: W81d07.012'	
N/A 4. ABANDONMENT:			In. to ft. depth
Set Between: 15.0.0	3. PUBLIC SYSTEM NAME: PU	BLIC SYSTEM NUMBER:	11. SCREEN:
Set Between: 15.0 ft. and 20.0 ft. to 0.0 Fromation Description of Stratum o	N/A		Type: PVC Dlam.: 1.0"
Set between:	4. ABANDONMENT:	No	Slot/Gauge: U.UIU Length: 3.0
Sieve Analysis Yes (please enclose) No			
Thickness of Stratum S	Grouted Depth: from 20.0	ft. to <u>0.0</u> ft.	
Sce attached log 13. PUMPINO LEVEL Bellow Land Surface. 14. after hrs. Pumping G.P.M.			
Sce attached log Pumping Test: Yes (please enclose) No Yield:	Formation Description	of Bottom of	
Pumping Test: Yes (please enclose) No Yield: Yes No Yield: Yes No Sactorial Analysis Yes No No Yield: Yes No Yes No Yes Yes No Yes Yes No Yes Yes No Yes Y		Stratum Stratum	
14. WATER QUALITY Chemical Analysis Yes No Please encloses Yes No Please Yes Yes No Please Yes Yes Yes No Please Yes	See attached log		를 받는 경우를 받는 것을 하는 것이 없는 것이 없어요.
14. WATER QUALITY Chemical Analysis Yes No Please enclose lab results.			
Chemical Analysis			
Please enclose lab results.			
15. ARTIFICIAL FILTER (filter pack) Yes No Installed from f. to f.			·
Installed from	170 De 20 20 20 20 20 20 20 20 20 20 20 20 20		Committee of the commit
Effective size			15. ARTIFICIAL FILTER (Titter pack) Yes No
16. WELL GROUTED? Yes No Not Installed Not Not Not Installed Not Not Not Installed Not Not Not Installed Not Not Installed Not Not Not Installed Not Installed Not Not Not Installed Not Not Installed Not Not Installed Not			Effective size Uniformity Coefficient
Neat Cement Bentonitle Bentonitle Other Depth: From 20.0 ft. to 0.0 f	55.0	3	
Depth: From 20.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Model No.: H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine Type: Submersible Jet (shallow) Jet (shallow) Turbine Type: Submersible Jet (shall			AND CONTROL OF THE SECOND CONTROL OF THE SEC
17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft direction Type	URIAMSON IN	70.000	
Type Well Disinfected Yes No Type: Amount: Not Installed Mell Disinfected Yes No Type: Amount: Not Installed Mell Disinfected Yes No Type: Not Installed Mell Disinfected Yes Distinfected Yes Not Installed Mell Disinfected Yes Distinfected Yes Not Installed Yes Distinfected Yes Di			
Well Disinfected			
18. PUMP: Date Installed:			
Mfr. Name:			
H.P			
TYPE: Submersible Jet (shallow) Turbine Centrifugal 19. WELL DRILLER: Joshua Register CERT. No.: 1921 Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS: TMW-23 Signed Auleu Walt 1356 Walter Date: 135/3/13 Well Driller If D Level Driller, provide supervising driller's name:			
19. WELL DRILLER: Joshua Register Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-23 19. WELL DRILLER: Joshua Register CERT. NO.: 1921 Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Audieu Willer Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:			
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Audio Library Well Driller If D Level Driller, provide supervising driller's name:			19. WELL DRILLER: Joshua Register CERT. NO.: 1921
*Indicate Water Bearing Zones		*	
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-23 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Well Driller If D Level Driller, provide supervising driller's name:			
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS: TMW-23 Signed: Audieu Wil 41356 W Date: 1/3/13 Well Driller If D Level Driller, provide supervising driller's name:			
(Use a 2nd sheet if needed) 5. REMARKS: TMW-23 Signed: Andle Will Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:	*Indicate Water Bearing Zones		
5. REMARKS: TMW-23 Signed: Andlen Will #1356 Grap Date: 1/3/13 Well Driller If D Level Driller, provide supervising driller's name:	(Use a 2nd sheet if needed)		4 TATE (4 1946 THAN 19 TATE OF THE STANDARD O
TMW-23 Signed: Andler Will #1356 Grap Date: 1/3 Well Driller If D Level Driller, provide supervising driller's name:			my direction and this report is true to the best of my knowledge and belief.
6. TYPE: Mud Rotary Jetted Bored If D Level Driller, provide supervising driller's name:			
6. TYPE: Mud Rotary Jetted Bored If D Level Driller, provide supervising driller's name:	TMW-23		1 10 11:141707 1 5/2/12
6. TYPE: Mud Rotary Jetted Bored If D Level Driller, provide supervising driller's name:			Signed Thurs Will 1976 (fry Date: 17/19
□ Dug □ Air Rotary □ Driven			Well Driller
	B N는 B N는 는 B N N B 에어를 받는 문자 전상을 잃어 생각이다는 그 보다 하다.		If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	_ 7	tary Driven	015)
	☐ Cable tool ☐ Other	and the state of t	



PROMOTE PROTECT PROSPER	2000 Bt	all Street, Columbia, SC 2320 1-1700, (003) 030-4300
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UW W-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City C 1 1: States CC 7ins 20210		☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210		☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work:	Home:	9. WELL DEPTH (completed) Date Started: 6/19/12
2. LOCATION OF WELL:		19.0 ft. Date Completed: 6/19/12
Name: Broad River Amoco	Riomana	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Riv	or Dd	Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210	Type: I PVC Galvanized Surface 0.0' ft.
Columbia	. 29210	☐ Steel ☐ Other Weight — b./ft.
Latitude: N34d03.910' Longitud	de: W81d07.012'	1.0 in. to 14.0ft. depth Drive Shoe? ☐ Yes ☑ No
		in. toft. depth
3. PUBLIC SYSTEM NAME:	PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A		Type: PVC Diam.: 1.0"
4. ABANDONMENT: Yes	7 No.	Siot/Gauge: 0.010' Length: 5.0' Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
T. ADAILDONNELLI.	- 110	
Grouted Depth: from 19.0	ft. to 0.0 ft.	
Ground Dopan. Hom 12210	*Thickness Depth to	Sieve Analysis Yes (please enclose) No 12. STATIC WATER LEVEL 18.5 (CDC.) ft. below land surface after 24 hours
Formation Description	of Bottom of	the state of the s
AND ROLE AND AND AND ROLE DO CARGO SA SA ♥ SONIS IN THE	Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
-52-2-10-7-		Please enclose lab results.
	1 1	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	1	Installed from ft. to ft.
		Effective size Uniformity Coefficient
€18		16. WELL GROUTED? ☑ Yes ☐ No
	1	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	1	Depth: From 19.0 ft. to 0.0 ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Туре
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed [2]
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
	 	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		50 S S
TMW-24		1 1 1 1 0 5 5 1 1
1W1W-24		Signed A- chen Wil #1396 [pr) Date: 5/7/13
		Signed. Wall Drillar
e TWE FILLS		Troil Driller
6. TYPE: ☐ Mud Rotary ☐ Jette	1900 a.a.a	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air F		
LI Cable tool LI Othe	31	\$



1. WELL OWNER INFORMATION:	7 PERMITNIMBER:
Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE: Residential Public Supply Process
	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
7-1-1-1-11-11-11-11-11-11-11-11-11-11-11	9. WELL DEPTH (completed) Date Started: 7/5/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	
	19.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Dlam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Dlam.: 1.0 Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	lype: ☐ PVC ☐ Galvanized Surface tt.
alltida: N24 102 010 analtida: N201 107 010	1.0in. to 14.0ft. depth Drive Shoe?
Latitude: N34d03.910' Longitude: W81d07.012'	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11 SCREEN:
N/A	Type: PVC
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
Constad Double from 10.0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 19.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
Formation Description	12. STATIC WATER LEVEL 18.5 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
See attached tog	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Effective size
	Depth: From 19.0 Sentonite Depth: From 19.0 Tt. to 0.0 Tt. to 0.0 Tt. to 0.0 Tt.
	Effective size
*Indicate Water Bearing Zones	Selfective size
*Indicate Water Bearing Zones	Submersible Jet (shallow) Turbine Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal Centrifugal Submersible Jet (shallow) Turbine Jet (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-2587
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	Effective size
	Effective size
(Use a 2nd sheet if needed) 5. REMARKS:	Level: A B C D (circle one) Level: A B C D (circle one) Pax No.: 803-783-2587 Level: A B C D (
(Use a 2nd sheet if needed)	Level: A B C D (circle one) Level: A B C D (circle one) Pax No.: 803-783-2587 Level: A B C D (
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-25	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite Cother Depth: From 19.0 ft. to 0.0 ft.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-25 6. TYPE: Mud Rotary Jetted Bored	Level: A B C D (circle one) Level: A B C D (circle one) Pax No.: 803-783-2587 Level: A B C D (
(Use a 2nd sheet if needed) 5. REMARKS: TMW-25	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite Cother Depth: From 19.0 ft. to 0.0 ft.



PROMOTE PROTECT PROSPER	2000 Bi	ali Street, Columbia, SC 2920 1-1700, (603) 636-4300
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UMW-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City G 1 11 State SC 7in 20210		☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210		☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:	9. WELL DEPTH (completed) Date Started: 6/20/12
2. LOCATION OF WELL:		20.0 ft. Date Completed: 6/20/12
Name: Broad River Amoco	Attomana	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Riv	ver Dd	Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
Columbia	. 29210	☐ Steel ☐ Other Weight lb./ft.
Latitude: N34d03.910' Longitu	de: W81d07.012'	1.0 In. to 15.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	in. to ft. depth
3. PUBLIC SYSTEM NAME:	PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A		Type: PVC Diam.: 1.0"
4. ABANDONMENT: Yes	□ No	Slot/Gauge: 0.010' Length: 5.0' Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
	_ 110	
Grouted Depth: from 20.0	ft. to 0.0 ft.	ft. andft. USE SECOND SHEET
	*Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description	of Bottom of	12. STATIC WATER LEVEL 19.0 (cnc.) ft. below land surface after 24 hours
The stock of Constitution State (Constitution State St	Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
Det atmoned log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
100000000000000000000000000000000000000		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☑ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
100 - 120 - 22		Installed from ft. to ft.
		Effective size Uniformity Coefficient
1000 E		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Туре
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
3346		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921
**************************************		Address: (Print) Level: A B C D (circle one)
9		P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		15 To
TMW-27	k 1	1 1/11 (1) -1 /
AMA 11 -6-1		Signed: Aden hil #1357 (for Date: 17/13
		Signed: Well Driller
e programme		Titoli Dillici
6. TYPE: Mud Rotary Jett	1931	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air f		
☐ Cable tool ☐ Othe	21	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER:
Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 6/20/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 6/20/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
	□ Steel □ Other Weight — □ b./ft. 1.0 in. to 15.0 ft. depth Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth Drive Stoer Drive
A DUDU O OVOTEM NAME. DUDU O OVOTEM NUMBER.	11. SCREEN:
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A	Type: PVC Diam: 1.0"
ADDISABLE DE LA CONTRACTOR DE LA CONTRAC	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET
*Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 19.0 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
	Yield:
,	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
T I I	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
10000000000000000000000000000000000000	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
14 THE RESERVE TO THE	Mir. Name: Model No.: ft. Capacity gpm
Destroy and the second of the	TYPE: Submersible Jet (shallow) Turbine
5	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
Indicate Water Dealing 20165	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-28	1 1 1 / # CO CI I
1920000 007 4	Signed Arrhen well #1357 (fm) Date: /7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UM W-243U2
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco	10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Type: ☑ PVC ☐ Galvanized Height: Above /Below Surface U.U' ft.
City: Columbia Zip: 29210	lype: ☑ PVC ☐ Galvanized Surface
Latitude: N34d03,910' Longitude: W81d07,012'	1.0 In to 15.0 ft denth Drive Shoe? Yes 7 No
Lautude. 1434(103.910 Longitude. W 81(107.012	In. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBE	R: 11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
100 mm 1	ft, andft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 12.0 (COO)
Formation Description of Bottom of Stratum Stratum	
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 20.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
### ### P # = =	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-29	1 1 1 1 1 6 1 1
***************************************	Signed: A cheu hil #1356 (50) Date: /2/13
	Signed: Well Driller Date: / D
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	in D Level Dillier, provide supervising dillier's frame.
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
Clty: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City. Columbia State. SC 21p. 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
272.0	Steel Cother Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 15.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	In. toft, depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
4F92.F3 (2/2/20	ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 19.0 (enc.) ft. below land surface after 24 hours
Formation Description of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
2	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🖸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Joshua Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
AREA DE ULTON	1.1.
TMW-30	1 10 1 1 1 1 1 1 TO 13
	Signed: 1556 (fm) Date: ////
	Signed: Arden buil#1358 (m) Date: 1/7/13
6. TYPE: Mud Rotary Jetted Bored	Signed: Well Driller If D Level Driller, provide supervising driller's name:
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other	Well Driller



Water Well Record

PROMOTE PROTECT PROSPER		
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		
(last) (first)		8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210		☐ Irrigation ☐ Air Conditioning ☐ Emergency
City. Columbia State. SC 2ip. 29210		☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: COUNTY: Richlan	nd	20.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☑ Welded
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210		Type: PVC Galvanized Surface 0.0' ft.
29210		☐ Steel ☐ Other Weight — ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012	2"	1.0 In. to 15.0 ft. depth Drive Shoe? Yes I No
		in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM	NUMBER:	11. SCREEN:
N/A		Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No		Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONWENT. E 165 E NO		Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 ft. to 0.0		ft. andft. USE SECOND SHEET
*Thickness	Depth to	Sieve Analysis Yes (please enclose) No
	Bottom of	12. STATIC WATER LEVEL 19.0 (cnc.) ft. below land surface after 24 hours
Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
		Pumping Test: ☐ Yes (please enclose) ☑ No
L 1		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Туре
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
	-	H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Joshua Register CERT. NO.: 1921
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
*Indicate Water Bearing Zones		Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
molecule vealer bearing zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		.77 Ib I 5
2000,000,000		1.0
TMW-31		4 loude #120 10 5/7/17
		Signed: Huller Unil #1352 (Fix) Date: 7/17
	04	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bo		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Dri	lveņ	
☐ Cable tool ☐ Other		



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			OW W -24302
(last) (first)		t)	8. USE:
Address: 4335 Broad River Rd.	s: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	City: Columbia State: SC Zip: 29210		☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☑ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: CO	DUNTY: Richle	and	19.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco			10. CASING: Threaded Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210	4	Type: ☑ PVC ☐ Galvanized Surface U.U' ft. ☐ Steel ☐ Other Weight lb./ft.
			1.0 in. to 14.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude	: W81d07.01	2'	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	IDI IC EVETER	A MIIMPED.	44 SCREEN
N/A	BLIC STSTE	W NUMBER.	Type: PVC Diam.: 1.0"
		1500	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes □	NO		Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 19.0	t to 0.0		ft. use second sheet
Grouted popul. Holl 17.0	*Thickness	Depth to	Sieve Analysis
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 18.0 (enc.) ft. below land surface after 24 hours
Section of the rest and the rest of the section (Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
		-	Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY Chemical Analysis ☑ Yes ☑No Bacterial Analysis ☐ Yes ☑ No
Γ			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	1		Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
ALL CONTRACTOR OF THE SECOND S			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 19.0 ft. to 0.0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.:
		-	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Joshua Register CERT. NO.: 1921
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*indicate Water Bearing Zones		1	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			my encount and and report is and to the post of my knowledge and penci.
			1 1 1 - 1 - 1 1
TMW-32			Signed: Adenlie #1356 For Date: /7/13
			Signed: Mall Driller
6 TVDE: [] Mud Potent			Troil Dillion
6. TYPE: Mud Rotary Jetted		Bored Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	,		



WELL OWNER INFORMATION: Name: Fredrick Cecchini			7. PERMIT NUMBER: UMW-24502
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.		0.70	6. USE: Residential Public Supply Process
ELECTION CONTROL OF THE CONTROL OF T	984 BRS	HEART.	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	0210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: CO	DUNTY: Richl	and	20.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.; 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: PVC Galvanized Surface 0.0' ft.
TO SEAL THE ESCANDING PROPERTY OF THE TREE		10.000m2	Steel Other Weight — in. to 15.0 ft. depth Drive Shoe? Yes I No
Latitude: N34d03.910' Longitude	: W81d07.01	12'	1.0 In. to 15.0 ft. depth Drive Shoe? ☐ Yes ☑ No In. to ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A			Type: 170 Diam.: 2.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0	ft. to <u>0.0</u>	ft.	Sieve Analysis Yes (please enclose) No
And a proceeding to the process of the control of t	*Thickness	Depth to	12. STATIC WATER LEVEL 19.0 (enc.) ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Suatum	Suatum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
YANA			Please enclose lab results.
5.000			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft. Effective size Uniformity Coefficient
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
*			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
		*:	Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
		2.	TYPE: Submersible Jet (shallow) Turbine
3 11/707 · O O O O O O O O O O O O O O O O O O			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Joshua Register CERT. NO.: 1921
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Lice a 2nd shoot if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed) 5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
(A) A TO THE COUNTY OF THE TOTAL TO SEE A SECOND OF THE TOTAL TO SEC			1 1 1 1
TMW-33			Signed: Date: 17/13
			Signed: Date:
		STOLENS	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored		10001	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot ☐ Cable tool ☐ Other	uary 🗆 [Driven	
L Cable tool Li Other			



1. WELL OWNER INFORMATION:		W-15-15-15-15-15-15-15-15-15-15-15-15-15-	7. PERMIT NUMBER:
Name: Fredrick Cecchini			7. PERMIT NUMBER: UMW-24502
(last) (first)			8. USE:
Address: 4335 Broad River Rd.			Residential Public Supply Process
in terminal of the land event at the total water and the time. Malitime in the contract of th		2010	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 7/12/12
2. LOCATION OF WELL: CO		and	20.0 ft. Date Completed: 7/12/12
Name: Broad River Amoco	ZOM T. KICIII	and	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	. n.a		Diam.: 1.0" Height: Above /Below
City C. 1 1:	Zin: acasa		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		Steel Other Weight
Latitude: N34d03.910' Longitude	· W21407 01	ימו	1.0 in. to 15.0 ft. depth Drive Shoe? Yes I No
	· Woldo7.01	12	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A			Type: PVC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
March - Street Contains - Contain			ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0	t. to <u>0.0</u>	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 19.0 (enc.) ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
- 4 - 100			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
NA THE REPORT OF THE PARTY OF T			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well DisInfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
200			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			, 1
TMW-34			Signed: Ardienheil #1358 (Fr) Date: 5/7/13
			Signed: Ardele Ver 1357 (fr) Date: 5/7/13
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	Ø.	Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Ro		Oriven	in D Level Dillier, provide supervising drillers traine.
☐ Cable tool ☐ Other	150		



Water Well Record

1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	ON W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/12/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 7/12/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	C Stool C Other Weight Ib #8
	1.0 in. to 15.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBE	R: 11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
95.075.05	ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0	t. Sieve Analysis 🗆 Yes (please enclose) 🗹 No
*Thickness Depth t	12. STATIC WATER LEVEL 12.0 COLO.1
Formation Description of Bottom Stratum Stratum	
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
Suprimore and a Primore and Suprimore Suprimor	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft. Effective size Uniformity Coefficient
	WO DEPTH AND THE PROPERTY OF T
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Well DisInfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
- 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
370	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-35	1 1 / / / / / / / / / / / / / / / / / /
	Signed: Andrew Circl#1357 (fr) Date: 17/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rotary □ Driven	in D Edver Driller, provide supervising driller a frame.
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION: Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4225 Day of Diagram D.1	8. USE:
4333 Broad River Rd.	□ Residential □ Public Supply □ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Telephone: Work: Home:	☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 7/12/12
2. LOCATION OF WELL: COUNTY: Richland	o talke
22	20.0 ft. Date Completed: 7/12/12
Name: Broad River Amoco	10. CASING: Threaded Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Other Weight Weight Ib/ft.
A depotation of the second of	1.0 in. to 15.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. to it. depth Drive Shoet Li fes Li No
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	44 SOBEEN
N/A	Type: PVC Diam: 1.0"
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
	ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0 ft.	
Formation Description of Bottom of	12. STATIC WATER LEVEL 19.0 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
20 3 4 4 3 5 30 30 30 40 5 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? I Yes No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
l	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
1	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
THE AND AND THE STATE OF THE ST	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-36	1 1 1 # 1 5/1-
	Signed: Archen Cil #1356 For Date: 5/4/3
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Lovel Driller provide guaranteles dellade name:
Dug Dair Rotary Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



WELL OWNER INFORMATION:	7 DEDMITNIMBED:
Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4555 Bload River Rd.	□ Residential □ Public Supply □ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
	9. WELL DEPTH (completed) Date Started: 7/17/12
Telephone: Work: Home:	
2. LOCATION OF WELL: COUNTY: Richland	23.0 ft. Date Completed: 7/17/12
Name: Broad River Amoco	10. CASING: ☐ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Type:
City: Columbia Zip: 29210	Type:
	1.0 In. to 18.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toit. depth
	44 COPEN
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NU	MBER: 11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 5.0'
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 18.0 ft. and 23.0 ft. NOTE: MULTIPLE SCREENS
	ft. and ft. USE SECOND SHEET
Grouted Depth: from 23.0 ft. to 0.0	
	pth to tom of 12. STATIC WATER LEVEL 22.0 (enc.) ft. below land surface after 24 hours
	ratum 13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
3800 N. A	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? Yes No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>23.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
]]	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [2]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
8500 PS 03003 5855 81 370	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	1
TMW-37	Signed: 4 Meubil #1356 (Date 5/3/13
	Signed: 4 when the #13 56 (Fr) Date 5/3/17
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Lovel Dillor provide consociales dellede name:
☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	
	•



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		220	UMW-24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia		210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 7/13/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	25.0 ft. Date Completed: 7/13/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Diam.: 1.0 Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia	Zlp: 29210		☐ Steel ☐ Other Weight
Latitude: N34d03.910' Longitude	. W21407 0	121	1.0 in. to 20.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	. Woldo7.0	12	, in. toft. depth
3. PUBLIC SYSTEM NAME: PU	IBLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	700000		Type: PVC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 20.0 ft. and 25.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from 25.0			Sieve Analysis
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 23.5 (enc.) ft. below land surface after 24 hours
Pormadon Description	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. PumpingG.P.M.
		377	Pumping Test: ☐ Yes (please enclose) ☑ No
-21			Yield:
		NO. 111 / 1	14. WATER QUALITY Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		51	Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>25.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
	-		H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
			14 6
TMW-38			Signed Ardele Wil #1356 (fa) Date: 1/2/0
			Signed Well Driller Date:
6. TYPE: Mud Rotary Jetted	[7] :	Bored	KDII Dille
-6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven			If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	endo terbi	randi S effi)	
The state of the s			



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OM W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephones Marin House	9. WELL DEPTH (completed) Date Started: 7/17/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	25.0 ft. Date Completed: 7/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	
City: Columbia Zip: 29210	
6.0 000 ACAM (10.400 ACAM ACAM ACAM ACAM ACAM ACAM ACAM AC	Steel Other Weight ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 20.0 ft. depth
ASTRIBUTE - ASTRIB	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ADANDONILLA. E 163 E 10	Set Between: 20.0 ft. and 25.0 ft. NOTE: MULTIPLE SCREENS
Considered Dearths, from 25.0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 25.0 ft. to 0.0 ft. to 1.25.0 ft. to 1.25.0 ft.	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 22.5 (EDC.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See unaction tog	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
10 10 10 10 10 10 10 10 10 10 10 10 10 1	Effective size Uniformity Coefficient
	16. WELL GROUTED? Yes No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>25.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date Installed: Not installed Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-39	1 1 / 4 6 -11
114141-37	Signed: Andewhill #1356 for Jato: 1/13
	Signed: // Value Signed: // Signe
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last)	(firs	st)	
Address: 4335 Broad River Rd.		•	8. USE:
1555 Broad Arvor Au.		MORE COME	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 7/23/12
2. LOCATION OF WELL: CO		and	25.0 pate Completed: 7/23/12
Name: Broad River Amoco	1000		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Rive	r Rd		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	7 29210		☐ Steel ☐ Other Weight — lb_/ft.
Latitude: N34d03,910' Longitude	e: W81407 0	121	1.0 In. to 20.0 ft. depth Drive Shoe? \square Yes \square No
	Woldo/.o.	.2	in. to ft. depth
3. PUBLIC SYSTEM NAME: PL	BLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Dlam.; 1.0"
N/A	£.		Type: PVC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes □	No		Set Between: 20.0 ft. and 25.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from 25.0	ft. to <u>0.0</u>	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 23.0 (enc.) ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
100	l		14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
17/10/1 (1/2)		0 0 00	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft. Effective size Uniformity Coefficient
1 mm 1 m			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>25.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well DisInfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗸
			Mfr. Name: Model No.:
7/5			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: □ Submersible □ Jet (shallow) □ Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
Y(1) (1) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4			Address: (Print) Level: A B C D (circle one)
1800		A-13//H	P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		/100/xxx-1	וווין עוויסטוטוו מווע מווס ופאטוג ום מטס גט מוט שפטג טו וווין אווטאומטעפ מווע טפוויםו.
BATIAN TERRETE BATIAN TO BETTA December 1988 - Paris Batian Batia			
TMW-40			Signed: Andelu Will #1356 (fa) Date: 5/2//3
			Signed: 12 July Well #1356 (fc) Date: 5/2//3
		VIN 80	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven		1000	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro☐ Cable tool ☐ Other	uary LI	onven	
L Capie (ion Li Other			



PROMOTE PROTECT PROSPER			AND
1. WELL OWNER INFORMATION:	rumai na tr		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last)	(first	n	
Address: 4335 Broad River Rd.	()		8. USE:
		ASSESSED	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Tolophonos Wester	Uome:		9. WELL DEPTH (completed) Date Started: 7/26/12
Telephone: Work: 2. LOCATION OF WELL: CO	Home:	d	
Name: Broad River Amoco	OH I KICHI	DILLE	24.0 ft. Date Completed: 7/26/12 10. CASING: ☑ Threaded ☐ Weided
Street Address: 4335 Broad River	D.d.		Dlam.; 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: 🗹 PVC 🗆 Galvanized Surface 0.0' ft.
- Common	27210		Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude:	: W81d07.01	2'	1.0 In. to 19.0 ft. depth Drive Shoe? Yes No
			in. toft. depth
	BLIC SYSTEM	NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 19.0 ft. and 24.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 24.0 ft	t to 0.0	ft.	ft. andft. USE SECOND SHEET
Grouted Depth: Irom 24.0	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 22.0 (enc.) ft. below land surface after 24 hours
© Forms Missocomulus publikation (** 2 Mis 4734)	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. PumpingG.P.M. Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
<u>=</u>			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		11.27()	Installed from ft. to ft.
	1		Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.:
	-		H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			19. WELL DRILLER: MICHAEL CATEY CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
7.00 00 00 00 00 00 00 00 00 00 00 00 00			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
FOR STATE OF			
TMW-41			Signed: Alenluic #1396 for Date: /7/13
			Signed: Wall Driller
6. TYPE: Mud Rotary Jetted	[7]	Sored	To be a second of the second o
□ Dug □ Air Rota	_	Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	_,		
sum materiore and the state of			



Water Well Record

1. WELL OWNER INFORMATION:	7 DEDMENUMBED.
	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
3570050	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia Salas SC 25. 27210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/26/12
2. LOCATION OF WELL: COUNTY: Richland	2 9. 0 ft. Date Completed: 7/26/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
29210	Steel Other Weightb_/ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 15.0 ft. depth Drive Shoe? ☐ Yes ☑ No
101001710	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
Grouted Depth: from 20.0 ft. to 0.0 ft.	
*Thickness Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No 12. STATIC WATER LEVEL 18.5 (cnc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: Yes (please enclose) I No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
1 1	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
200000000000000000000000000000000000000	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	10.
TMW-42	1 /
AATA II TA	A 1. a. 1. 1 #/3/7/2 \ 5/3/12
1 1	
	Signed: Archen Cuil #1357 (Jan Date: 17/13
TVDE: El Maloure El maio	Well Driller
6. TYPE: Mud Rotary Jetted Bored	Signed: Well Driller If D Level Driller, provide supervising driller's name:
6. TYPE: Mud Rotary Jetted Dug Air Rotary Cable tool Other	Well Driller



PROMOTE PROTECT PROSPER		
. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		OWIW-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
Oltra de la companya		☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Tolonbonos Words		9. WELL DEPTH (completed) Date Started: 7/26/12
Telephone: Work: 2. LOCATION OF WELL: CO	Home:	A three comments are a comment and the comment
	JUNIY: Richland	26.0 ft. Date Completed: 7/26/12
Name: Broad River Amoco		10. CASING: Threaded Welded
Street Address: 4335 Broad River	Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210	Type: 🗹 PVC 🗆 Galvanized Surface 0.0' ft.
		Steel Other Weight — ib./ft.
Latitude: N34d03.910' Longitude	: W81d07.012'	1.0 in. to 21.0 ft. depth Drive Shoe? ☐ Yes ☑ No
2		In. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTEM NUMBER	11. SCREEN:
N/A		Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐	Na	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONINENT: M Tes	NO	Set Between: 21.0 ft. and 26.0 ft. NOTE: MULTIPLE SCREENS
260		ft. and ft. USE SECOND SHEET
Grouted Depth: from 26.0 f		Sieve Analysis
Formation Description	*Thickness Depth to	12. STATIC WATER LEVEL 24.0 (enc.) ft. below land surface after 24 hours
Pornation Description	of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
A HARRY LINE DE MANAGER	- Cudami	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	2525	Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>26.0</u> ft. to <u>0.0</u> ft.
	101113-100	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
(1) <u>(1) (1)</u>	5.56	
	S. V	
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed: Not installed
the lights Water Denvis - 7		18. PUMP: Date installed:
*Indicate Water Bearing Zones		18. PUMP: Date installed: Not installed
		18. PUMP: Date installed:
(Use a 2nd sheet if needed)		18. PUMP: Date installed: Not installed
(Use a 2nd sheet if needed) 5. REMARKS:		18. PUMP: Date installed:
(Use a 2nd sheet if needed)		Model No.: Not installed Mfr. Name: Model No.: H.P.
(Use a 2nd sheet if needed) 5. REMARKS:		Model No.: Not installed Mfr. Name: Model No.: H.P.
(Use a 2nd sheet if needed) 5. REMARKS:		18. PUMP: Date installed:
(Use a 2nd sheet if needed) 5. REMARKS: TMW-43		Mfr. Name:
(Use a 2nd sheet if needed) 5. REMARKS: TMW-43 . TYPE: Mud Rotary Jetted	☑ Bored	Model No.: Not installed Mfr. Name: Model No.: H.P.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-43	☑ Bored	Mfr. Name:



Water Well Record

PROMOTE PROTECT PROSPER	State per control of a control of the control of the state of the control of the
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	O.11.11-2-1302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Ony-Columbia Giale, SC 210, 29210	☐ Test Well ☑ MonitorWell ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/6/12
2. LOCATION OF WELL: COUNTY: Richland	24.0 ft. Date Completed: 8/6/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
- Columbia . 29210	Steel Other Weight lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 19.0 ft. depth Drive Shoe? ☐ Yes ☑ No
101001010	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	10.0 24.0
Grouted Depth: from 24.0 ft. to 0.0 ft.	ft. USE SECOND SHEET Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 22.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
2 4 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cernent ☐ Bentonite ☐ Bentonite/Cernent ☐ Other
	Depth: From <u>24.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
VAMAN	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-44	1.0" ====================================
20000000 0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	Signed Fredenhiel#1357 (for Date: 1/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	
☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



. WELLOWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UMW-24502
(last)	(firs	it)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/7/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	24.0 ft. Date Completed: 8/7/12
Name: Broad River Amoco	55. 2		10. CASING: ☑ Threaded ☐ Welded Dlam.: 1.0" Height: Above /Below
Street Address: 4335 Broad Rive	r Rd.		Dlam.: 1.0" Helght: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		Steel Other Weight lb/ft
Latitude: N34d03.910' Longitude	• W81407 01	121	1.0 in. to 19.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	. WOIGO7.07	.2	in. toft. depth
3. PUBLIC SYSTEM NAME: PL	JBLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes □	No		Set Between: 19.0 ft. and 24.0 ft. NOTE: MULTIPLE SCREENS
34.3 400.400			ft. andft. USE SECOND SHEET
Grouted Depth: from 24.0	ft. to <u>0.0</u>	ft.	Sleve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 22.0 (enc.) ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
See attached les	Cudum	Oddian	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATERQUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft. Effective size Uniformity Coefficient
A 2000 - 1200 -			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>24.0</u> ft. to <u>0.0</u> ft.
10 A			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
-			18. PUMP: Date installed: Not installed
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		-7	101.10
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
.29		1	P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)		0	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			ing an established and topolicio and to allo sout of the minimode and bollon
TMW-45			
11/11/11/11/11			Signed Andrew Will # 1356 (2) Date: 5/7/13
V 10 10 10 10 10 10 10 10 10 10 10 10 10		YEVEUUS - SEE	Signed: Veil Driller
Jetted. □ Mud Rotary □ Jetted	[7]	Rored	KDII DilleId
☐ Dug ☐ Air Ro	1 1000	Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	eresta da de la composición della composición de	4 + 60505V	
	780		70 0 mm



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OM 11 -2-1302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
V2501 16 00000 A 00 0000 A 00 0000 A 00 0000 A	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Part Control of Contro	9. WELL DEPTH (completed) Date Started: 8/7/12
Telephone: Work: Home:	The state of the s
2. LOCATION OF WELL: COUNTY: Richland	24.0 Date Completed: 8/7/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
29210	☐ Steel ☐ Other Weight — lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 19.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Landue. 1434005.910 Longitude. W61007.012	in. toft. depth
A BUBLIA OVATELLIA DE LA CONTRACTORIO	11. SCREEN:
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	Type: PVC Diam.: 1.0"
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	100 010
In the contract that were ward	에 2007의 EEST 2018 - 1915년 - 19
Grouted Depth: from <u>24.0</u> ft. to <u>0.0</u> ft.	
*Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 22.0 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATERQUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 24.0 ft. to 0.0 ft.
DOMESTIC CONTRACTOR OF THE PROPERTY OF THE PRO	
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
Hadisətə Weter Daving 7	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed)	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46 5. TYPE: Mud Rotary Jetted Bored	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46 8. TYPE: Dug Air Rotary Driven	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Date: 5/1/3
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46 5. TYPE: Mud Rotary Jetted Bored	P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Date: 5/1/3



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	والمراجع والم		U1V1 W -24302
(last)	(fire	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 20	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	-ip. 23	210	☐ Test Well ☑ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 7/27/12
	UNTY: Rich	land	23.0 ft. Date Completed: 7/27/12
Name: Broad River Amoco	2002		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	Rd		Diam.: 1.0" Height: Above /Below
	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	29210		Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude	: W81d07.0	12'	1.0 in. to 18.0 ft. depth Drive Shoe? ☐ Yes ☑ No
₹			in. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: Yes	No		
esterminated and accompanies of the folial verification	2752A		Set Between: 18.0 ft. and 2.5.0 ft. NOTE: MULTIPLE SCREENS ft. andft. USE SECOND SHEET
Grouted Depth: from 23.0 f	t. to <u>0.0</u>	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 21.0 (enc.) ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. afterhrs. PumpingG.P.M. Pumping Test: Yes (please enclose) No
	Date:		Yield:
		•	14. WATER QUALITY Chamberland Analysis 72 Year Tible Restoried Analysis 72 Year 72 No.
	l ÿ		Chemical Analysis ☑ Yes ☑No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) Yes V No
			Installed from ft. to ft. Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
70	•	2007	
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
AND TO SERVICE STATE OF THE SE			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
9.20.21.97.19			
			18. PUMP: Date installed: Not installed
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	2001 A		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
5			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1
TMW-47			Signed: A hear wil # 1356 (fr) Date: 5/2/13
			Signed: The deleution 1336 (fm) Date: 17/13
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	1	Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rot	· <u></u>	Driven	ii D Level Driller, provide supervising driller's flame:
☐ Cable tool ☐ Other	ac 10 - 15	S11325132	
			The state of the s



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UM W-24302
(last)			8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	2210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	_p. 23	210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 7/25/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	20.0 ft. Date Completed: 7/25/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: 🗹 PVC 🖂 Galvanized Surface U.U' ft.
		N-2011	□ Steel □ Other Weight — Ib./ft. 1.0 in. to 15.0 ft. depth Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d07.0	12'	1.0 in. to 15.0 ft. depth Drive Shoe? ☐ Yes ☑ No In. toft. depth
2 PURI IS SVOTEM NAME.	In. 10 01/0==		11. SCREEN:
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	Type: PVC Diam.: 1.0"
1,000		507CT 07 T	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐	No		Set Between: 15.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 f	9 to 0.0		ft. andft. USE SECOND SHEET
Croated Depart. Horn 20.0	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 18.5 (enc.) ft. below land surface after 24 hours
- 10 miles	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No
1			Yield:
		30071	14. WATER QUALITY Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☑ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		5-8-9	Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		SP.	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
the directs Wester Daniel 7			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
TMW-48			1 1 1 1 1 350
			Signed: Archentuel fa Date: 5/2/13
			Signed: Weil Driller Date:
. TYPE: ☐ Mud Rotary ☐ Jetted	[7] =	Sored	W.D
☐ Dug ☐ Air Rota	0,230	oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	ev### Sential	21.53 T81	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	The contract of the contract o		OMW-24302
(last) (first)		t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7in: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ons. Columbia State. SC	Zip. 29	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:	F - 1771 1 - 1	9. WELL DEPTH (completed) Date Started: 7/26/12
2. LOCATION OF WELL: CO	UNTY: Richl	and	19.0 ft. Date Completed: 7/26/12
Name: Broad River Amoco	No. 2012-11.00		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	Rd		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface Ú.Ú' ft.
	23210		☐ Steel ☐ Other ☐ Weight ————————————————————————————————————
Latitude: N34d03.910' Longitude:	W81d07.01	2'	1.0 in. to 14.0 ft. depth Drive Shoe? ☐ Yes ☑ No
		C-16.5	in. toft. depth
3. PUBLIC SYSTEM NAME: PUB	BLIC SYSTEM	NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes □	No		Slot/Gauge: 0.010' Length: 5.0' Set Between: 14.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 19.0 ft	to 0.0	ft.	ft. andft. USE SECOND SHEET
	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 18.0 (enc.) ft. below land surface after 24 hours
171.6	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	1		ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
1			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 19.0 ft. to 0.0 ft.
	- 1		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
	ł		Well Disinfected ☑ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
7/10			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	-22,022		Address: (Print) Level: A B C D (circle one)
		_0.00	P.O. Box 50285
		-1	Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Hen a 2nd sheet if t- i)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1 .
TMW-49			Signed: Archentuil #1356 (fr) Date: 5/7/13
			Signed tradealle 1936 (fr) Date: 17/13
			Well Driller
TYPE: ☐ Mud Rotary ☐ Jetted	Øв	ored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven			ii o Level offilier, provide supervising uniter's frame:
☐ Cable tool ☐ Other	(3.5-1/29)		*
Company of the Compan			



PROMOTE PROTECT PROSPER		
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	2004 22 242	UWIW-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 20210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony. Columbia otalis. SC	Zip. 29210	☐ Test Weil ☐ Monitor Well ☐ Replacement
Telephone: Work: Hom	10:	9. WELL DEPTH (completed) Date Started: 7/24/12
2. LOCATION OF WELL: COUNT		34.5 ft. Date Completed: 7/24/12
Name: Broad River Amoco	· · · Kicinanu	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
		Type: PVC Galvanized Surface U.U' ft.
Columbia Zip.	29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W8	01407 0101	1.0 In. to 29.5 ft. depth Drive Shoe? ☐ Yes ☑ No
Lande. 1434μ03.910 Longitude. Ψ	01407.012	In. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC	C SYSTEM NUMBER:	44 CORFEN
N/A	COTOTEW NUMBER:	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
SCHOOL VI		Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 29.5 ft. and 34.5 ft. NOTE: MULTIPLE SCREENS
20.2		ft. and ft. USE SECOND SHEET
Grouted Depth: from 34.5 ft. to		Sleve Analysis ☐ Yes (please enclose) ☑ No
	hickness Depth to	12. STATIC WATER LEVEL 33.0 (enc.) ft, below land surface after 24 hours
Formation Description	of Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum Stratum	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: Yes (please enclose) I No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
7		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>34.5</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type
	1	Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	1	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
··		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
*Indicate Meter Passing 7		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:		my direction and this report is true to the best of my knowledge and belief.
	1	1.0.
TMW-11D		Signed: Archen buch #1358 for pate: 7/13
		Signed: Trouble with 1356 for Date: 1/1/3
		Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary	☐ Driven	a mong province supervising differ o facility
☐ Cable tool ☐ Other		



PROMOTE PROTECT PROSPER	an out only obtaining the 2020 ! 11 do, (600) 600 4000
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
_ university auditor	9. WELL DEPTH (completed) Date Started: 7/25/12
Telephone: Work: Home:	The second control of
2. LOCATION OF WELL: COUNTY: Richland	34.0 ft. Date Completed: 7/25/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: 🗹 PVC 🗆 Galvanized Surface 0.0' ft.
2/210	□ Steel □ Other Weight — □ Ib./ft. 1.0 in. to 29.0 ft. depth □ Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 29.0 ft. depth Drive Shoe? ☐ Yes ☑ No
2 2 10000000	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ADARDONNIERI. EL 165 EL 100	Set Between: 29.0 ft. and 34.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 34.0 ft. to 0.0 ft.	ft. and ft. USE SECOND SHEET
Grouted Depth: from 34.0 ft. to 0.0 ft. *Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 33.0 (Enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 34.0 ft. to 0.0 ft.
	A STATE OF THE PARTY OF THE PAR
400	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250
indicate vyater bearing zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	my substant and this report is thus to the best of my knowledge and belief.
TMW-12D	Signed: Andreweil # 1394 for Date: 5/7/13
	Signed: Andreweil # 1396 For Date: 5/7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	in D 2010 Dillion, provide adpervious dillion a flattic.
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	5111 N 1502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City C 1 1: State EC 7: 20010	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/20/12
2. LOCATION OF WELL: COUNTY: Richland	THE DOLL CHASTER AND ELECTRON AND AND AND AND AND AND AND AND AND AN
	39.0 ft. Date Completed: 7/20/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
	Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 34.0 ft. depth Drive Shoe? ☐ Yes ☑ No
New 2	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: E TES LI NO	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
Constant Don'th, from 30.0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. to 0.0 ft.	Sleve Analysis
Formation Description	12. STATIC WATER LEVEL 37.5 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
, and the second	Please enclose lab results.
· · · · · · · · · · · · · · · · · · ·	
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	16. WELL GROUTED? ☑ Yes ☐ No
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft.
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. ☐ direction Type ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction ☐ Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction ☐ Type
	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
	16. WELL GROUTED?
	16. WELL GROUTED?
	16. WELL GROUTED?
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction ☐ Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ ☐ Mfr. Name: ☐ Model No.: ☐ ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm ☐ TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Not installed Mfr. Name: Not installed Mfr. Name: Submersible Jet (shallow) Type: gpm TYPE: Submersible Jet (shallow) Turbine Gentrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) Level: A B C D (circle one) P.O. Box 50285
*Indicate Water Rearing Zones	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Not installed Mfr. Name: Model No.: H.P. Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	16. WELL GROUTED? Yes No Neat Cement
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
(Use a 2nd sheet if needed)	16. WELL GROUTED? Yes No Neat Cement
(Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ Mfr. Name: ☐ Model No.: ☐ Not installed ☑ Mfr. Name: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) ☐ Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed)	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ Mfr. Name: ☐ Model No.: ☐ Not installed ☑ Mfr. Name: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) ☐ Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ Mfr. Name: ☐ Model No.: ☐ Not installed ☑ Mfr. Name: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) ☐ Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
(Use a 2nd sheet if needed) 5. REMARKS: TMW-14D	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ Mfr. Name: ☐ Model No.: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) ☐ Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: **Public Level: A B C D Date: ☐ Dat
(Use a 2nd sheet if needed) 5. REMARKS: TMW-14D 6. TYPE: Mud Rotary Jetted Bored	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ Mfr. Name: ☐ Model No.: ☐ Not installed ☑ Mfr. Name: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) ☐ Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-14D	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction ☐ Type ☐ Well Disinfected ☐ Yes ☑ No Type: ☐ Amount: ☐ 18. PUMP: Date installed: ☐ Not installed ☑ ☐ Mifr. Name: ☐ Model No.: ☐ Not installed ☑ ☐ Mifr. Name: ☐ H.P. ☐ Volts ☐ Length of drop pipe ☐ ft. Capacity ☐ gpm ☐ TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal 19. WELL DRILLER: Michael Carey ☐ CERT. No.: 1920 ☐ Address: (Print) ☐ Level: A B C D (circle one) ☐ P.O. Box 50285 ☐ Columbia, SC 29250 ☐ Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: **Mulliple Control of the Post of my knowledge and belief.** Signed: **Mulliple Control of the Post of my knowledge and belief.** Date: **Mulliple Control of the Post of my knowledge and belief.**



1. WELL OWNER INFORMATION:	7 DEDMIT NUMBER
Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE:
STATE STATE AND THE STATE OF TH	□ Residential □ Public Supply □ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
	9. WELL DEPTH (completed) Date Started: 7/24/12
Telephone: Work: Home:	
2. LOCATION OF WELL: COUNTY: Richland	39.5 ft. Date Completed: 7/24/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	
City: Columbia Zip: 29210	Type:
attude: N24 102 010 and today 77/01 107 010	1.0 In. to 34.5 ft. depth Drive Shoe?
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NU	44 CODEN.
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0' Set Between: 34.5 ft. and 39.5 ft. NOTE: MULTIPLE SCREENS
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONIVIEN I: MI Tes LI NO	
Grouted Depth: from 39.5 ft. to 0.0	ft. andft. USE SECOND SHEET
	the state of the s
	tom of 12. STATIC WATER LEVEL 38.0 (enc.) ft. below land surface after 24 hours
• • • • • • • • • • • • • • • • • • •	ratum 13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
*	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 39.5 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
7337	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑ Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
STATE PORT TO A STATE STATE DO NOT A STATE STATE STATE STATE OF THE ASSAULT STATE	1 . /
TMW-16D	Signed: Moder Will # 1356 (for Date: 5/7/13
	Signed: Note: 1736 (Fr.) Date:
	Well Driller
6. TYPE: Mud Rotary Jetted Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	100 NY 10
☐ Cable tool ☐ Other	



4 WELLOWIED INCODINATION.	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/17/12
2. LOCATION OF WELL: COUNTY: Richland	40.0 ft. Date Completed: 7/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
	1.0"
Street Address: 4335 Broad River Rd.	Diam.: 1.0 Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Cother Weightb/ft.
	1.0 in. to 35.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: - 10"
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 40.0 ft. to 0.0 ft.	ft. use second sheet
*Thickness Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description of Bottom of	12. STATIC WATER LEVEL 38.0 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
500 414404 105	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
(* <u> </u>	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
1 1	[18 2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1 +	Installed from ft. to ft.
	Installed from ft. to ft. Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No
	Effective size Uniformity Coefficient 16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 40.0 ft. to 0.0 ft.
	Effective size
	Effective size
	Effective size
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 40.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date installed: Not installed
	Effective size Uniformity Coefficient 16. WELL GROUTED? Yes No Neat Cement Bentonite Bentonite/Cement Other Depth: From 40.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type Well Disinfected Yes No Type: Amount: 18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
	Effective size
*Indicate Water Bearing Zones	Effective size
:.5	Effective size
(Use a 2nd sheet if needed)	Effective size
1.5	Lifective size
(Use a 2nd sheet if needed) 5. REMARKS:	Lifective size
(Use a 2nd sheet if needed)	Lifective size
(Use a 2nd sheet if needed) 5. REMARKS:	Effective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-19D	Lifective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-19D 6. TYPE: Mud Rotary Jetted Bored	Lifective size
(Use a 2nd sheet if needed) 5. REMARKS: TMW-19D	Effective size



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OIVI W -24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 6/19/12
2. LOCATION OF WELL: COUNTY: Richland	42.0 ft. Date Completed: 6/19/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 37.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUI	IBER: 11. SCREEN:
N/A	Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0' Set Between: 37.0 ft. and 42.0 ft. NOTE: MULTIPLE SCREENS
A STATE OF THE PARTY OF T	Set Between: 37.0 ft. and 42.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from 42.0 ft. to 0.0	_ ft. Sleve Analysis ☐ Yes (please enclose) ☑ No
	th to 12. STATIC WATER LEVEL 40.0 (enc.) ft. below land surface after 24 hours
	om of
	13. PUMPING LEVEL Below Land Surface ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
<u> </u>	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? Yes No
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
450 75-00204-200704-200	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Josh Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
#I - 0 - I - I - I - I - I - I - I - I -	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-23D	Signed: Anchen hill #1356 (for) Date: 5/7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



TAOMOTE TAOLECT PROSTER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OIVI W -24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony Columbia outs. Sc 2p. 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/19/12
2. LOCATION OF WELL: COUNTY: Richland	40.0 ft. Date Completed: 7/19/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	☐ Steel ☐ Other Weight — lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Lando. 1454005.910 Longitude. W61007.012	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	14 SCREEN
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
40.0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 40.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 38.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: Yes (please enclose) No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed fromft. Effective size Uniformity Coefficientft.
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>40.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250
maiodo Fratei Dealing 20165	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	my encount and and toport is add to the seat of my knowledge and seller.
TMW-25D	A 1.0. 111 # 1307 (6) 3/2/13
	Signed: Archentical # 135% (fa) Date: 5/7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



PROMOTE PROTECT PROSPER	200 241 01 001, 001411214, 00 2020 1 1 1 00, (000) 000 1000
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UIVI W -24302
(last) (first)	B. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
16/40/3004/C004/10/4000/4/A0/A01/4/605/374/5/4/A0/A01/4/4/4/	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 2921	0 ☐ Test Well ☑ Monitor Well ☐ Replacement
Talanhanas Wasts	9. WELL DEPTH (completed) Date Started: 7/5/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richlan.	office and physical series of the series of
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
	☐ Steel ☐ Other Weight — Ib./ft. 1.0 in. to 34.0 ft. depth ☐ Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 34.0 ft. depth Drive Shoe? ☐ Yes ☑ No
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM N	IUMBER: 11. SCREEN: Type: PVC Dlam.: 1.0"
N/A	Type: PYC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
I I SANGONE SANGONO CONTROLOS CONTRO	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. to 0.0	(보는
	ottom of it. below land surface after 24 nours
	Stratum 13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
í	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	16. WELL GROUTED? 17 Yes No Neat Cement Bentonite Bentonite/Cement Other
	Depth: From 39.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Amount:
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Josh Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
W. W 1 W 2	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
A List of Paris of Cartain Artifaction	
TMW-27D	11. 1. 10 -1 6
TMW-27D	Signed: A dele leil # 1356 (For) Date: 5/7/13
TMW-27D	Signed: Ander level #1356 for Date: 5/7/13
814107 (591) 1360 2071	veil Driver
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bore	if D Level Driller, provide supervising driller's name:
81/2017 (5/21) - 12/27 (6/21)	if D Level Driller, provide supervising driller's name:



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UNIW-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony Columbia one SC 252.10	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 6/20/12
2. LOCATION OF WELL: COUNTY: Richland	40.0 ft. Date Completed: 6/20/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Weided
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
29210	Steel Cother Weight lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe? ☐ Yes ☑ No
V	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
2000 0000 00000 00000 000000 0000000000	Set Between: 35:0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS ft. andft. USE SECOND SHEET
Grouted Depth: from <u>40.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	42 STATIC WATER LEVEL 38 0 (enc.) # holow load surface offer 24 hours
Formation Description of Bottom of	
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
	Yield:
	14. WATER QUALITY
	14. WATER QUALITY Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☑ Yes ☑ No
?' ' I I	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack)
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 40.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
illes Siframen Den	Well Disinfected ☐ Yes ☑ No Type: Amount:
	- 18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.: Not installed
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Josh Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
**************************************	/ /
TMW-28D	Signed: Andeluliil # 1396 (For) Date: 5/7/13
	Signed: Paululli 1396 (fm) Date: 113
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	The state of the s
☐ Cable tool ☐ Other	
20 20 20 20 20 20 20 20 20 20 20 20 20 2	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	Test Well Monitor Well Replacement 9. WELL DEPTH (completed) Date Started: 7/16/12
Telephone: Work: Home:	1504 Start Gitting and Astronomy Control of the Start Control of the Sta
2. LOCATION OF WELL: COUNTY: Richland	40.0 ft. Date Completed: 7/16/12
Name: Broad River Amoco Street Address: 4335 Broad River Rd.	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: 🗹 PVC 🗆 Galvanized Surface U.U' ft.
Columbia	□ Steel □ Other Melets 15.45
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe? Yes No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Dlam.: 1.0"
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: Yes No	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
0 1 1 2 11 1 10 0 0 0 0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 40.0 ft. to 0.0 ft. *Thickness Depth to	Sieve Analysis
Formation Description of Bottom of	12. STATIC WATER LEVEL 38.5 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
	Pumping Test: ☐ Yes (please enclose) ☑ No Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐No Bacterial Analysis ☐ Yes ☑ No
1	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
100	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
	Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
TMW-29D	
1MW-29D	Signed: Arben Cul # 1356 (m) ate: 5/7/13
ALMANDA ALMANDA	Signed: Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D I and Diller are ide amandalan dilled-
□ Dug □ Air Rotary □ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



4 MELLOMATER MECONISTICAL	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City C 1 1: State CC 7: 20010	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/17/12
2. LOCATION OF WELL: COUNTY: Richland	
	40.0 ft. Date Completed: 7/17/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Helght: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
A 32 0 0 0 0 0	Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe?
70	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONWENT: W Tes L No	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
2	ft. and ft. USE SECOND SHEET
Grouted Depth: from 40.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 38.5 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: Yes (please enclose) I No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 40.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
5256	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	142
TMW-30D	. 1 . 1
1141-A-20D	Signed: Archentil # 1395 (pg) Date: 17/13
	Signed: 1 Date: 176
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Dug ☐ Air Rotary ☐ Driven	in a cover animot, provide department of manner.
☐ Cable tool ☐ Other	in 5 cotol Stillot, provide deportioning difficilities.



TAOMOTE FAOTEG! FAOSFER	· · · · · · · · · · · · · · · · · · ·
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4555 Bload River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
**************************************	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/5/12
2. LOCATION OF WELL: COUNTY: Richland	37.0 ft. Date Completed: 7/5/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
MARCHIPERE	Usteel ☐ Other Weight — ib./ft. 1.0 in. to 32.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A	11. SCREEN: Type: PVC Diam: 1.0"
	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: Yes No	Set Between: 32.0 ft. and 37.0 ft. NOTE: MULTIPLE SCREENS
	ft. andft. USE SECOND SHEET
Grouted Depth: from 37.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 36.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
2 - 300 - 3400 - 253	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>37.0</u> ft. to <u>0.0</u> ft.
,	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹 .
	Mfr. Name: Model No.:
	H.P Voits Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Josh Register CERT. NO.: 1921
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250
Indicate Water bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
AND	1 1 2 2 1 1
TMW-31D	Signed Arbeuluil #1357 (F2) 5/7/13
	Signed: Aubenlie # 1357 (F2) 5/7/13
	Well Driller
Bored ☐ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	265 570
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	Residential Public Supply Process
07-54-44-50-50-50-50-50-50-50-50-50-50-50-50-50-	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/19/12
2. LOCATION OF WELL: COUNTY: Richland	40.0 ft. Date Completed: 7/19/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
Columbia	☐ Steel ☐ Other Weight — lb /ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe? Yes No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from 40.0 ft. to 0.0 ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 38.5 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>40.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
200	18. PUMP: Date installed: Not installed 🔽
190	Mfr. Name: Model No.:
A SECTION OF SECTION S	H.P Volts Length of drop pipe ft. Capacity gpm
TO THE TOTAL CONTROL OF THE TO	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250
indicate water bearing zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	SOUR CONSISSION RECOVERS A COURSE CONTROL CONT
SECT. DESCRIPTION TO A SECTION OF THE SECTION OF TH	2 1 1 2 2 2 1
TMW-32D	Signed: Archentick # 1356 (1/2) Date: 5/1/12
	Signed: Date: Date:
	YYOU UTILIET
6. TYPE: Mud Rotary Jetted Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	Rec
☐ Cable tool ☐ Other	2.500



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia See 27. 27210	☐ Test Weil ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/25/12
2. LOCATION OF WELL: COUNTY: Richland	39.0 pate Completed: 7/25/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft. Steel Other Weight
1 1	☐ Steel ☐ Other Weight ☐ In. to 34.0 ft. depth ☐ Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. to 0.0 ft	ft. andft. USE SECOND SHEET Sleve Analysis Yes (please enclose) No
*Thickness Depth to	
Formation Description of Bottom o	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes. ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Lice a 2nd sheet if peeded)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed) 5. REMARKS:	my direction and this report is true to the best of my knowledge and bellef.
	1
TMW-33D	Signed: 12 heu hiel #1356 (2) Date: 5/2/13
	Well Driller
6. TYPE: Mud Rotary Jetted Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven☐ Cable tool ☐ Other	
L Janio Ioo L Juliei	



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last)	(firs	at)	
Address: 4335 Broad River Rd.	(iii)	,,	8. USE:
4555 Bload River Rd.			Residential Public Supply Process
City: Columbia State: SC	Zip: 29	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ MonitorWell ☐ Replacement
	***		9. WELL DEPTH (completed) Date Started: 7/23/12
	Home: OUNTY: Rich!		CLESTED 20 (CDEA) (CD. CDEA) (CDEA) (
Name: Broad River Amoco	JUNIT: Kich	and	39.5 ft. Date Completed; 7/23/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	- n.i		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: PVC Galvanized Surface 0.0' ft.
Columbia	-P. 29210		Steel Other Weight
Latitude: N34d03.910' Longitude	: W81d07.0	12'	1.0 in. to 34.5 ft. depth Drive Shoe? ☐ Yes ☑ No
_			in. toft. depth
[[[[[[[[[[[[[[[[[[[IBLIC SYSTE	M NUMBER:	11. SCREEN: - DVC - 1.0"
N/A	1031-2-10-1		11. SCREEN: Type: PVC Slot/Gauge: 0.010' Set Between: 34.5 ft. and 39.5 ft. NOTE: MULTIPLE SCREENS
4. ABANDONMENT: ☑ Yes □	No		Set Between: 34.5 ft. and 39.5 ft. NOTE: MULTIPLE SCREENS
44.2			ft. and ft. USE SECOND SHEET
Grouted Depth: from 39.5		ft.	Sieve Analysis
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 38.0 (enc.) ft. below land surface after 24 hours
Formation Description	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 39.5 ft. to 0.0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
		NAMES AND ASSOCIATION OF THE PARTY.	Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones		2	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		1.	וווא טווסטעטוו מווע עוווס ופסטרניוס עומפינט עווים טפגר טו וווין אווטשופטעפ מווע טפוופו.
TMW 40D			1.1.04 65 51.
TMW-40D			Signed: Ardrew lew #1356 (fa) Date: 17/13
			Signed: Well Driller
TVDE: D Mind Determ		Bored	Transferred Comments
6. TYPE: Mud Rotary Jetted Dug Air Rot	_	orea Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other			



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia Cara SC 25210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/6/12
2. LOCATION OF WELL: COUNTY: Richland	39.0 pate Completed: 8/6/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
29210	☐ Steel ☐ Other Weight lb/ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 34.0 ft. depth Drive Shoe? ☐ Yes ☑ No
2005/10/10/10/10/10/10/10/10/10/10/10/10/10/	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 5.0'
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
2	ft. and ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. to 0.0 ft.	Sleve Analysis
*Thickness Depth to	12. STATIC WATER LEVEL 37.5 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ☐ Depth: From 39.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	
maloate Water bearing 20165	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
601.3033099280385950	, , //
TMW-43D	Signed: Mulea buil #1356 (for) Date: 17/17
140	Signed: Mulle Well #1356 (for) Date: 17/17
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	eners and the second of the second se
☐ Cable tool ☐ Other	



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	/6		
(last)	(firs	1)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
			☐ Test Well ☐ Monitor Well ☐ Replacement
	ome:		9. WELL DEPTH (completed) Date Started: 8/6/12
2. LOCATION OF WELL: COU	INTY: Richle	and	39.0 ft. Date Completed; 8/6/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River R	Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zi	ip: 29210		Type: PVC Galvanized Surface U.U' ft.
8 19 92 5000000			U Steel U Other Weight Weight Drive Shoe? Yes I No
Latitude: N34d03.910' Longitude: N	W81d07.01	2'	in. to 34.0 ft. depth Drive Shoe? Yes I No

	LIC SYSTEM	NUMBER:	11. SCREEN: The PVC Picture 1.0"
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ N	lo ol		Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
			ft. and ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. ft.		ft.	Sieve Analysis Yes (please enclose) No
	Thickness	Depth to	12. STATIC WATER LEVEL 37.5 (enc.) ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Suatum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
A			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
4			Depth: From 39.0 ft. to 0.0 ft.
		· MANINI · · · · ·	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 2
			Mfr. Name: Model No.:
	-		H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
*Indicate Water Bearing Zones			Columbia, SC 29250
indicate water bearing zones	1		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			my another and and report is and to the best of my knowledge and believe
TMW 44D			
TMW-44D			Signed: Archen buil#13 (p) Date: /1/13
			Signed: Date:
			Weil Driller
6. TYPE: Mud Rotary	Ø₿		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary		and a common of	
☐ Cable tool ☐ Other	у 🗆 Б	nven	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/7/12
2. LOCATION OF WELL: COUNTY: Richland	39.0 ft. Date Completed: 8/7/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210	Diam.: 1.0" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	☐ Steel ☐ Other Weight Ib/f8
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 34.0 ft. depth Drive Shoe? Yes No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Type:
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
200	fl. and ft. USE SECOND SHEET
Grouted Depth: from 39.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description Thickness Depth to	12. STATIC WATER LEVEL 37.5 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>39.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-45D	Signed: Ardrew Cuil# 1358 (FW) Date: 17/13
	Signed: // Date: ///3
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



PROMOTE PROTECT PROSPEK	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
Address: 4335 Broad River Rd.	8. USE:
55 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/7/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	A SA TATA CONTROL TO THE SAN THE SAN TO THE SAN THE SAN TO THE SAN TO THE SAN TO THE SAN TO THE SAN THE SA
Name: Broad River Amoco	35.0 ft. Date Completed; 8/7/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
Columbia —F 29210	☐ Steel ☐ Other Weight — ib_/ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 30.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Type: PVC Diam.: 1.0 Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 30.0 ft. and 35.0 ft. NOTE: MULTIPLE SCREENS
49	ft. andft. USE SECOND SHEET
Grouted Depth: from <u>35.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 33.5 (enc.) ft. below land surface after 24 hours
Formation Description of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
<u> </u>	Please enclose lab results.
1 1	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
1 1	
	Installed from ft. to ft.
	Installed from ft. to ft. Effective size Uniformity Coefficient
	Installed from ft. to ft. Effective size Uniformity Coefficient ft. The coefficient ft. Th
	Installed from
*Indicate Water Bearing Zones	Installed from
ASSOCIATION CONTRACTOR OF THE PAIN	Installed from
(Use a 2nd sheet if needed)	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed)	Installed from
(Use a 2nd sheet if needed) 5. REMARKS:	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46D	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46D 6. TYPE: Mud Rotary Jetted Bored	Installed from
(Use a 2nd sheet if needed) 5. REMARKS: TMW-46D	Installed from



PROMOTE PROTECT PROSPER	, , , , , , , , , , , , , , , , , , , ,
1. WELL OWNER INFORMATION: Name: Fredrick Cecchini	7. PERMIT NUMBER: UMW-24502
(last) (first)	
Address: 4335 Broad River Rd.	8. USE:
	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Works Homes	9. WELL DEPTH (completed) Date Started: 7/25/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	
Name: Broad River Amoco	34.0 ft. Date Completed: 7/25/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.; 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 29.0 ft. depth Drive Shoe? ☐ Yes ☑ No
and and the second of the seco	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 29.0 ft. and 34.0 ft. NOTE: MULTIPLE SCREENS
arans areas and an areas a	ft. andft. USE SECOND SHEET
Grouted Depth: from <u>34.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 32.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. PumpingG.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft. Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>34.0</u> ft. to <u>0.0</u> ft.
3.200 3.300 10.20 10.000	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
,	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
	1 1 #
TMW-48D	Signed: 4 decelie # 1358 (Date: 1/13
	Signed: Moll Deller
TVDE: T Mid Pales.	rian Diller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	#



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
Address: 4335 Broad River Rd.	8. USE:
4333 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
TO THE PROPERTY OF THE PROPERT	☐ Test Weil ☐ Monitor Weil ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 7/26/12
2. LOCATION OF WELL: COUNTY: Richland	34.0 Date Completed: 7/26/12
Name: Broad River Amoco	10. CASING: ☐ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: 🖸 PVC 🗆 Galvanized Surface U.U' ft.
	Steel Other Weight — Ib./ft. 1.0 in. to 29.0 ft. depth Drive Shoe? Yes I No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth Drive Shoe? Li Yes Li No
	4 1000
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 29.0 ft. and 34.0 ft. NOTE: MULTIPLE SCREENS
	ft. and ft. USE SECOND SHEET
Grouted Depth: from 34.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 32.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
20 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>34.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🖸
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	_ , ,, _ , _ ,
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
2000 New York (2000 200	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-49D	Signed: Archen Wil # 139 (FM) Date: 1/7/13
	Signed / hole Well 1896 (FM) 17/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Lovel Driller provide supervising deliters some
□ Dug □ Air Rotary □ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	Residential Public Supply Process
THE PART OF COS. COS. SERVICE PARK SEC ATTACHER.	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/13/12
2. LOCATION OF WELL: COUNTY: Richland	The Angelogic Francis of Alberta States of the Angelogic States of the Angelog
	40.0 ft. Date Completed: 9/13/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Diam.: 1.0 Height: Above /Below Type: ☑ PVC ☐ Gaivanized Surface U.U ft.
City: Columbia Zip: 29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 35.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Lautude: N34d03.910 Longitude: W81d07.012	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam: 1.0"
	Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 35.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
0	ft. and ft. USE SECOND SHEET
Grouted Depth: from 40.0 ft. to 0.0 ft.	Sieve Analysis 🔲 Yes (please enclose) 🗹 No
*Thickness Depth to Formation Description of Bottom of	12. STATIC WATER LEVEL 37.5 (EDC.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? Yes No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>40.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
#L-#L-14-1-19	P.O. Box 50285 Columbia, SC 29250
I Indicate Water Bearing Zones	Columbia, SC 29250
*Indicate Water Bearing Zones	
(Use a 2nd sheet if needed)	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed)	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS:	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed) 5. REMARKS: TMW-50D	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Signed: Date: 17/17
(Use a 2nd sheet if needed) 5. REMARKS: TMW-50D 6. TYPE: Mud Rotary Jetted Bored	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
(Use a 2nd sheet if needed) 5. REMARKS: TMW-50D	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Signed: Date: /2//7



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
Address: 4335 Broad River Rd.	8. USE:
192.64 A D.C. 1424 V.C.M. 4 TARCA (3.412 TA 2024 V.	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone Media III	9. WELL DEPTH (completed) Date Started: 9/13/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	CLAST AT WHATE BY THE FORM A SECTION OF THE PROPERTY OF THE SECTION OF THE PROPERTY OF THE PRO
Name: Broad River Amoco	39.0 ft. Date Completed: 9/13/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
29210	☐ Steel ☐ Other Weight ————————————————————————————————————
Latitude: N34d03,910' Longitude: W81d07.012'	1.0 In. to 35.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 34.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
SCOTT DE TO SERVE STATE AND TO SERVE PROPERTIES. PREST OF THE PERSON OF	ft. andft. USE SECOND SHEET
Grouted Depth: from <u>39.0</u> ft. to <u>0.0</u> ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 37.0 (enc.) ft, below land surface after 24 hours
Formation Description of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other Depth: From 39.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🔽
73135-23	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
TMW-51D	Signed: Anchew line # 1356 (for) Date: 5/7/13
	Signed: 12 Well 186 (pr) Date: 3 /7/18
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/13/12
2. LOCATION OF WELL: COUNTY: Richland	38.0 ft. Date Completed: 9/13/12
Name: Broad River Amoco	10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Type: Steel Other Weight
	1.0 In. to 33.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11 SOREN.
N/A	Type: PVC Dlam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 5.0'
A ADANDONMENT. E 165 L NO	Set Between: 33.0 ft. and 38.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 38.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET Sieve Analysis □ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 36.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	13. PUNIPING LEVEL Below Land Surface. ft. after hrs. Pumping G.P.M.
See attached log .	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
10 mg/mm/mm/mm/mm/mm/mm/mm/mm/mm/mm/mm/mm/m	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
*	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Set (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and bellef.
5. REMARKS:	. 1
TMW-52D	Signed: A deculia # 1396 (b) 5/7/13
1	Signed: Tallulu 1976 De Date: 1/17
	Signed: 7 dullullul 1996 Dy Date: 7/17
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	Signed: 7 Acceptable 1996 Dete: 7/17 Well Driller If D Level Driller, provide supervising driller's name:
6. TYPE: Mud Rotary Jetted Dug Air Rotary Cable tool Other	Well Driller



Name: Fredrick Cecchin (first) Addresse: 4335 Broad River Rd. City: Columbia States SC Zip: 29210 States CoUNTY: Richland Name: Broad River Amono Street Andress: 3335 Broad River Rd. City: Columbia Zip: 29210 Street Andress: 3335 Broad River Rd. City: Columbia Zip: 29210 Street Andress: 3335 Broad River Rd. City: Columbia Zip: 29210 Street Andress: 3335 Broad River Rd. City: Columbia Zip: 29210 Street Andress: 335 Broad River Rd. City: Columbia Zip: 29210 Street Andress: 335 Broad River Rd. City: Columbia Zip: 29210 Street Zi	1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502	
Address: 4335 Broad River Rd. City: Columbia State: SC Zip: 29210 Talephone: Work LacATINO K WELL: LOCATINO K WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Latitude: N34d03.910' Longitude: W81d07.012' 3. PUBLIC SYSTEM NAME: N/A ABANDONMENT: Zive: 9210 Grouted Depth: from 38.0 ft. to 0.0 ft. Formation Description See attached log Thickness of Street. See attached log Thickness of Street. Thi	Name: Fredrick Cecchini	UMW-24302	
City: Columbia State: SC Zip: 29210	A STATE OF THE STA	8. USE:	
	Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process	
Talephone: Work: Home:	City: Columbia State: SC Zip: 29210		
2. LOCATION OF WELL:	Columbia SS 272210		
Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Leditude: N34403.910' Longitude: W81d07.012' Leditude: N34403.910' Longitude: W81d07.012' In. to Steel Other In. to Other I			
Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Latitude: N34403.910' Longitude: W81d07.012' Steel Other 1.0 In. to 1.6 opth	A 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		
City Columbia Zp: 29210 Latitudo: N34403.910' Longitudo: W81d07.012' Longitudo: W81d07.012' Longitudo: W81d07.012' Longitudo: W81d07.012' Longitudo: W81d07.012' Longitudo: No		10. CASING: ☑ Threaded ☐ Welded	
Steel Other Lot	Street Address: 4335 Broad River Rd.	Diam.: 1.0 Height: Above /Below	
Letitude: N34403.910' Longitude: W81407.012' 1.0	City: Columbia Zip: 29210		
1. SCREEN: N/A NAME: PUBLIC SYSTEM NUMBER: N/A NABANDONMENT: Yes No No Stratum Str		1.0 in to 33.0 ft denth Drive Shoe? Tives 17 No.	
N/A 4. ABANDONMENT:	Latitude: N34d03.910' Longitude: W81d07.012'		
A ABANDONMENT: Yes No No Stratum S	3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:	
Set Between: 33.0 ft. to 0.0		Type: PVC Diam.: 1.0"	
Set between:	4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010 Length: 3.0	
Sieve Analysis Yes (please enclose) No			
See attached log	Grouted Depth: from 38.0 ft. to 0.0 ft.		
Sce attached log Stratum Strat	The transfer of the state of th		
See attached log Pumping Test: Yes (please enclose) No Yield:			
14. WATER QUALITY Chemical Analysis Yes No Please encloses Yes No Please encloses Yes No Please encloses Yes No Please encloses No Please encloses Yes No Please encloses No Please encloses No Please encloses Yes No Please encloses No Please encloses Yes No Please Yes No Please Yes No Please Yes No Please Yes Y			
14. WATER QUALITY Chemical Analysis Yes No Bacterial Analysis Yes No Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack) Yes No Installed from ft. to ft	See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No	
Chemical Analysis		Yield:	
Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack)			
15. ARTIFICIAL FILTER (filter pack)			
Installed from		The first state of the second state of the sec	
Effective size			
16. WELL GROUTED? Yes No Not N		Effective size Uniformity Coefficient	
Neat Cement Bentonite Bentonite Other Depth: From 38.0 ft. to 0.0 ft.			
Depth: From 38.0 ft. to 0.0 ft. 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type			
Type			
Well Disinfected	3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction	
18. PUMP: Date installed:			
Mfr. Name:			
H.P		18. PUMP: Date installed: Not installed 🗹	
TYPE: Submersible Jet (shallow) Turbine Reciprocating Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS: TMW-53D Signed: Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:			
Jet (deep) Reciprocating Centrifugal			
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-53D Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:			
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-53D Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:			
P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-53D Signed: Dug		- 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: TMW-53D Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller If D Level Driller, provide supervising driller's name:			
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS: TMW-53D Signed: Well Driller Signed Signed: Well Driller If D Level Driller, provide supervising driller's name:	Madiente Meter Decolog Zones		
(Use a 2nd sheet if needed) 5. REMARKS: TMW-53D Signed: Well Driller If D Level Driller, provide supervising driller's name:	indicate water bearing zones		
5. REMARKS: TMW-53D Signed: Signed: Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:	(Use a 2nd sheet if needed)		
Signed. Well Driller Well Driller's name:	5. REMARKS:	AT 7 HT 19 PO 19 SEP 19 PART BODD IN MILLION FOR A STATE FOR A STATE OF THE STATE O	
Signed. Well Driller Well Driller's name:	TMW-53D	11 1 1 4320 5/1-	
Signed. Well Driller Well Driller's name:		Showed 17 chille (m) 136 (fm) 13/13	
□ Dug □ Air Rotary □ Driven		Well Driller	
□ Dug □ Air Rotary □ Driven	6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:	
☐ Cable tool ☐ Other	The state of the s	i o coro o mon provide departioning entire o name.	
	☐ Cable tool ☐ Other		



PROMOTE PROTECT PROSPER	, (, , , , , , , , , , , , , , , , , ,
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	ON W-24302
(last) (first) Address: 4335 Broad River Rd.	8. USE:
4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
95-70-70-70-70-1	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/14/12
2. LOCATION OF WELL: COUNTY: Richland	38.0 ft. Date Completed: 9/14/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 33.0 ft. depth Drive Shoe?
Latitude. N34003.910 Longitude. W81007.012	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Dlam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	Slot/Gauge: 0.010' Length: 3.0'
	Set Between: 33.0 ft. and 38.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from <u>38.0</u> ft. to <u>0.0</u> ft.	ft. andft. USE SECOND SHEET Sieve Analysis □ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 36.0 (enc.) ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft. Effective size Uniformity Coefficient
	The state of the s
	16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 38.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
	1:0 (
TMW-54D	Signed:
	Signed: Date: 1777
	AASII DUIIGL
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



PROMOTE PROTECT PROSPER	
1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OW W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Calamata States SC 71m 20210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia . State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/14/12
2. LOCATION OF WELL: COUNTY: Richland	
	38.0 ft. Date Completed: 9/14/12
Name: Broad River Amoco	10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
Clty: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
100 Smpth	Steel Other Weight ib_fft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 33.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	In. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN:
N/A	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: ☑ Yes ☐ No	
Grouted Depth: from 38.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET
*Thickness Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description of Bottom of	12. STATIC WATER LEVEL 36.0 (enc.) ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
out attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
31 July 201	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
,	Depth: From 38.0 ft. to 0.0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft, direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
QUIDAN (1995) 1995 XISE	
TMW-55D	Signed: Ar Melle Wil 1356 (Fr) Date: 5/7/13
	Signed: 12000 000 - 136 (Fr) Date: -///3
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UMI W -24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.	ddress: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia		-10	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 9/25/12
2. LOCATION OF WELL: C	OUNTY: Richl	and	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Rive	r Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type:
	*****		1.0 in. to 10.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude	: W81d07.0	12'	in. toft. depth
3. PUBLIC SYSTEM NAME: PL	IRI IC SYSTE	M NIIMBER:	
N/A	DEIO OTOTE	m NOMBER.	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: Yes	No		Slot/Gauge: 0.010' Length: 10.0'
TADANDONILLAN.	140		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS ft. use second sheet
Grouted Depth: from 20.0	ft. to <u>0.0</u>	ft.	ft. andft. USE SECOND SHEET Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 15.88 ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: Yes (please enclose) No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☐ Yes ☑No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0.0 ft.
****			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction
			Type
VI			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
3 200 200 200			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
73144			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
// O-d -b //			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1
FP-1			Signed: Ar cheuliil #1356 (fr) Date: 77/17
			Well Driller
. TYPE: Mud Rotary Jetted	1	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro ☐ Cable tool ☐ Other	tary ⊔ i	Driven	
☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			CM W-24302
	(last) (first)		8. USE:
4335 Broad River Rd.	Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Her is the control of		855.007	☐ Test Well ☑ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 9/25/12
Telephone: Work: H 2. LOCATION OF WELL: COL	lome:		
	JNTY: Richla	and	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River I	Rd.		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Z	^{lip:} 29210		☐ Steel ☐ Other Weight
Latitude: N34d03.910' Longitude:	W81d07.01	2'	U Steel □ Other Weight — Ib./ft. 1.0 In. to 10.0 — ft. depth Drive Shoe? □ Yes ☑ No
	01407101	_	in. toft. depth
3. PUBLIC SYSTEM NAME: PUB	LIC SYSTEM	NUMBER:	11. SCREEN: 1.0"
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes ☐ N	No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
		201	ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0 ft.			Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 14.30 ft. below land surface after 24 hours
·	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
See minimum 10g	-		Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
	-		14. WATER QUALITY Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	1		Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
		The second secon	TYPE: Submersible Set (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
FP-2			Signed: Ardele hil #1356 (fr) Date: 5/7/13
			Signed: 1 (1) Date: 1///
			Well Driller
. TYPE: Mud Rotary Jetted	Ø₿		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotar	ry LID	riven	
☐ Cable tool ☐ Other			



Name: Fredrick Cecchini			7. PERMIT NUMBER: UMW-24502
(last) (first)		st)	Control of the Contro
Address: 4335 Broad River Rd.			8. USE: □ Residential □ Public Supply □ Process
			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	9210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:	0	9. WELL DEPTH (completed) Date Started: 9/25/12
2. LOCATION OF WELL: CO	DUNTY: Richl	land	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
			Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude	: W81d07.0	12'	1.0ft. depth Drive Shoe? ☐ Yes ☑ Noft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	44 PODECH.
N/A			Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes □	No		Slot/Gauge: 0.010' Length: 10.0'
117-27-11-07-111-1111	110		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0	ft. to <u>0.0</u>	ft	ft. andft. USE SECOND SHEET
Significant populity in the significant population and significant populati	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 14.32 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: Yes (please enclose) No
20/207			Yield:
			14. WATER QUALITY
			Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
-74.6			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
3.4.4			18. PUMP: Date installed: Not installed [2]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
0.00			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
1.0 3374.14.0 2000.4.0.0			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		NC42 (40.21 N43.72)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		ma aya	CONTROL OF THE ARMY SECTED AND THE SECTED AND ARMY SECTED AND
Para de la companya del companya de la companya de la companya del companya de la companya del la companya del la companya de			Signed: Arden bil #1356 @ Date: 5/7/13
FP-3			12/13 5/2/13
			Signed: Date:
			Weii Driller
TYPE: Mud Rotary Jetted Bored			If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot☐ Cable tool ☐ Other	tary ⊔ [Driven	
☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		522W	U.VI W -24302
(last) (first)		st)	8. USE:
Address: 4335 Broad River Rd.	4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
- Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 9/25/12
	DUNTY: Rich	land	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: PVC Galvanized Surface U.U' ft.
Latitudo: 372 4 102 0101 Landing	. 11101 107 0	101	1.0 in. to 10.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03,910' Longitude	: W81d07.0	12'	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	RI IC SYSTE	M NUMBER:	11. SCREEN:
N/A	DLICOTOTE	M NOMBER.	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes □	N.		Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONWENT: 12 Tes 1	NO		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 f	to 0.0	ft.	ft. andft. USE SECOND SHEET
Clouted Depair noin 2010	*Thickness	Depth to	Sieve Analysis Yes (please enclose) No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 14.32 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	1		ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
		2227777774	Yield:
			14. WATER QUALITY
			Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		100.000 (/ / / / / / / / / / / / / / / / /	Installed from ft. to ft.
			Effective size Uniformity Coefficient
A			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
-		7	18. PUMP: Date installed: Not installed 🖸
_==			Mfr. Name: Model No.: ft. Capacity gpm
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
		7,000 - 51 - 55,000 - 30.	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
ANNO DE REPORTACIONE DE CONTROL ES CONTROL EN CONTROL E			12 1 1: 1 # 50 -11
FP-4			Stoned Archen line #1357 (for) 1905/1/13
			Signed: Well Driller Date:
Type: El Wat Date -		Dd	
		Bored Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	,		



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	Residential Public Supply Process
100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/25/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Weided
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface 0.0' ft.
29210	☐ Steel ☐ Other Weight — lb./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 in. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBE	t: 11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Type: Tyc Dlam.:
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
	ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0 ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☐ Yes ☑No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Set (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
FP-5	1 1 1 1 1 1 1
70 Td 1. Td+	Signed: Archeuliil#1356 (fm) 5/2/13
	Signed: Well Driller Date!
TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	T.,
[2] (1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other	If D Level Driller, provide supervising drillers name:



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UNIW-24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7in- 20	2210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Sily Columbia Said SC	,	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 9/25/12
2. LOCATION OF WELL: CO		and	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	- Dd		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	29210		Steel Other Weight lb_/ft.
Latitude: N34d03,910' Longitude	: W81d07.0	12'	1.0 in. to 10.0 ft. depth Drive Shoe? Yes 🗹 No
			in. to ft. depth
3. PUBLIC SYSTEM NAME: PU	JBLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 1.0"
4. ABANDONMENT: Yes	No		Slot/Gauge: 0.010' Length: 10.0'
A ADAIDONNENT. E 163 E	140		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0	ft to 0.0	A	ft. andft. USE SECOND SHEET
Clouded Depail. Wolff 2010	*Thickness	Depth to	Sieve Analysis Yes (please enclose) No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 15.30 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. PumpingG.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
77.2. 200. 200. 200. 200. 200. 200. 200.			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		-	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
1000000			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		384 PS-1969 F-81	19. WELL DRILLER: Todd Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)
			Address: (Print) P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones		-	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and bellef.
5. REMARKS:		10	. 1
FP-6			1 1 1 to # 200 Chia
emact (8)			Signed: Ar duen bul #1356 @ Date: /7/13
			Well Driller
TYPE: Mud Rotary		Bored	If D. Level Deller, provide supervising deller's name:
☐ Dug ☐ Air Ro		Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	MARKET WITERS		



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			0.1.2.17 2.1502
(last) Address: 4335 Broad River Rd.	(firs	τ)	8. USE:
4333 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Talantana Mada		121.34170	9. WELL DEPTH (completed) Date Started: 9/26/12
	Home: DUNTY: Richl	1	DANIEL STATE OF THE STATE OF TH
Name: Broad River Amoco	JOH I RICH	and	20.0 ft. Date Completed: 10/12/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	.DJ		Diam.: 1.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	29210		
Latitude: N34d03.910' Longitude	: W81d07.01	2'	□ Steel □ Other Weight — ib./ft. 1.0 in. to 10.0 ft. depth Drive Shoe? □ Yes ☑ No
		~0.C	in. to ft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes □	No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
20.0			ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0		ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 15.58 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12.14.14.15.15.15.15.15.15.15.15.15.15.15.15.15.		14. WATER QUALITY Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	F2775.28.027.287.118.0004-405	5445 Po	Installed from ft. to ft.
			Effective size Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
1			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
The first program was a second of the second			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			. 1.
FP-7			Signed: Archen Cuil #1376 (p) Dato 1/13
			Signed: 1 1 Date: 1/1/
			Well Driller
. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored			If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven		Oriven	
☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last)	(First)	ONLY MIDDE
Address: 4335 Broad River Rd.	(first)	8. USE:
4333 Bload Rivel Ru.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Tolophone: Works		9. WELL DEPTH (completed) Date Started: 9/26/12
Telephone: Work: Home: 2. LOCATION OF WELL: COUNT		annicara (72 c.75 S) accessos scores
Name: Broad River Amoco	·Richland	20.0 ft. Date Completed: 10/12/12 10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 2	0210	Type: 7 PVC Galvanized Surface U.U
Columbia	.9210	Steel Other Weight
Latitude: N34d03.910' Longitude: W8	ld07.012'	1.0 In. to 10.0 ft. depth Drive Shoe?
		in. toft. depth
	SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A	1000 1000 1000	Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 ft. to 0	. 0 .	ft. and ft. USE SECOND SHEET
	kness Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
I y 19770€	of Bottom of	12. STATIC WATER LEVEL 16.38 ft. below land surface after 24 hours
Str	atum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0.0 ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗸
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
# # # A W / B / B		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		1
FP-8		1 1 / # # DO (1) To 1 =
		signed to beuleul # 1396 (for Date: 7 >/17
		Well Driller
. TYPE: Mud Rotary	☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven		i a cora amor, provide supervising united a futility
☐ Cable tool ☐ Other		



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		OW W -24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 20210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Ony. Columbia State. SC	Zip. 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 9/26/12
2. LOCATION OF WELL: COUNTY	Richland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 2	0210	Type: PVC Galvanized Surface U.U'
Columbia	9210	☐ Steel ☐ Other ☐ Weight lb /ft
Latitude: N34d03.910' Longitude: W81	d07.012'	1.0in. to 10.0ft. depth
		in. toft. depth
127.000	SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 1.0"
N/A		Type: PVC Diam.: 1.0
4. ABANDONMENT: ☑ Yes ☐ No	= 1	Slot/Gauge: 0.010' Length: 10.0' Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
The second secon		ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0	.0 ft.	Sieve Analysis Yes (please enclose) No
	kness Depth to	12. STATIC WATER LEVEL 15.98 ft. below land surface after 24 hours
	of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stra	atum Stratum	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
1		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
*		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction
		Type
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
Madicate Weter Day 1 - 7		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		my direction and this report is tide to the past of my knowledge and ballet.
2000 150 000 000 000 000 000 000 000 000		1.1.0+ 6 -1.
FP-9		Stoned A chewliel #1396 (m) 5/2/13
		Signed: Date:
		Well Driller
TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven		
☐ Cable tool ☐ Other		At .



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		CIVI W -24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
PROPERTY AND THE STATE OF THE S		☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 9/26/12
Telephone: Work: Home:		
2. LOCATION OF WELL: COUNTY:	Richland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	414141	Type: 🗹 PVC 🗆 Galvanized Surface U.U' ft.
City: Columbia Zip: 29	210	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Latitude: N34d03,910' Longitude: W81d	07.012'	Steel Other Weight lb./ft. 1.0 in. to 10.0 ft. depth Drive Shoe? Yes No
		in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC S'	YSTEM NUMBER:	11. SCREEN:
N/A	19.25.4	Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
		ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0		Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thick		12. STATIC WATER LEVEL 16.35 ft. below land surface after 24 hours
Formation Description of Strat		13. PUMPING LEVEL Below Land Surface.
		ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
	-	
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED?
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
1 " h		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type
*		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
1		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
# #		Columbia, SC 29250
*Indicate Water Bearing Zones	100	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	y 3	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		No. 1 to 1
FP-10		1 1 1 # 120 (m +1-12
		Signed: Auben Well Driller # 1356 (For Date: 17/13
		Signed: Date: United Date: Unit
. TYPE: ☐ Mud Rotary ☐ Jetted	☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary	☐ Driven	ii D Level Dilliel, provide supervising dilliel a flattie.
☐ Cable tool ☐ Other		



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	Residential Public Supply Process
011 GG 71 00010	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/26/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface 0.0' ft.
29210	☐ Steel ☐ Other Weight — b./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	1.0 In. to 10.0 ft. depth
	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBE	R: 11. SCREEN: Type: PVC Diam.: 1.0"
N/A	Type: TYC Dlam.: 10.0' Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT:	Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
2004 ED 3 10 10 2-5 - TODE S AND SOUTH OF SOUTH WATER CHOOSE OF THE STORY OF THE SOUTH OF THE SO	ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 16.30 ft. below land surface after 24 hours
Formation Description of Bottom Stratum Stratum	
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from ft. to ft.
	Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE:
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: TODD Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
3	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
FP-11	Stoned: A cheuliel #1357 (Fm) Date: 1/2/18
	Signed: Date:
	Well Driller
. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	THE CONTRACTOR OF THE CONTRACT
☐ Cable tool ☐ Other	



. WE	. WELL OWNER INFORMATION:		10-14-14-14-1	7. PERMIT NUMBER: UMW-24502
Nan	Name: Fredrick Cecchini			CIVI W -24302
	(last)	(firs	st)	8. USE:
Add	Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City	Columbia State: SC	Zip: 29	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
	phone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 9/27/12
2. LO	CATION OF WELL: C	OUNTY: Richl	and	20.0 ft. Date Completed: 10/12/12
	ne: Broad River Amoco			10. CASING: ☐ Threaded ☐ Welded
Str	eet Address: 4335 Broad Rive	r Rd.		Diam.: 1.0" Height: Above /Below
Cit	Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft. ☐ Steel ☐ Other Weight — lb./ft.
				☐ Steel ☐ Other Weight — lb./ft. 1.0 in. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Lat	itude: N34d03.910' Longitud	e: W81d07.0	12'	in. toft. depth
3 PIII	BLIC SYSTEM NAME: PI	UBLIC SYSTE	M NUMBER:	11 SCREEN.
N/A	SEIGOTOTE III NAME.	ODLIO GIGIL	W NOWIDER.	Type: PVC Diam: 1.0"
	ANDONMENT: Yes	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
4. Ab	ANDONWENT: El fes L	NO		
Gr	outed Depth: from 20.0	ft to 0.0	ft.	ft. USE SECOND SHEET
GIC	ation Deptil. Holli 2010	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
	Formation Description	of	Bottom of	12. STATIC WATER LEVEL 14.43 ft. below land surface after 24 hours
	****	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See att	ached log	1		ft. after hrs. PumpingG.P.M. Pumping Test: Yes (please enclose) No
		+		Yield:
	•		5/	14. WATER QUALITY
		1		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
		1		Please enclose lab results.
				15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
				Installed from ft. to ft.
				Effective size Uniformity Coefficient
				16. WELL GROUTED? [7] Yes ☐ No
			- Lancia - Art - 40.	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		-		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		1		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
-	711-111	1		Туре
				Well Disinfected ☐ Yes ☑ No Type: Amount:
		1		18. PUMP: Date installed: Not installed 🗹
			- 1011611	Mfr. Name: Model No.: H.P Volts Length of drop pipe ft. Capacity gpm
	78%			TYPE: Submersible Jet (shallow) Turbine
	2843-4274-55 (7), 11 T			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
				19. WELL DRILLER: Todd Allred CERT. NO.: 1446
_	at management of		10 A	Address: (Print) Level: A B C D (circle one)
				P.O. Box 50285
*In	- Water Dander 7			Columbia, SC 29250
indicat	e Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Us	e a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REN	IARKS:			1
FP-12				4 1 1 # 2000 51 10
				Signed: Ar cheulii #1358 Fg Date: 5/2/13
				Well Driller Date:
ТУР	E: Mud Rotary Jetted		Bored	If D I and Diller provide supervising difficult name:
□ Dug □ Air Rotary □ Driven			If D Level Driller, provide supervising driller's name:	
	☐ Cable tool ☐ Other	No. 245	ra=6000 1955	
				THE PROPERTY OF THE PROPERTY O



. WELL OWNER INFORMATION:		11.57	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UNI W-24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
			☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:	1121	9. WELL DEPTH (completed) Date Started: 9/27/12
2. LOCATION OF WELL: CO	DUNTY: Richl	and	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Type: I PVC Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		☐ Steel ☐ Other Weight — lb_/ft.
Latitude: N34d03.910' Longitude	: W81407 0	12'	1.0 in. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	. 1101407.0		in. toft. depth
The state of the s	IBLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Dlam.: 1.0"
N/A			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes □	No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
		200	ft. and ft. USE SECOND SHEET
Grouted Depth: from 20.0			Sieve Analysis 🔲 Yes (please enclose) 🗵 No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL, 15.98 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No Yield:
			14. WATER QUALITY Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from ft. to ft.
10000			Effective size Uniformity Coefficient
1.00 S			16. WELL GROUTED? ☑ Yes ☐ No
146.1			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
32 70 (40)			Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
200/0			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
100000000000000000000000000000000000000		,	18. PUMP: Date installed: Not installed 🗹
000000000000000000000000000000000000000			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one) P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
SEA DESIGNATION OF		28%	
FP-13			Signed: Ar dien liel # 1357 (for) Date: 17/13
			Signed: // Daller / / Daller / / Daller / / Daller / / / Daller / / / / / / Daller / / / / / / Daller / / / / / / / / / / / / / / / / / / /
TVDE, El Maria			Year Driller
. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Dug ☐ Air Ro		Bored Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other			
			972 PROPERTY REAL PROPERTY REA



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UMW-24302
(last) (first))	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 292	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
		☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 9/27/12
2. LOCATION OF WELL: COUNTY: Richla	ınd	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Diam.: 1.0" Height: Above /Below
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia Zip: 29210		Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012	21	1.0 in to 10.0 ft depth Drive Shoe? Tyes 7 No
	~	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM	NUMBER:	11. SCREEN:
N/A		Type: PVC Diam.: 1.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
		ft. and ft. USE SECOND SHEET
	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness	Depth to	12. STATIC WATER LEVEL 17.07 ft. below land surface after 24 hours
Formation Description of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
l i		Yield:
		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Cther
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction
		Туре
	1	Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 2
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
tindicate Water Deprise 7		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		
FP-14		1 . 1 . 1 . 1
		Stoned: A heuliel #1356 (fr) Date: 1/1/13
100 - 100 -	SECRETARIS DE VICENCE DE LA CONTRACTORIO	Signed: Well Driller Date:
. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bo	ored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven		in D. Level Dillier, provide supervising dillier a fidule.
☐ Cable tool ☐ Other		



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UMW-24502
(last) (first)		8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
of Distriction of the Control of the		☐ irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zi	p: 29210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 9/27/12
2. LOCATION OF WELL: COUNTY: R	ichland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco		10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.		Diam.: 1.0" Height: Above /Below
City: Columbia Zip: 292	10	Type: PVC Galvanized Surface U.U' ft.
Columbia — 292	10	Steel Other Weight Ib /ft
Latitude: N34d03.910' Longitude: W81d0	7 012'	1.0 in. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	7.012	in. to ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SY	STEM NUMBER:	11. SCREEN:
N/A		Type: PVC Diam.: 1.0"
4. ABANDONMENT: ☑ Yes ☐ No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
	20	[
Grouted Depth: from 20.0 ft. to 0.0	fL	ft. andft. USE SECOND SHEET Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickn		12. STATIC WATER LEVEL 15.17 ft. below land surface after 24 hours
Formation Description of	Bottom of	
Stratu	m Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: Yes (please enclose) No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal
		m 11 111 1
		19. WELL DRILLER: TODD Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
2		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Lies a 2nd shoot if readed)		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		1 0
FP-15		1 1 1 1 # 122/12 -1-12
		Signed: Tuckenllul + 1356/ /2 Date: 17/13
		Well Driller
TYPE: Mud Rotary	☑ Bored	If D. Level Driller, provide europoicing drilleds name:
☐ Dug ☐ Air Rotary ☐ Driven		If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other		
the state of the s		V/V - 1981 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 - 1982 -



WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UMW-24502
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Columbia	
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 9/27/12
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 10/12/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Dlam.: 1.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
	□ Steel □ Other Weight — Ib./ft. 1.0 in. to 10.0 ft. depth Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude: W81d07.012'	in. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A	Type: PVC Dlam.: 1.0"
	Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☑ Yes ☐ No	Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from 20.0 ft. to 0.0 ft.	ft. andft. USE SECOND SHEET
Grouted Depth: from 20.0 ft. to 0.0 ft. *Thickness Depth to	Sieve Analysis Yes (please enclose) No
Formation Description of Bottom of	12. STATIC WATER LEVEL 15.26 ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
	Pumping Test: ☐ Yes (please enclose) ☑ No Yield:
	14. WATER QUALITY Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
2 8 40 30 40	Installed from ft. to ft. Effective size Uniformity Coefficient
	16. WELL GROUTED? ☑ Yes ☐ No
50000	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>20.0</u> ft. to <u>0.0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
Mada Mata Barta E	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	ייין איייסייטיו מווע מווס ופסייניוס מעט נט מוט טפטנ טו וווץ מווטאוטעעט מווע טפווטו.
FP-16	1.04 6 51
11-10	th 11.00 Un V #1357 (t) 5/1/13
	Signed: Well Driller Date: 1777
TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	
TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	
1 90/2010 SEC 2012/10 (2012/2012)	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			OWW-24302
(last)	(firs	t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7in: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony. Columbia out. SC	, Z.p. 25	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/16/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	25.5 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: 🗹 PVC 🗆 Galvanized Surface 0.0 ft.
Columbia	29210		Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude	: W81d07.01	2'	□ Steel □ Other Weight — Ib./ft. 2.0 in. to 15.5 ft. depth Drive Shoe? □ Yes ☑ No
			In. to ft. depth
3. PUBLIC SYSTEM NAME: PU	IBLIC SYSTE	W NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0"
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0'
	AAAAA		Set Between: 13.3 ft. and 23.3 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from	ft. to	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 18.00 ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
		-	Pumping Test: ☐ Yes (please enclose) ☑ No
	1 1		Yield:
	-		14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 25.5 ft. to 13.5 ft. Effective size #2 Uniformity Coefficient ~1
	<u> </u>		16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
		- 95.00 (33.25)	
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.: ft. Capacity gpm H.P Volts Length of drop pipe ft. Capacity gpm ft. Capacity gpm
0.000			TYPE: Submersible Jet (shallow) Turbine
		ore beginned to be on the	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	100		19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Lloo o 2nd shoot 16			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		-	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-6A			Signed Ar leuluil # 1358 (fr) Date: 5/7/13
			Signed: 1 Villull 1356 / Date: 5/7/13
			Well Driller
TYPE: ☐ Mud Rotary ☐ Jetted	2 E	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot		Oriven	is 2010. Silion, provide duportioning united a fidule.
☐ Cable tool ☐ Other			



. WELLOWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UNI W -24302
(last)	(fire	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
2007			☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 8/16/12
Telephone: Work:	Home:	7.0	Light to the product of suppression of the second s
2. LOCATION OF WELL: CO	OUNTY: Rich	land	38.5 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Dlam.: 2.0" Height: Above /Below Type: ☑ PVC □ Galvanized Surface 0.0" ft.
City: Columbia	Zip: 29210		Steel Other Weight
Latitude: N34d03.910' Longitude	: W81407 0	12'	2.0 In. to 28.5 ft. depth Drive Shoe? ☐ Yes ☑ No
1000.510	. 1101407.0		in. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A		67090 1-0	Type: PVC Diam.: 2.0" Siot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 28.5 ft. and 38.5 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from			Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 18.05 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Outlant	Cuddan	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
32 32444			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No Installed from 38.5 ft. to 26.5 ft.
			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? Yes No
			✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>26.5</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.:
		17-77	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	(men	Address: (Print) Level: A B C D (circle one)
The state of the s			P.O. Box 50285
#-#			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		racesa ing society	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			^
MW-6B			11 1 1 1 # 6 11
			Signed: Aceen Wil #138 Frate: 5/7/13
			Signed: Well Driller
Jetted. TYPE: ☐ Mud Rotary ☐ Jetted.		Bored	If D Lavel Driller, provide supericing driller's name:
□ Dug □ Air Ro	1 <u>111</u> 0	Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	93		



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			OWW-24302
(last)	(firs	t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony. Columbia omio. SC		210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 8/16/12
2. LOCATION OF WELL: CO	DUNTY: Richle	and	24.0 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: Threaded Welded
Street Address: 4335 Broad River	r Rd.		Dlam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: 17 PVC Galvanized Surface U.U ft
			Steel Other Weight
Latitude: N34d03.910' Longitude	: W81d07.01	2'	2.0 in. to 14.0 _ ft. depth
178			in. toft. depth
	IBLIC SYSTEM	M NUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"
N/A			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 14.0 ft. and 24.0 ft. NOTE: MULTIPLE SCREENS
			ft. and ft. USE SECOND SHEET
Grouted Depth: from		ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to .	12. STATIC WATER LEVEL 16.60 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Ouatum	Oudtum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
=0			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
3-1-200003000000000000000000000000000000			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
A DESCRIPTION OF THE PROPERTY			Installed from 24.0 ft. to 12.0 ft.
		TV TO A LABORATE	Effective size #2 Uniformity Coefficient ~1
S SHIPES IS OF		2	16. WELL GROUTED? ☑ Yes ☐ No
2 Maria (C. 1905-200 M. 1905 M	1		☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 12.0 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		10.000	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
0.0000000000000000000000000000000000000			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
		11.	P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
//			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-7A			Signed: Archen Wiel #1357 (Fingate: 5/7/13
			Signed: William Will 196 (Trigate: 1/1/19
			Well Driller
8. TYPE: ☐ Mud Rotary ☐ Jetted	Ø 8	Sored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro	tary 🗆 🗈	Oriven	
☐ Cable tool ☐ Other			
WINE CHILD			



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			CM W-24302
(last)	(firs	t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
			9. WELL DEPTH (completed) Date Started: 8/15/12
	Home:	- 1	
	OUNTY: Richl	and	23.0 ft. Date Completed: 8/18/12
Name: Broad River Amoco Street Address: 4335 Broad River	D.1		10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
City: Columbia	r Ra. ^{Zip:} 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
ony. Columbia	29210		☐ Steel ☐ Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude	: W81d07.01	12'	2.0 Steel Other Weight ib./ft in. to 13.0 ft. depth Drive Shoe? Yes 🗵 No
			in. toft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN: 2.0"
N/A			Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 13.0 ft. and 23.0 ft. NOTE: MULTIPLE SCREENS
		- 20	ft. andft. USE SECOND SHEET
Grouted Depth: from1			Sieve Analysis 🔲 Yes (please enclose) 🗵 No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 16.84 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log		that it strong	ft. after hrs. PumpingG.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
20.00 20.00		335	14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
1000		N - N - O	
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No Installed from 23.0 ft. to 11.0 ft.
			Effective size #2 Uniformity Coefficient ~1
		00040	16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 11.0 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
	-		18. PUMP: Date installed: Not installed 🗸
			Mfr. Name: Model No.: H.P Volts gpm
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
*Indicate Water Bearing Zones			Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
Indicate water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		1 222	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1
MW-8A			· / '//#77/[\\ \\ \ \ \ \ \ \ \ \ \ \ \ \
			Signed: A deluliil #1396 (fm) Date: 5/7/13
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	Z	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro	tary 🗆 i	Oriven	i a note atility protite department atilities
☐ Cable tool ☐ Other			



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			ON 11 - 2-1302
(last)	(firs	it)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City C. 1. 1: State: SC	7in: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 25	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/15/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	37.5 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: Threaded Welded
Street Address: 4335 Broad River	- Dd		Diam.: 2.0" Height: Above /Below
	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	29210		☐ Steel ☐ Other Weight — lb./ft.
Latitude: N34d03.910' Longitude	. W81407 0	יכו	2.0 In. to 27.5.0 ft. depth □ Drive Shoe? □ Yes ☑ No
Editido: 1434005.910 Eorigidade	. Woldo/.u.	12	in. toft. depth
	IBLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"
N/A			Type: Diam.: Diam.:
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 27.5 ft. and 37.5 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from	ft to	er e	
	*Thickness	Depth to	Sieve Analysis Yes (please enclose) No 12. STATIC WATER LEVEL 16.60 ft. below land surface after 24 hours
Formation Description	of	Bottom of	100000
31655	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: Yes (please enclose) No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
1988	-		
			15. ARTIFICIAL FILTER (filter pack)
WANT 1			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>25.5</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
WI			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
- pass		6	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
// / / / / / / / / / / / / / / / / / /			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1 / -: .
MW-8B	,		Signed: 1356 (Fr) Date: 5/2/13
		1	Signed:
OLDANAS AMARIA DATA	10000		Well Driller
6. TYPE: Mud Rotary Jetted	S	Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Ro	tary ⊔ t	Driven	319 tu 717
☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UWW-24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7 7in: 20	2210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ons. Columbia	, Lp. 23	7210	☐ Test Well ☑ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 8/15/12
2. LOCATION OF WELL: C	OUNTY: Rich	and	23.0 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Rive	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
37. 002	2,210		Ctool Cother Weight
Latitude: N34d03.910' Longitude	e: W81d07.0	12'	2.0 in. to 13.0 ft. depth Drive Shoe? Yes INO
		STAT	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	JBLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		
			* 교육에서 제공 사용에서 아이들은 그 모든 아이는 요요
Grouted Depth: from	ft. to	ft	ft. andft. USE SECOND SHEET Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 18.61 ft. below land surface after 24 hours
200	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
	-		Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
X			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	-		Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from <u>23.0</u> ft. to <u>11.0</u> ft.
			Effective size #2 Uniformity Coefficient ~1
	-		16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>11.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	 	-	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
- 1-243			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			^
MW-9A			1 1 1 1 1 1 1 1 1 1 1
entre di trata es			Signed Problem Wil # 1357 () Date: 5/7/13
			Signed: Date: Date:
. TYPE: Mud Rotary Jetted	D	Bored	KOL - ID III - I - III -
☐ Dug ☐ Air Ro	_	Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other			
Li Cable tool Li Other			



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	وسو		
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 8/15/12
2. LOCATION OF WELL: CO	OUNTY: Richl	and	31.5 ft. Date Completed: 8/18/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Dlam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
	2,210		Steel Cother Weight
Latitude: N34d03.910' Longitude	: W81d07.0	12'	2.0 In. to 21.5 ft. depth Drive Shoe? ☐ Yes ☑ No
2925			In. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 21.5 ft. and 31.5 ft. NOTE: MULTIPLE SCREENS
THE ACTION SERVICES OF THE PROPERTY OF THE PRO			ft. andft. USE SECOND SHEET
Grouted Depth: fromf	ft. to	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 17.60 ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	1		ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
		100000000000000000000000000000000000000	Yield:
	l 1		
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 31.5 ft. to 19.5 ft. Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			- 10 - 11 0 - 10 V - 10
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
7710 1000			SECRETARIAN PARTICLE MARKET CHARLES CHARLES CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CO
			18. PUMP: Date installed: Not installed 🗹
201			Mfr. Name: Model No.:
Paratris Paratris		Antenania da la	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
NAME OF STREET	31 - 4-1		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
Market Department of the Control of		-20-5	Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-9B			11 1 11 1 # 20 (1) 5/7/12
*			Signed Anoher Unlet 1356 (Ron) Date: 5/7/13
			Well Driller
6. TYPE: Mud Rotary		Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rot		Oriven	in D. Level Dillier, provide supervising driller's flattic.
☐ Cable tool ☐ Other	1 W 2-4 27		
THOMAS AND STATES OF STATE			



Totalephone: Work: Home:	PROMOTE PROTECT PROSPER			
City: Columbia State: SC Zip: 29210 State: SC Zip: 29210 Impaired)			7. PERMIT NUMBER: UMW-24502
Address: 4335 Broad River Rd. City: Columbia State: SC Zip: 29210 Talesphone: Werk: Home: 2. LOCATION OF WELL: COUNTY: Richland Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Lattude: N34d03.910' Longitude: W81d07.012' 3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A 4. ABANDONMENT: Q yes Z No Grouted Depth: from fit. to for Stratum 5. Formation Description See attrached log See attrached log 11. SCREEN: Type: Z No See attrached log 12. SYATIC WATER LEVEL JL.05 13. PUBLIC SYSTEM NUMBER: Not stratum 14. WATER QUALITY Chemical Analysis Zives Cho Received: Not stratum See attrached log 14. WATER QUALITY Chemical Analysis Zives Cho Received: Not Stratum 15. SATIFICIAL PLER Below Land Surface. 16. See attrached log 17. MARKER QUALITY Chemical Analysis Zives Cho Received: Not Stratum 18. WELL GROUTED? Zives In to 5.5 Effective size #2. 19. WELL GROUTED? Zives In Capacity General Controlled Certain Controlled Certa				VALUE OF THE PROPERTY OF THE P
City: Columbia	A CONTRACTOR AND A CONT			8. USE:
Test Well Denth Denth Replacement	Address: 4335 Broad River Rd.		f	☐ Residential ☐ Public Supply ☐ Process
Talephone: Work: Home: Security Month Marker: Month Marker: Month Marker: Month Marker: Month Marker: Month Marker: Month Mo	City: Columbia State: SC	7in: 20	210	
2. LOCATION OF WELL: Name: Broad River Amoco Street Address: 4335 Broad River Rd. City: Columbia Letitude: N34d03.910' Longitude: W81d07.012' 3. PUBLIC SYSTEM NAME: N/A 4. ABANDONMENT:	City. Columbia State. SC	Zip. 25	/210	☐ Test Well ☐ Monitor Well ☐ Replacement
2. LOCATION OF WELL: Name: Broad River AB moos Street Address: 4335 Broad River Rd. City: Columbia	Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/2712
Name: Broad River Amooo Stroet Address: 4335 Broad River Rd. Citly: Columbia Latitude: N34d03,910' Longitude: W81d07.012'			and	17.5 Both Completed 8/29/12
Street Address: 4335 Broad River Rd. City: Columbia		· · · · · · · · · · · · · · · · · · ·	and	10. CASING: [7] Threaded Wolded
City: Columbia		n.i		
Letitude: N34d03.910' Longitude: W81d07.012' 3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A 4. ABANDONIMENT:	City: G. 1. 1:	Ka.		
Letitude: N34d03,910" Longitude: W81d07.012"	Columbia .	29210		☐ Steel ☐ Other Weight —
	Latitude: N24d02 010! Langitude:	W791 407 01	121	2.0 in. to 7.5 ft. depth Drive Shoe? ☐ Yes ☑ No
N/A 4. ABANDONMENT: Yes No Stratum Thickness On the potential of the pumping One pumpin	Lautode. N34003.910 Longitude.	W 61 00 7.01	12	
N/A 4. ABANDONMENT: Yes No No Stratum ft. to ft. Grouted Depth: from	3 PUBLIC SYSTEM NAME: PUI	BLIC SYSTE	M NUMBER:	11. SCREEN:
Set Between:		DEIO O I O I E	III NOINDLIN	Type: PVC Diam.: 2.0"
Set Between:				Slot/Gauge: 0.010' Length: 10.0'
Sieve Analysis Yes (please enclose) No	4. ABANDONMENT: LI Yes LI	No		Set Between: 7.5 ft. and 17.5 ft. NOTE: MULTIPLE SCREENS
Formation Description *Thickness of Stratum of Stratum See attached log *Thickness of Stratum See attached log *Thickness of Stratum Stratum See attached log *Thickness of Stratum Stratum Stratum *Thickness of Stratum Stratum Stratum Stratum Stratum *Thickness of Stratum Stratum Stratum Stratum Stratum *Thickness of Stratum Stratum Stratum Stratum *Thickness of No Bacterial Analysis of No Pumping of No Intention *Thickness of No I				Notes to the Control of the Control
See attached log Stratum Strat	Grouted Depth: fromft			
Stratum Stratum 13. PUMPING LEVEL Below Land Surface. ft. after hrs. Pumping	Formation Description	50		12. STATIC WATER LEVEL 11.05 ft. below land surface after 24 hours
Sec attached log The strict Sec Sec	Formation Description			13. PUMPING LEVEL Below Land Surface.
Yelici: 14. WATER QUALITY Chemical Analysis Yes No Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack) Zes No Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack) Zes No Installed from 17.5		Ouddin	Outdon	ft. after hrs. Pumping G.P.M.
14. WATER QUALITY Chemical Analysis	See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
Chemical Analysis				Yield:
Chemical Analysis				14. WATER QUALITY
Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack)		11.000 (BANK) (BANK) (BANK)		
Installed from 17.5 ft. to 5.5 Effective size #2 Uniformity Coefficient ~1 16. WELL GROUTED?				11 To 12 W
Installed from 17.5 ft. to 5.5 Effective size #2 Uniformity Coefficient ~1 16. WELL GROUTED?		11.7.11	1,0 0,010	15 ADTIFICIAL FILTER (filter pack) Z Yes No
Effective size #2			0	Installed from 17.5 ft to 5.5 ft
16. WELL GROUTED? ☑ Yes ☐ No				Effective size #2 Uniformity Coefficient ~1
Neat Cement Bentonite Bentonite Cother				
Depth: From 5.5 ft. to 0 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type				
17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type			2	Denth: From 5.5 ft. to 0 ft.
Type				
Well DisInfected		+ -		
18. PUMP: Date installed:				
Mfr. Name:				
H.P	7/00-7/00 PM			
TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Michael Carey CERT. No.: 1920 Address: (Print) Level: A B C D (circle or P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.				4 MANUAL TO THE TO THE TO THE TOTAL THE TOTAL TO THE TOTA
Jet (deep) Reciprocating Centrifugal				[H. H. H
19. WELL DRILLER: Michael Carey Address: (Print) Level: A B C D (circle or P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.				
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.				
P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS:				
*Indicate Water Bearing Zones *Indicate Water Bearing Zones Telephone No.: 803-783-3314 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS:				, , , , , , , , , , , , , , , , , , , ,
*Indicate Water Bearing Zones Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS:				
(Use a 2nd sheet if needed) 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS:	*Indicate Water Bearing Zones			
5. REMARKS:				Total Control
	(Use a 2nd sheet if needed)	-2004-01-01-01-01-01-01-01-01-01-01-01-01-01-	0.000	my direction and this report is true to the best of my knowledge and belief.
	5. REMARKS:			
MW-10A	MW-10A			11.11 6 -11
MW-10A signed Inches Wil # 138 (for Date: 17/1)	THE TOTAL			Signed Freben Wel # 138 (for) Date: 17/13
Signed: 100000 Vouce Vouce Date: 1770				Signed: Moll Daties Date:
Well Driller	Y			Yveit Driller
6. TYPE: Mud Rotary Jetted Jetted If D Level Driller, provide supervising driller's name:		210	20000000	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rotary □ Driven	[12] [12] [12] [12] [12] [12] [12] [12]	ary ⊔ [Driven	
☐ Cable tool ☐ Other	☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			OW W -24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/2712
2. LOCATION OF WELL: CO	OUNTY: Richl	and	39.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Rive	r Rd.		Dlam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type:
		202	☐ Steel ☐ Other Weight — lb./ft. 2.0 in, to 29.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d07.0	12'	in. toft. depth
3. PUBLIC SYSTEM NAME: PL	IBLIC SYSTE	M NUMBER.	
N/A	DLIC STSTE	W NUMBER:	Type: PVC
NAME OF THE PARTY			Slot/Gauge: 0.010' Length: 10.0' Set Between: 29.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
4. ABANDONMENT: ☐ Yes ☑	NO		Set Between: 29.0 ft. and 39.0 ft. NOTE: MULTIPLE SCREENS
Grouted Denthy from	B 40		ft. and ft. USE SECOND SHEET
Grouted Depth: from	.*Thickness		Sieve Analysis Yes (please enclose) No
Formation Description	of	Depth to Bottom of	12. STATIC WATER LEVEL 13.87 ft. below land surface after 24 hours
1 omason Dooshpach	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
	1		15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
2 (1/2) (1/2			Installed from 39.0 ft. to 27.0 ft. Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
		co empe	Depth: From <u>27.0</u> ft. to <u>0</u> ft.
8000			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		150.00	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
	-		H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. No.: 1920
			Address: (Print) Level: A B C D (circle one) P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(lles = Ond short %d- t)		3/5	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-10B			1 1 1 than (Thales
			signed Adulul #1356 (pr Date: 7/7/13
		0-000-000	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted		3ored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Ro	tary 🗆 t	Oriven	200 1920 1920 1920 1920 1920 1920 1920 1
☐ Cable tool ☐ Other	Name of the last o	(Jet)	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	1 Tourish Cocomin		
(last)	(first	;)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony. Columbia State. SC	Zip. 29	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/2712
2. LOCATION OF WELL: CO	CATACOTT -	and	20.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco	out Kichia	anu	10. CASING: ☑ Threaded ☐ Welded
			Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Type: PVC Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		☐ Steel ☐ Other Weight — ib./ft.
1 - 15 - 15 - 272 4 102 01 01 1 1 16 - 1 16 - 1	************	۰.	2.0 in. to 25.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d07.01	2'	in. toft. depth
			11. SCREEN:
	IBLIC SYSTEM	NUMBER:	Type: PVC Diam.: 2.0"
N/A			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
			ft, andft. USE SECOND SHEET
Grouted Depth: fromf	ft. to	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 10.52 ft. below land surface after 24 hours
Formation Description	of	Bottom of	
a drough cross a room and cover set of the conference set of the conference of the c	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
200 011101100 105			Pumping Test: ☐ Yes (please enclose) ☑ No
	1 1		Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
2 2722	1	155311072	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
		1977	Installed from 20.0 ft. to 8.0 ft. Effective size #2 Uniformity Coefficient ~1
			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>8.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
	1 1	Ì	Mfr. Name: Model No.:
			H.P Volts Length of drop pipeft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	 		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	1 1		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	3130 3130 074		
	1		1 . 1 - / #
MW-11A			Signed: Aruben buil #1356 (for) Date: 5/2/13
			Signed: 10000 000 / / Sb (first bate: 1//)
			Well Driller
Jetted	☑ B	ored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot	tary 🗆 🗅	riven	
☐ Cable tool ☐ Other			
The state of the s			



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UM W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
Common	☐ Test Weil ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/2712
2. LOCATION OF WELL: COUNTY: Richland	35.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco	10. CASING: Threaded Welded
Street Address: 4335 Broad River Rd.	Diam.: 2.0" Height: Above /Below
City: Columbia Zip: 29210	· Type: ☑ PVC ☐ Galvanized Surface ☑.U'ft. ☐ Steel ☐ Other Weight
1-15-1-270 / 100 O101 1	2.0 in. to 25.0 ft. depth Drive Shoe? Yes No
Latitude: N34d03,910' Longitude: W81d07.012'	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMB	R: 11. SCREEN:
N/A	Type: PVC Diam: 2.0"
4. ABANDONMENT: ☐ Yes ☑ No	Slot/Gauge: 0.010' Length: 10.0' Set Between: 25.0 ft. and 35.0 ft. NOTE: MULTIPLE SCREENS
A ADARDONINERII E 103 E 10	
Grouted Depth: from ft. to	ft. Sleve Analysis
*Thickness Depth	
Formation Description of Bottom	of
Stratum Stratu	n 13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from <u>35.0</u> ft. to <u>23.0</u> ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	Dopan 110m 2510
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	H8. PUMP: Date installed: Not installed ☑ Mfr. Name: Model No.:
*	H.P Voits Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
Training Loring Loring	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
MW-11B	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Signed: Archen Wil # 1356 (Frs) Date: 5/7/12
	Well Driller (U)
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	in a serial primary provided deportioning drinker o fraction
☐ Cable tool ☐ Other	



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
State. SC 2pt. 29210	☐ Test Weil ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/2712
2. LOCATION OF WELL: COUNTY: Richland	20.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 2.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Gelvenized Surface U.U ft
27210	Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	2.0 In. to 10.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"
N/A	Type:
4. ABANDONMENT: ☐ Yes ☑ No	Slot/Gauge: 0.010' Length: 10.0' Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
	ft. andft. USE SECOND SHEET
Grouted Depth: from ft. to ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to	12. STATIC WATER LEVEL 13.95 ft. below land surface after 24 hours
Formation Description of Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum Stratum	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
Lance III	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from 20.0 ft. to 8.0 ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>8.0</u> ft. to <u>0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	, , <i>(</i>) .
MW-12A	Signed: Arbentuil #138 (for Date: 5/2/13
	Signed: 158 (for Date: 3 /7/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rotary □ Driven	ii D Level Dilliel, provide supervising dilliel s flame.
☐ Cable tool ☐ Other	5
	· · · · · · · _ ·



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			OW W-24302
	(last) (first)		8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
922 St. 14 1 200 FB		MARK BUK	☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 8/27/12
	Home:		Manager 17
	OUNTY: Richl	and	36.5 ft. Date Completed: 8/29/12
Name: Broad River Amoco	n.1		10. CASING: ☑ Threaded ☐ Welded Dlam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River City: Columbia	Zip: 29210		Type: PVC Galvanized Surface U.U' ft.
Columbia	29210		☐ Steel ☐ Other │ Weight —
Latitude: N34d03.910' Longitude	: W81d07.01	12'	2.0 in. to 26.5 ft. depth Drive Shoe? ☐ Yes ☑ No
			in. to ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN: 2.0"
N/A			Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0' Set Between: 26.5 ft. and 36.5 ft. NOTE: MULTIPLE SCREENS
4. ABANDONMENT: ☐ Yes ☑	No .		Set Between: 26.5 ft. and 36.5 ft. NOTE: MULTIPLE SCREENS
			ft. and ft. USE SECOND SHEET
Grouted Depth: fromf		ft.	Sieve Analysis
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 16.72 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY Chemical Analysis ☑ Yes ☑No Bacterial Analysis ☑ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from <u>36.5</u> ft. to <u>24.5</u> ft.
			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>24.5</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7] Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
O			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1 1 1 1 1
MW-12B			Archential #1357 (for 5/2/13
			Signed:
	0.50		Well Driller
d. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored			If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot☐ Cable tool ☐ Other	ary ⊔ [Oriven	
L Cable tool L Other		SULVIOLENING POLICE	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UMW-24502
(last) (first)		st)	8. USE:
Address: 4335 Broad River Rd.	s: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia	-1.23	210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 8/2812
	OUNTY: Richl	and	22.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco			10. CASING: ☐ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type:
1 4 370 4 300 04 04 11 11	W104 105 04		Steel Other Weight
Latitude: N34d03.910' Longitude	: W81d07.01	12'	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NIIMBER:	11 SCREEN:
N/A	DLIO OTOTE	m NOMBER.	Type: PVC Diam.: 2.0"
4. ABANDONMENT: ☐ Yes ☑	N.		Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONWENT: LI TES LE	NO		Set Between: 12.0 ft. and 22.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: fromf	ft to	n n	ft. andft. USE SECOND SHEET
Clouded Bopan. Horn	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 19.80 ft. below land surface after 24 hours
1000 NEW ESSAM - 914 CA 1 M. 44000	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
31 ±0			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
2			Installed from 22.0 ft. to 10.0 ft.
			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 10.0 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [2]
			Mfr. Name:
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			Jet (deep)
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
•			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
### ### ### ### ######################			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
MW-13A			111/4
M211-13/A			Signed Ardele bel #1356 (for pate: 5/7/13
			Signed: Well Driller Date:
. TYPE: Mud Rotary	171	Bored	
■7. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven			If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other			



	- PERSONAL MARKET
Nome: Frankish Casakini	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)	
30 00 00 00 00 00 00 00 00 00 00 00 00 0	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
- Dolumoia	☐ Test Well
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 8/28/12
2. LOCATION OF WELL: COUNTY: Richland	33.5 ft. Date Completed: 8/29/12
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 2.0" Height: Above /Below
City: Columbia Zip: 29210	Type:
29210	☐ Steel ☐ Other Weight ———— ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	2.0 in. to 23.5 ft. depth Drive Shoe? ☐ Yes ☑ No
	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN:
N/A	Type: PVC
TOTAL	Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑ No	Set Between: 23.5 ft. and 33.5 ft. NOTE: MULTIPLE SCREENS
	ft. and ft. USE SECOND SHEET
Grouted Depth: fromft. to ft	
*Thickness Depth to	12. STATIC WATER LEVEL 12.00 II. Delow land surface after 24 hours
Formation Description of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
A CONTRACT OF THE PARTY OF THE	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from 33.5 ft. to 21.5 ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>21.5</u> ft. to <u>0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed 🗹
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Michael Carey CERT. NO.: 1920
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
MW-13B	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
111111111111111111111111111111111111111	Signed: Andeluluil # 1356 (Fregite: 5/7/13
	Signed: Medi Deliles
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	THE STATE OF THE S
☐ Cable tool ☐ Other	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	/E		ONIW-24302
(last) Address: 4335 Broad River Rd.	(firs	т)	8. USE:
4333 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 8/2812
	OUNTY: Richl	and	20.0 ft. Date Completed: 8/29/12
Name: Broad River Amoco	- Actom		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface <u>U.U'</u> ft.
		cietati.	□ Steel □ Other Weight □ Ib./ft. 2.0 in, to 10.0 ft. depth □ Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d07.01	12'	in. toft. depth Drive Shoe? If Yes It No
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			11. SCREEN: Type: PVC Slot/Gauge: 0.010' Set Between: 10.0 ft. and 20.0 ft. NOTE: MULTIPLE SCREENS
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010 Length: 10.0
			ft. andft. USE SECOND SHEET
Grouted Depth: fromf	ft. to	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 14.52 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Guatam	- Cudiani	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
10 10 Jan			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 20.0 ft. to 8.0 ft.
			Effective size #2 Uniformity Coefficient ~1
10 2 3 2 2 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>8.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗸
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920
			Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
		Ligui control de la control de	Columbia, SC 29250
*Indicate Water Bearing Zones		17 - 18	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			my direction and this report is true to the pest of my knowledge and belief.
			1 1 1 1 1
MW-14A			1 muleu / 1357 (5 /7/13
			Signed: Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	[7]	Bored	If D Level Driller, provide supervising driller's name:
■ TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven			II D Level Driller, provide supervising driller's name.
☐ Cable tool ☐ Other	RI .		



I. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			CIAN 21002
	(last) (first)		8. USE:
4335 Broad River Rd.	Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
			9. WELL DEPTH (completed) Date Started: 8/28/12
Telephone: Work:	Home:		Company STA STA STA
2. LOCATION OF WELL: C	OUNTY: Richl	and	38.5 ft. Date Completed: 8/29/12 10. CASING: ☑ Threaded ☐ Welded
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad Rive	r Rd.		Type: PVC Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		☐ Steel ☐ Other Weight lb./ft.
Latitude: N34d03.910' Longitude	e: W81d07 0	12'	2.0 in. to 28.5 ft. depth
			in. toft. depth
3. PUBLIC SYSTEM NAME: PL	JBLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0"
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 28.5 ft. and 38.5 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from	ft. to	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 17.27 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Suaum	Suatum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
0.0 201100 0 38.200-00			Yield:
L			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
		0-8-1	Installed from 38.5 ft. to 26.5 ft. Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 26.5 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type
		Λ	Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Michael Carey CERT. NO.: 1920 Address: (Print) Level: A B C D (circle one)
		1 7 2 2	Address: (Print) P.O. Box 50285 Level: A B C D (circle one)
		79753	Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		1	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-14B			Androw 14. 1 #1200 17 1/13
L			Signed: Date:
			Well Driller
6. TYPE: Mud Rotary Jetted Bored			If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro	tary U	Driven	
☐ Cable tool ☐ Other			



. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502		
Name: Fredrick Cecchini				
(last) (first)		8. USE:		
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process		
City: Columbia State: SC Zip: 2921	n	☐ Irrigation ☐ Air Conditioning ☐ Emergency		
City. Columbia Sizie. SC 24. 2921	٠ I	☐ Test Well ☑ Monitor Well ☐ Replacement		
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 2/18/13		
2. LOCATION OF WELL: COUNTY: Richland	d	17.0 ft. Date Completed: 2/20/13		
Name: Broad River Amoco		10. CASING: Threaded Welded		
Street Address: 4335 Broad River Rd.		Diam.: 2.0" Height: Above /Below		
City: Columbia Zip: 29210		Type: PVC Galvanized Surface U.U' ft.		
		Steel Cother Weight — Ib/ft.		
Latitude: N34d03.910' Longitude: W81d07.012'		2.0 In. to 7.0 ft. depth Drive Shoe? ☐ Yes ☑ No		
		in. to ft. depth		
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM N	IUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"		
N/A		Slot/Gauge: 0.010' Length: 10.0'		
4. ABANDONMENT: ☐ Yes ☑ No	Salat Pales de	Set Between: 7.0 ft. and 17.0 ft. NOTE: MULTIPLE SCREENS		
	- 1	ft. andft. USE SECOND SHEET		
Grouted Depth: from ft. to	ft.	Sieve Analysis Yes (please enclose) No		
*Thickness D	Depth to	12. STATIC WATER LEVEL 16.01 ft. below land surface after 24 hours		
	ottom of			
Stratum S	Stratum	13. PUMPING LEVEL Below Land Surface.		
See attached log		ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No		
	-	Yield:		
	- 1			
	Y 18	14. WATER QUALITY		
	- 3	Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No		
	15	Please enclose lab results.		
		15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No		
		Installed from 17.0 ft. to 5.0 ft.		
	- 1	Effective size #2 Uniformity Coefficient ~1		
	20142424, 1 14	16. WELL GROUTED? ☑ Yes ☐ No		
		☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other		
	**************************************	Depth: From <u>5.0</u> ft. to <u>0</u> ft.		
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction		
		Type		
		Well Disinfected ☐ Yeş ☑ No Type: Amount:		
		18. PUMP: Date installed: Not installed 🗹		
		Mfr. Name: Model No.:		
	-,	H.P Volts Length of drop pipe ft. Capacity gpm		
		TYPE: Submersible Jet (shallow) Turbine		
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal		
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446		
		Address: (Print) Level: A B C D (circle one)		
		P.O. Box 50285 Columbia, SC 29250		
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587		
\$4500 Sec. (1971)		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under		
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.		
5. REMARKS:	()	. 1		
MW-15A		1 1 / HERE TO TINIO		
		Signed: Archeuleul #1356 (Fr) Date: 5/7/13		
		Signed: Well Driller		
. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bore				
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bore ☐ Dug ☐ Air Rotary ☐ Drive	600	If D Level Driller, provide supervising driller's name:		
☐ Cable tool ☐ Other	- Cil			
Li Oddio Iooi Li Otiloi				



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			014111-2-1302
(last)	(first)		8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
Clty: Columbia State: SC	Zin: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
· · · · · · · · · · · · · · · · · · ·	Zip. 23	210	☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 2/18/13
2. LOCATION OF WELL: CO	UNTY: Richl	and	40.0 ft. Date Completed: 2/20/13
Name: Broad River Amoco	(*)		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	Rd		Dlam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: 🗹 PVC 🔲 Galvanized Surface 0.0 ft.
Collamora	27210		Steel Other Weight lb_ft.
Latitude: N34d03.910' Longitude:	W81d07.01	2'	2.0 In. to 30.0 ft. depth Drive Shoe? ☐ Yes ☑ No
300000575			in. toft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"
N/A			Type: 1 VC Diam.: 2.0
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 30.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from ft	. to	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 17.60 ft. below land surface after 24 hours
Formation Description	of	Bottom of	13. PUMPING LEVEL Below Land Surface.
	Stratum Stratum		13. PUMPING LEVEL Below Land Surface. ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
		110-11-12-5-2-5	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
	-	- 1000	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 40.0 ft. to 28.0 ft.
			Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
N 877 NV			✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other
	V-10-mass		Depth: From <u>28.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		SANCTHUM COLUMN	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed
			Mfr. Name: Model No.:
			H.P Voits Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
		-	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones		20100000000000	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	V		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	V. 1-1-2 (20-1) (1-1) (1-1)		A
MW-15B			1 1 1/4 6 5
ATA TT TAULE			Signed: A dien wil #1356 (Frogto: 5/7/13
		\$00.00 C C C C C C C C C C C C C C C C C	Signed: Well Driller Well Driller
TVDE: Clarifornia Clarifornia	F7 -		
75. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven		1866B	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rote ☐ Cable tool ☐ Other	ary Li	Jiiveli	*
L Oable bol Li Otter			



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OIVI W - 24302
(last) (first)	8. USE;
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 29210	
1234 121 1257/1	☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 2/19/13
Telephone: Work: Home: 2. LOCATION OF WELL: COUNTY: Richland	Life (A) A A A A A A A A A A A A A A A A A A
	18.0 ft. Date Completed: 2/20/13
Name: Broad River Amoco Street Address: 4335 Broad River Rd.	10. CASING: ☑ Threaded ☐ Welded Dlam.: 2.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	2.0 in. to 8.0 ft. depth Drive Shoe? ☐ Yes ☑ No
THE STATE OF THE PARTY OF THE STATE OF THE S	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN: 2.0"
N/A 4. ABANDONMENT: ☑ Yes □ No	Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: 12 Yes 17 No	Set Between: 8.0 ft. and 18.0 ft. NOTE: MULTIPLE SCREENS
	ft. and ft. USE SECOND SHEET
Grouted Depth: fromft. toft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness Depth to Formation Description of Bottom of	12. STATIC WATER LEVEL 16.21 ft. below land surface after 24 hours
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
The state of the s	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☑ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from 18.0 ft. to 6.0 ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 6.0 ft. to 0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Type Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one) P.O. Box 50285
100 to 10	Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:	my direction and this report is true to the best of my knowledge and belief.
30 (3) 4 (4)	·// .
MW-16A	Signed Archen Mul#135 (FD) Date: /7/13
	Signed: Well Driller Date:
TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	Treat Dillies
TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	327		O1V1 W - 24302
(last)	(firs	t)	8. USE:
Address: 4335 Broad River Rd.	Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7in: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ony Columbia outs. SC	Ζ. μ. 23	210	☐ Test Weil ☑ Monitor Well ☐ Replacement
	lome:	74	9. WELL DEPTH (completed) Date Started: 2/19/13
2. LOCATION OF WELL: COL	UNTY: Richl	and	37.0 ft. Date Completed: 2/20/13
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	Rd.		Dlam.: 2.0" Height: Above /Below
City: Columbia Z	^{Zip:} 29210		Type:
			Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude:	W81d07.01	2'	2.0in. to 27.0ft. depth
			in. toft. depth
	BLIC SYSTEM	NUMBER:	11. SCREEN: Type: PVC Dlam.: 2.0"
N/A			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: Yes 🗆 !	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 27.0 ft. and 37.0 ft. NOTE: MULTIPLE SCREENS
530.4			ft. and ft. USE SECOND SHEET
Grouted Depth: from ft.	to	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
	*Thickness	Depth to	12. STATIC WATER LEVEL 16.75 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
1200 120 1200 1 D. S. 1100 1 D.	Stratum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
_ 1			14. WATER QUALITY
		- 110	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
		7	Installed from <u>37.0</u> ft. to <u>25.0</u> ft.
		stories e	Effective size #2 Uniformity Coefficient ~1
		00000957	16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>25.0</u> ft. to <u>0</u> ft.
		10	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft, direction
			Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(I)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
MW-16B			Sinner Ashen hul #1356 (fr) Date: 17/13
131			Signed: 186 (17) Date: 111)
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ B	lored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rota	ry 🗆 🗈	riven	
☐ Cable tool ☐ Other			



PROMOTE PROTECT PROSPER			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			
(last) (first)			8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: CC	Zlp: 29	2210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 25	9210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 2/14/13
2. LOCATION OF WELL: CO		land .	39.5 ft. Date Completed: 2/15/13
I .	JON 1. RICH	and	
Name: Broad River Amoco	100.00		10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River	Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface Ú.Ú' ft. ☐ Steel ☐ Other Weight — lb./ft.
DE FAT OF THE OWNER OF THE OWNER			2.0 in. to 29.5 ft. depth Drive Shoe? Yes No
Latitude: N34d03.910' Longitude	: W81d07.0	12'	
			in. toft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 29.5 ft. and 39.5 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from f	t to		ft. andft. USE SECOND SHEET
Clouded Deptil. Holli	*Thickness	Depth to	Sieve Analysis Yes (please enclose) No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 9.05 ft. below land surface after 24 hours
1 official in Dodolipuon	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
Can attached lan			ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
L			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack)
	-		Installed from 39.5 ft. to 27.5 ft. Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
2000 7 300000			Depth: From <u>27.5</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
100			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones	-		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			national service and the service of
			1.1.
MW-17B			signed ruleen Wil # 1356 (For Date: 5/7/13
			Signed Victoria Date:
Margaretta			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted		Bored	If D Level Driller, provide supervising driller's name:
☐ Dug · ☐ Air Rotary ☐ Driven			Maranoarwo Mila i i i i i i i i i i i i i i i i i i
☐ Cable tool ☐ Other		11 mater 20, 2027	
0.000		MARKET MARKET AND	



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			ONI W -24302
Value Control of the	(last) (first)		8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency · · · ☐ Test Well ☑ Monitor Well ☐ Replacement
			- Communication of the Communi
	Home:		9. WELL DEPTH (completed) Date Started: 2/26/13
2. LOCATION OF WELL: CO	DUNTY: Richl	and	13.0 ft. Date Completed: 2/27/13
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Diam.: ∠.U" Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
City: Columbia	Zip: 29210		□ Steel □ Other Weight —
Latitude: N34d03.910' Longitude	· W21407 01	ימי	2.0 In to 3.0 ft. depth Drive Shoe? ☐ Yes ☑ No
2016100.1434403.910 20181000	. 1101407.0		In. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0"
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 3.0 ft. and 13.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: fromt	ft. to	ft.	Sieve Analysis Yes (please enclose) No
90. B. 20 0 0 0	*Thickness	Depth to	12. STATIC WATER LEVEL 0.85 ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	Stratum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 13.0 ft. to 1.5 ft. Effective size #2 Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
AD RESPONDE			Depth: From 1.5 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
(All Section 1)		-0335000-3	Type
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
		NO. 1000 E.A. N. 101 AND A. P. 100	Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		-	The state of the s
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
			· · /4/4 6 51/
MW-18A			Andrew Miller # 1356/fr) 5/7/13
			Signed: Mail Paller
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Dug ☐ Air Rot	1000000	Bored Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	uary LI	2.IVGII	



1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	<i>(</i> ** . 1)	OM W - 2-1302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
		☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 2/26/13
Telephone: Work: Hor		essive Maria
2. LOCATION OF WELL: COUN		35.0 ft. Date Completed: 2/27/13
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River Ro	i.	Type: PVC Galvanized Surface U.U' ft.
Clty: Columbia Zip	29210	☐ Steel ☐ Other Weight — lb_/ft.
Latitude: N34d03.910' Longitude: W	781407 0121	2.0 In. to 25.0 ft. depth Drive Shoe? ☐ Yes ☑ No
1000000	01407.012	In. to ft. depth
3. PUBLIC SYSTEM NAME: PUBL	IC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 2.0"
N/A		Type:
4. ABANDONMENT: Yes No)	Slot/Gauge: 0.010' Length: 10.0'
		ft. andft. USE SECOND SHEET
Grouted Depth: from ft. to		Sieve Analysis Yes (please enclose) No
	hickness Depth to	12. STATIC WATER LEVEL 1.05 ft. below land surface after 24 hours
Formation Description	of Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
Dec. As order	200000	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No Installed from 35.0 ft. to 23.0 ft.
	-	Effective size #2 Uniformity Coefficient ~1
	vocamento e e some le sometimen	16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	p page	Depth: From 23.0 ft. to 0 ft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
3		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)		 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		ing anoston and and report to add to are sout of ing minimage and south
MW-18B		10 (1) 11 - 6 - 6 11
WI W -10D		1346 (for 1/3
		Signed: Well Driller Date:
6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ Bored	. 500
Dug Air Rotary	☐ Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	(TSD)	



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UNI W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 2/20/13
2. LOCATION OF WELL: COUNTY: Richland	15.0 pate Completed: 2/22/13
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 2.0" Type: ☑ PVC ☐ Galvanized Surface U.U' ### Height: Above /Below Surface U.U' ##################################
City: Columbia Zip: 29210	Steel Other Weight
Latitude: N34d03.910' Longitude: W81d07.012'	Steel ☐ Other Weight — lb./ft. 2.0 in. to 5.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Lautage.1454005.510 Longitude. W 81007.012	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMB	R: 11. SCREEN:
N/A	Type: PVC Dlam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑ No	Slot/Gauge: 0.010' Length: 10.0'
41 715 THE TOTAL	Set Between: 5.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from ft. to	
*Thickness Depth	
Formation Description of Bottom	of
Stratum Stratu	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from 15.0 ft. to 3.0 ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other ft. to 0 ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: <u>site</u> ft direction Type
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed ☑
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
W	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	1
MW-19A	1/2 /1 /1/2 #1200 Ch/17
	Signed: Traduction 1886 fm Date: 1118
	Well Driller
Jetted Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	
☐ Cable tool ☐ Other	



1. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	OM11-2-1302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
- John Marie	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 2/20/13
2. LOCATION OF WELL: COUNTY: Richland	34.0 Date Completed: 2/22/13
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.	Diam.: 2.0" Height: Above /Below
City: Columbia Zip: 29210	Type: PVC Galvanized Surface U.U' ft.
Latitude: N34d03.910' Longitude: W81d07.012'	2.0in. to 24.0ft. depth Drive Shoe? ☐ Yes ☑ Noft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER	11. SCREEN: Type: PVC Diam.: 2.0"
N/A	Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑ No	Set Between: 24.0 ft. and 34.0 ft. NOTE: MULTIPLE SCREENS
	ft. andft. USE SECOND SHEET
Grouted Depth: from ft. to ft.	
*Thickness Depth to	12. STATIC WATER LEVEL 9.33 TIL DOLOW land Surface after 24 nours
Formation Description of Bottom o Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
	Yield:
	14. WATER QUALITY
7. 5.094.0 0	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
	Installed from 34.0 ft. to 22.0 ft.
	Effective size #2 Uniformity Coefficient ~1
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From <u>22.0</u> ft. to <u>0</u> ft.
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
143	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm
	TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
Month of the remainded a state of management — exploration of	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	
MW-19B	1 / # 1 / / # 1 / 1 / 1 / 1 / 1 / 1 / 1
The same of the sa	Signed: 1356/12 Date: 17/13
	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
□ Dug □ Air Rotary □ Driven	II D LOVE Dillier, provide supervising dillier's fiditie.
☐ Cable tool ☐ Other	· ·



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini			UIVI W - 243U2
(last)	(first	t)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 2/21/13
2. LOCATION OF WELL: CO	DUNTY: Richla	and	15.0 pate Completed: 2/22/13
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: PVC Galvanized Surface U.U' ft. Steel Other Weight Ib.fft.
		2.0	□ Steel □ Other Weight — Ib.fft. 2.0 In. to 5.0 ft. depth Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d07.01	2'	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTEM	A NUMBER.	
N/A	IDLIC STOTER	I NUMBER.	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 10.0'
			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 3.0 ft. and 15.0 ft. NOTE: MULTIPLE SCREENS
Crowlad Double, from	n 4-		ft. andft. USE SECOND SHEET
Grouted Depth: fromf	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 5.05 ft. below land surface after 24 hours
·	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. PumpingG.P.M.
See attached log	-		Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes □No Bacterial Analysis □ Yes ☑ No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No Installed from 15.0 ft. to 3.0 ft.
			Effective size #2 Uniformity Coefficient ~1
20 0 200			16. WELL GROUTED? ☑ Yes ☐ No
The Control of Control		1	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
Walter Commencer			Depth: From 3.0 ft. to 0 ft.
A CONTRACTOR OF STANDARD			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🗹
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
	1 1		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
3000			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			הוא שומטעשור בווע בווס ופסטר ופ בועם נט בווס ספטרטו וווא אוטישוטעש פווע ספוופו.
			1 .04 6 51
MW-20A			Signed Archenfull #7356 (fm) pate: 17/13
			Signed: Mail Paller
TWOS: Classics			YVeii Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Dug ☐ Air Rot		ored Oriven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	uary 🗆 🗅	ALIVOIT	
and the state of t			



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		78	01VI W -24302
(last)	(firs	st)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zin: 20	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City. Columbia Sizie. SC	Zip. 25	,210	☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 2/21/13
2. LOCATION OF WELL: CO	DUNTY: Richl	and	35.0 ft. Date Completed: 2/22/13
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface O.0 ft.
and Arthrophy (Party Car			Steel Other Weight — b./ft.
Latitude: N34d03.910' Longitude	: W81d07.01	12'	2.0 In. to 25.0 ft. depth Drive Shoe? ☐ Yes ☑ No
			In. to ft. depth .
[1] [[하면 1] [1] 계계 전통 교리가 되었다면 가입하면 가입하면 하는 것이다.	BLIC SYSTE	M NUMBER:	11. SCREEN: Type: PVC Dlam.: 2.0"
N/A			Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 10.0' Set Between: 25.0 ft. and 35.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from f		ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No
PH A DI 172 D 301 PAA	*Thickness	Depth to	12. STATIC WATER LEVEL 4.11 ft. below land surface after 24 hours
Formation Description	of	Bottom of	13. PUMPING LEVEL Below Land Surface.
(4)	Stratum	Stratum	ft. after hrs. Pumping G.P.M.
See attached log	1 1		Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from <u>35.0</u> ft. to <u>23.0</u> ft.
			Effective size #2 Uniformity Coefficient ~1
2019 C	20 Voj - 12 Voj - 13 Voj 20		16. WELL GROUTED? ☑ Yes ☐ No
TOPEN TO THE TOPEN			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>23.0</u> ft. to <u>0</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed 🔀
			Mfr. Name: Model No.:
		-	H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Alfred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1 1 ~
MW-20B			1 1 1 47711 5/1/13
			Signed: Archen Unil #1396 (pr) 5/7/13
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ E	Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rot		Oriven	D Earth Dillion, provide adportioning artifol a fidition
☐ Cable tool ☐ Other	mar P		



. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	227 (1	OM W -24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 292	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Columbia			☐ Test Well ☑ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 3/2/13
2. LOCATION OF WELL: CO	OUNTY: Richla	ınd	12.0 ft. Date Completed: 3/2/13
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River	r Rd.		Diam.: 2.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: PVC Galvanized Surface U.U' ft.
Latitudas NIZA 102 OLOI - Lanatuda	. W01 107 01	~ 1	□ Steel □ Other 2.0 in. to 2.0 ft. depth □ Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude	: W81d0/.01	2.	in. toft. depth
3. PUBLIC SYSTEM NAME: PU	IBLIC SYSTEM	NUMBER:	11. SCREEN:
N/A			Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 10.0'
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010 Length: 10.0 Set Between: 2.0 ft. and 12.0 ft. NOTE: MULTIPLE SCREENS
TANALO CHILLETTI LA 100 LA	110		Set Between: 2.0 ft. and 2.0 ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEET
Grouted Depth: from	ft. to	ft.	Sieve Analysis Yes (please enclose) No
	*Thickness	Depth to	12. STATIC WATER LEVEL 0.85 ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum_	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log	1 1		Pumping Test: ☐ Yes (please enclose) ☑ No
1935	 		Yield:
			14. WATER QUALITY
,			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 12.0 ft. to 1.0 ft.
A44 (1927) 1 44 1.0			Effective size #2 Uniformity Coefficient ~1
78555935 SAY			16. WELL GROUTED? ☑ Yes ☐ No
	1		☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
		500	Depth: From <u>1.0</u> ft. to <u>0</u> ft.
	1 1		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date Installed: Not installed [/]
	1 1		Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
	1		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
7910 - 32 - 24	 		Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285 Columbia, SC 29250
*Indicate Water Bearing Zones		D-01-50 213-0-11-1	Telephone No.: 803-783-3314 Fax No.: 803-783-2587
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			1
MW-21A			Signed: Adentuil #1396 (2) 15/1/12
			Signed: Adeluluel #1356 (2) Date: /7/1>
		AND IN	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ Bo	ored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven		riven	
☐ Cable tool ☐ Other			



1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		ON W-2-302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
		☐ Test Well ☐ Monitor Well ☐ Replacement 9. WELL DEPTH (completed) Date Started: 3/2/13
Telephone: Work: Ho		paragraphy 1377 W appropriate
2. LOCATION OF WELL: COU	NTY: Richland	35.0 ft. Date Completed: 3/2/13
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded Diam.: 2.0" Height: Above /Below
Street Address: 4335 Broad River R	Rd.	Type: I PVC Galvanized Surface U.U' ft.
City: Columbia Zi	p: 29210	☐ Steel ☐ Other Weight — Ib_fft.
Latitude: N34d03.910' Longitude: V	W81d07 012'	2.0 In. to 25.0 ft. depth Drive Shoe? ☐ Yes ☑ No
	.,	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBL	LIC SYSTEM NUMB	11. SCREEN: Type: PVC Diam.: 2.0"
N/A		Type: PVC Diam.: 2.0
4. ABANDONMENT: ☐ Yes ☑ N	lo	Slot/Gauge: 0.010' Length: 10.0' Set Between: 25.0 ft. and 35.0 ft. NOTE: MULTIPLE SCREENS
		ft. andft. USE SECOND SHEET
Grouted Depth: from ft. t	to	ft. Sieve Analysis ☐ Yes (please enclose) ☑ No
	Thickness Depth	
Formation Description	of Bottom Stratum Stratu	
	- Cuda	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
		Yield:
		14. WATER QUALITY
	1	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No Please enclose lab results.
		Production of the design of the second control of the second contr
		15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No. Installed from 35.0 ft. to 23.0 ft.
		Effective size #2 Uniformity Coefficient ~1
	17 - 22 V	16. WELL GROUTED? ☑ Yes ☐ No
		✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>23.0</u> ft. to <u>0</u> ft.
2 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	THE RESERVE AND A STREET AND A STREET	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🗹
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
		Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
Madiente Weter Dender 7		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		
MW-21B		1 1 - 1 4 - 26 - 1
		Signed: Arben hel #1356 (fr) Date: 5/1/3
		Well Driller
76. TYPE: ☐ Mud Rotary ☐ Jetted	☑ Bored	if D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary		To Level Dilliel, provide supervising dillier a fiame.
☐ Cable tool ☐ Other	ENGOPTEE	



Name: Fredrick Cocchini	1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Address: 4335 Broad River Rd. City: Columbia State: SC Zip: 29210 Talephone: Word: Home: 2. LOCATON OF WELL: COUNTY: Richland Name: Broad River Amono Street Address: 4335 Broad River Rd. City: Columbia Zip: 29210 Letitude: N3403.910* Longitude: W81d07.012* 3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER: N/A ABANDONMENT: Yes Zi No Grouted Depth: from ft. to for Stratum Formation Description Thickness of Stratum See attached log 11. SCHEEN: A strategies (1.00) See attached log 12. STATIC WATER LEVEL: 2.10. 13. FURDING LEVEL Edward Languist Zives (1.00) See attached log 14. WICHER QUALITY Chemical Analysis Zives (1.00) See attached log 15. Statum Stratum 16. CASING: Zi Proc deal water languist Zives (1.00) See attached log 16. Statum Stratum 17. WATER CAULITY Chemical Analysis Zives (1.00) See attached log 18. SUBLE: Submersible Zives (1.00) See attached log 19. WELL DEPTH (completed) Date: Zivity North Weight Zivity North Zi				OM W-24302
City: Columbia State: SC Zip: 29210		(TITS	it)	
	4335 Broad River Rd.			
Second Procession Second Procession Second Procession Second Process Second Proce	City: Columbia State: SC	Zip: 29	210	
2. LOCATION OF WELL:		*********		9 WELL DEPTH (completed) Pate Started: 2/14/13
Name: Broad River Amoco Street Address: 4335 Broad River Rd. City' Columbia Zip: 29210 Latitude: N34d03.910' Longitude: W81d07.012' Type: PVC Glean: 2.0' Type: Amount Street Marker N/A ABANDONMENT: Yes No Titickness Office of the Street Marker N/A ABANDONMENT: Yes No Titickness Office of the Street Marker N/A Office of the Street M			•	The property of the second sec
Street Address: 4335 Broad River Rd. Zip: 29210 Latitude: N34403.910' Longitude: W81407.012' Steel Orber Steel Orber Steel Orber Name: NiA Name: NiA Steel Orber Name: NiA	7247	JUNIY: Richl	and	35.0 ft. Date Completed: 2/15/13
Topic				10. CASING: 图 Threaded 图 Weided
Latitude: N34d03.910 Longitude: W81d07.012	City: Call 1:	r Rd.		Type: IZ PVC Galvanized Surface U.U' ft
Latitude: N34d03.910 Longitude: W81d07.012	Columbia	^{219.} 29210		☐ Steel ☐ Other Weight —
1. SCREEN- 1.	Latitude: N34d03.910' Longitude	: W81d07.01	12'	2.0 In. to 25.0 ft. depth
N/A 4. ABANDONMENT:	VALORE TRANSPORTED AND THE THE PLANT OF THE PARTY OF THE			in. to ft. depth
A. ABANDONMENT:		BLIC SYSTE	M NUMBER:	11. SCREEN:
Scrouted Depth: from	N/A			Stat/Course: 0.010' Jonath: 10.0'
Scrouted Depth: from	4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 25.0 ft. and 35.0 ft. NOTE: MULTIPLE SCREENS
Thickness of Stratum S				
See attached log See attached log	Grouted Depth: fromf	ft. to		Sieve Analysis
Stratum Stra	Earmatian Departation		5-17-19-19-19-19-19-19-19-19-19-19-19-19-19-	12. STATIC WATER LEVEL 2.10 ft. below land surface after 24 hours
Pumping Test: Yes (please enclose) No Yield: 14. WATER QUALITY Chemical Analysis Yes No Please enclose in the test No Please	Pormation Description	1000		13. PUMPING LEVEL Below Land Surface.
Pulliping test: Yes (pieuse enclose) No Yes No Yes Incomplete Yes Yes Incomplete Yes Y	See attached log			
14. WATER QUALITY Chemical Analysis Yes No Please enclose lab results.	See attached log			333/351
Chemical Analysis Yes No Please enclose fab results.				
Please enclose lab results. 15. ARTIFICIAL FILTER (filter pack)				
15. ARTIFICIAL FILTER (filter pack)				(4)
Installed from 35.0				1 0 7 3 1 2 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3
Effective size #2	78,754,0		1,000	
16. WELL GROUTED? Yes No Neat Cement				Effective size #2 Uniformity Coefficient ~1
Neat Cement Bentonite Bentonite Other Depth: From 23.0 ft. to 0 ft.	2404 F 37 2414 120327		1000	16. WELL GROUTED? ☑ Yes ☐ No
17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft_ direction Type	50000 S		oracionari e	✓ Neat Cement ✓ Bentonite ☐ Bentonite/Cement ☐ Other
Type				Depth: From <u>23.0</u> ft. to <u>0</u> ft.
Well DisInfected				17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
18. PUMP: Date installed:				Type
Mfr. Name:				
H.P				
TYPE: Submersible Jet (shallow) Turbline Jet (deep) Reciprocating Centrifugal 19. WELL DRILLER: Todd Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Hallow Jetted Well Driller Signed: Hallow Jetted Well Driller If D Level Driller, provide supervising driller's name:				
Jet (deep) Reciprocating Centrifugal				
Address: (Print) P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: MW-22B Address: (Print) P.O. Box 50285 Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: Well Driller If D Level Driller, provide supervising driller's name:				·
P.O. Box 50285 Columbia, SC 29250 *Indicate Water Bearing Zones *[Use a 2nd sheet if needed] 5. REMARKS: MW-22B Signed: Water Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:				19. WELL DRILLER: Todd Allred CERT. NO.: 1446
*Indicate Water Bearing Zones Telephone No.: 803-783-3314 *Zo. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. *Signed: ** **Well Driller** **Well Driller** **Indicate Water Bearing Zones Telephone No.: 803-783-2587 **Zo. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. **Date: **Display: **Displa				Address: (Print) Level: A B C D (circle one)
*Indicate Water Bearing Zones (Use a 2nd sheet if needed) 5. REMARKS: MW-22B Signed: Water Well Driller Signed: Well Driller If D Level Driller, provide supervising driller's name:				
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. 5. REMARKS: MW-22B Signed: Auditorial Provide supervising driller's name: If D Level Driller, provide supervising driller's name:	*Indicate Water Bearing Zones		= 0	The same transfer of the same
5. REMARKS: MW-22B Signed: Archeological #1395 for Date: 5/7/13 Well Driller If D Level Driller, provide supervising driller's name:				
MW-22B Signed: Archeolocic #139 for Date: 5/7/13 Well Driller If D Level Driller, provide supervising driller's name:	(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
Signed: Well Driller If D Level Driller, provide supervising driller's name:	5. REMARKS:			4
Signed: Well Driller If D Level Driller, provide supervising driller's name:	MW-22B			1 10 1 - 1 #no 5 56/12
Well Driller 6. TYPE: Mud Rotary Jetted Bored Dug Air Rotary Driven Well Driller If D Level Driller, provide supervising driller's name:				Signed: Mullimed 1946 (pm) Date: 17/13
□ Dug □ Air Rotary □ Driven				
□ Dug □ Air Rotary □ Driven	6. TYPE: ☐ Mud Rotary ☐ Jetted	☑ E	Bored	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other		tary 🗆 [Driven	53.5 uTV 157:
	☐ Cable tool ☐ Other			



PROMOTE PROTECT PROSPER			A STATE OF THE STA
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last) (first)			WATER TO WATER TO A STATE OF THE STATE OF TH
(last) Address: 4335 Broad River Rd.	(III)	st)	8. USE:
4333 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
	##3999999		9. WELL DEPTH (completed) Date Started: 2/28/13
	Home:		
	OUNTY: Richl	and	40.0 ft. Date Completed: 2/28/13
Name: Broad River Amoco Street Address: 4335 Broad River	- n.i		Diam.: 4.0" Height: Above /Below
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
Columbia	-F 29210		☐ Steel ☐ Other Weight lb./ft.
Latitude: N34d03.910' Longitude	: W81d07.01	12'	4.0 in. to 20.0 ft. depth Drive Shoe? ☐ Yes ☑ No
			in. to ft. depth
The State of the S	BLIC SYSTE	M NUMBER:	11. SCREEN: 4.0"
N/A			Type: PVC Diam.: 4.0" Slot/Gauge: 0.010' Length: 20.0'
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 20.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
			ft. andft. USE SECOND SHEET
Grouted Depth: from			Sieve Analysis Yes (please enclose) No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 17.26 ft. below land surface after 24 hours
Pormation Description	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No
2		*	Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes □No Bacterial Analysis □ Yes ☑ No Please enclose lab results.
7095			10 h material local del Status (SAS Del Status
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No Installed from 40.0 ☐ ft. to 18.0 ☐ ft.
300300000000000000000000000000000000000			Effective size #3 Uniformity Coefficient ~1
over per en			16. WELL GROUTED? ☑ Yes ☐ No
21. E-3.0/E			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 18.0 ft. to 0.0 ft.
100 000 100 000 000 000 000 000 000 000			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Туре
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: Not installed [7]
			Mfr. Name: Model No.:
V		- 0	H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			 WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			יווין באיפטוטון מווע עווס ופאטיני זם נוטס נט נווס טפטנ טו וווין אווטאופטעפי מווע טפוופו.
			1 /1 /1
RW-1			signed Archelle hich # 1356 (frs) Date: 1-/13
			Signed Wall Driller Date:
TVDE: CI Mark Dates:		2000	Treat Dillies
6. TYPE: Mud Rotary Jetted Dug Air Ro		Bored Driven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	,		19



PROMOTE PROTECT PROSPER			7 DEDNITHUMDED.
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini (last)	(firs	st)	
Address: 4335 Broad River Rd.	(iii)		8. USE:
4555 Bload Rivel Rd.			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC	Zip: 29	210	☐ Test Well ☑ Monitor Well ☐ Replacement
V_147004000000000000000000000000000000000	DD908080		9. WELL DEPTH (completed) Date Started: 2/28/13
	Home:		A 50 A 100 M 200 M 2
2. LOCATION OF WELL: CO	DUNTY: Rich	and	40.0 ft. Date Completed: 2/28/13
Name: Broad River Amoco	1665040		10. CASING: ☑ Threaded ☐ Welded Diam.: 4.0" Height: Above /Below
Street Address: 4335 Broad River	r Rd.		Diam.: 4.0 Height: Above /Below Type: ☑ PVC ☐ Galvanized Surface U.U ft.
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface
Latitudo: NI2 4 402 O1 01 Langitudo	. 33701 407 0	101	4.0 In. to 20.0 ft. depth Drive Shoe? ☐ Yes ☑ No
Latitude: N34d03.910' Longitude	. W81dU/.U	12"	in. to ft. depth
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:
N/A	DEIO O I O I E	III NOIIIDEN.	Type: PVC Diam.: 4.0" Slot/Gauge: 0.010' Length: 20.0'
4. ABANDONMENT: ☐ Yes ☑	No		Slot/Gauge: 0.010' Length: 20.0'
ADANDONWENT: LI Yes LO	NU		Set Between: 20.0 ft. and 40.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from	ft to	e	ft. and ft. USE SECOND SHEET
Crodied Deptil. IIOIII	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 16.96 ft. below land surface after 24 hours
0.0000000000000000000000000000000000000	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log			ft. after hrs. Pumping G.P.M.
			Pumping Test: ☐ Yes (please enclose) ☑ No
			Yield:
			14. WATER QUALITY
			Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
*			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
			Installed from 40.0 ft. to 18.0 ft. Effective size $\#3$ Uniformity Coefficient ~1
			16. WELL GROUTED? ☑ Yes ☐ No
			✓ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
			Type Well Disinfected ☐ Yes ☑ No Type: Amount:
3			18. PUMP: Date installed: Not installed 🖸
			Mfr. Name: Model No.: ft. Capacity gpm H.P. Volts Length of drop pipe ft. Capacity gpm
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Todd Allred CERT. NO.: 1446
			Address: (Print) Level: A B C D (circle one)
			P.O. Box 50285
€.			Columbia, SC 29250
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.
RW-2			A 1. 1.0/#1771 5/13
			Signed: Thullulle SSE (72) Date: 1///
		N	Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored		National Control	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Ro	tary 🗆	Driven	are bearing severification on a size of the severification of the
☐ Cable tool ☐ Other		17.	



I. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UMW-24302
(last) (first)		8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 292	110	☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Columbia State: SC Zip: 292	210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 3/1/13
2. LOCATION OF WELL: COUNTY: Richlan	nd	41.0 ft. Date Completed: 3/1/13
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 4.0" Height: Above /Below
City: Columbia Zip: 29210		Type: Z PVC Galvanized Surface U.U' ft.
27210		Steel U Other I Weight
Latitude: N34d03.910' Longitude: W81d07.012	2'	4.0 in. to 21.0 ft. depth Drive Shoe? ☐ Yes ☑ No
		in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM	NUMBER:	11. SCREEN: Type: PVC Diam.: 4.0"
N/A		Stat/Course 0.010' Jonath. 20.0'
4. ABANDONMENT: ☐ Yes ☑ No		Slot/Gauge: 0.010' Length: 20.0' Set Between: 21.0 ft. and 41.0 ft. NOTE: MULTIPLE SCREENS
		ft. andft. USE SECOND SHEET
Grouted Depth: from ft. to	ft.	Sieve Analysis
*Thickness	Depth to	12. STATIC WATER LEVEL 17.41 ft. below land surface after 24 hours
	Bottom of	13. PUMPING LEVEL Below Land Surface.
Stratum	Stratum	ft. after hrs. PumpingG.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
	51	Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from <u>41.0</u> ft. to <u>19.0</u> ft.
		Effective size #3 Uniformity Coefficient ~1
		16. WELL GROUTED? Yes No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From 19.0 ft. to 0.0 ft.
*	- 4	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed 🖸
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
	-	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	11111111	Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
*Indicate Water Bearing Zones		Columbia, SC 29250 Telephone No.: 803, 783, 2314 Env. No.: 803, 783, 2587
maiodie vratei bealing zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	15-524	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	1000	
RW-3		1 1 - () + 12 - (1 - T)
KW-3		Harley 141 #1356/ /m 3/7//3
		Signed: Well Driller Date:
TOTAL CALLS	4	
-3. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Dri ☐ Cable tool ☐ Other	146U	
Li Cable tool Li Culet		



. WELL OWNER INFORMATION:	11 2 12 12 12 12 12 12 12 12 12 12 12 12	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini		UMW-24302
(last)	(first)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	7in: 20210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
ond Sciumbia	Lip. 23210	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 3/1/13
2. LOCATION OF WELL: COUNTY	Richland	40.5 ft. Date Completed: 3/1/13
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 4.0" Height: Above /Below
City: Columbia Zip: 2	9210	Type: ☑ PVC ☐ Galvanized Surface U.U' ft.
100		U Steel □ Other Weight — Ib./ft. 4.0 in. to 20.5 ft. depth Drive Shoe? □ Yes ☑ No
Latitude: N34d03.910' Longitude: W81	d07.012'	in. toft. depth Drive Shoe?
		44
3. PUBLIC SYSTEM NAME: PUBLIC S	SYSTEM NUMBER:	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 20.0'
		Slot/Gauge: 0.010' Length: 20.0'
4. ABANDONMENT: ☐ Yes ☑ No	3.5	Set Between: 20.5 ft. and 40.5 ft. NOTE: MULTIPLE SCREENS
CONC. N. CONC. OI NO.	250	ft. and ft. USE SECOND SHEET
Grouted Depth: from ft. to		Sieve Analysis ☐ Yes (please enclose) ☑ No
	kness Depth to	12. STATIC WATER LEVEL 16.73 ft. below land surface after 24 hours
Formation Description Stra	of Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
	- Caddani	ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: ☐ Yes (please enclose) ☑ No
	3-773 77	Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
		Installed from 40.5 ft. to 18.5 ft.
		Effective size #3 Uniformity Coefficient ~1
		16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
		Depth: From <u>18.5</u> ft. to <u>0.0</u> ft.
1	1	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Туре
		Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date installed: Not installed [2]
		Mfr. Name: Model No.:
	~	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	(2002.01)	Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
		Columbia, SC 29250
*Indicate Water Bearing Zones		Telephone No.: 803-783-3314 Fax No.: 803-783-2587
(Use a 2nd sheet if needed)		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
5. REMARKS:		my direction and this report is true to the best of my knowledge and belief.
KA BENDARAN AND AND TARRAN	*	1 1/1 4 ~
RW-4		Signed: Archarduil #1356(fg) Date:
		Signed: Date:
		Well Driller
TYPE: Mud Rotary Jetted Bored		If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary	☐ Driven	
☐ Cable tool ☐ Other		



. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	UM W-24302
(last) (first)	8. USE:
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 3/4/13
2. LOCATION OF WELL: COUNTY: Richland	38.5 ft. Date Completed: 3/4/13
Name: Broad River Amoco	10. CASING: ☑ Threaded ☐ Welded Diam.: 4.0" Height: Above /Below
Street Address: 4335 Broad River Rd.	Type: PVC Galvanized Surface U.U' ft.
City: Columbia Zip: 29210	Steel Other Weight — Ib./ft.
Latitude: N34d03.910' Longitude: W81d07.012'	4.0 in. to 18.5 ft. depth Drive Shoe? Yes No
1101407.012	in. toft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	11. SCREEN: Type: PVC Diam.: 4.0"
N/A	Type: FVC Diam.: 4.0
4. ABANDONMENT: ☐ Yes ☑ No	Slot/Gauge: 0.010' Length: 20.0' Set Between: 18.5 ft. and 38.5 ft. NOTE: MULTIPLE SCREENS
	ft. andft. USE SECOND SHEET
Grouted Depth: fromft. to ft.	Sieve Analysis Yes (please enclose) No
*Thickness Depth to	12. STATIC WATER LEVEL 17.64 ft. below land surface after 24 hours
Formation Description of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.
See attached log	ft. after hrs. Pumping G.P.M.
See attached log	Pumping Test: ☐ Yes (please enclose) ☑ No
1 1 1	Yield:
	14. WATER QUALITY
	Chemical Analysis ☑ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
	Please enclose lab results.
	15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☑ No
	Installed from $\underline{38.5}$ ft. to $\underline{16.5}$ ft. Effective size $\underline{\#3}$ Uniformity Coefficient $\underline{\sim1}$
	16. WELL GROUTED? ☑ Yes ☐ No
	☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
	Depth: From 16.5 ft. to 0.0 ft.
7/25 € 37/2, 17/25 98/53	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
	Туре
	Well Disinfected ☐ Yes ☑ No Type: Amount:
	18. PUMP: Date installed: Not installed [7]
	Mfr. Name: Model No.:
	H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	Address: (Print) Level: A B C D (circle one)
	P.O. Box 50285
*Indicate Water Bearing Zones	Columbia, SC 29250
indicate vvater bearing zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:	on other seculation and the state of the secular production of the secular sec
RW-5	11 1 1 1/4/276 1/1-
	Signed: Truleulle 7/356/Rm Date: 17/13
A STATE OF THE STA	Well Driller
. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven	in D 2010. Drinoi, provide supervising drinoi s name.
☐ Cable tool ☐ Other	



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

. WELL OWNER INFORMATION:		7. PERMIT NUMBER: UMW-24502
Name: Fredrick Cecchini	03320	U.M. W-24302
	rst)	8. USE:
Address: 4335 Broad River Rd.		☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC Zip: 2	9210	☐ Irrigation ☐ Air Conditioning ☐ Emergency
- Columbia	5.017/5	☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 9/11/12
2. LOCATION OF WELL: COUNTY: Rich	land	65.0 ft. Date Completed: 9/12/12
Name: Broad River Amoco		10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad River Rd.		Diam.: 2.0", 6.0" Height: Above /Below
City: Columbia Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft. ☐ Steel ☐ Other Weight
	4.01	□ Steel □ Other Weight
Latitude: N34d03.910' Longitude: W81d07.0	012'	6.0 in. to 50.0 ft. depth
3. PUBLIC SYSTEM NAME: PUBLIC SYSTE	M NIIMBER.	11. SCREEN:
N/A	.m Rombert	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONMENT: Yes No		Slot/Gauge: 0.010' Length: 5.0'
4. ABANDONWENT. LI TES EL NO		Set Between: 60.0 ft. and 65.0 ft. NOTE: MULTIPLE SCREENS
Grouted Depth: from ft. to	ft.	ft. use second sheet Sieve Analysis ☐ Yes (please enclose) ☑ No
*Thickness		12. STATIC WATER LEVEL 18.21 ft. below land surface after 24 hours
Formation Description of	Bottom of	
Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
See attached log		Pumping Test: Yes (please enclose) No
		Yield:
		14. WATER QUALITY
		Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
		Installed from <u>65.0</u> ft. to <u>58.0</u> ft.
		Effective size #3 Uniformity Coefficient ~1
1970	ļ.,	16. WELL GROUTED? ☑ Yes ☐ No
		☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
	-	Depth: From <u>58.0</u> ft. to <u>0</u> ft.
l l		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction
		Type Well Disinfected ☐ Yes ☑ No Type: Amount:
		18. PUMP: Date Installed: Not Installed Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: Todd Allred CERT. NO.: 1446
	1 15 20000 3	Address: (Print) Level: A B C D (circle one)
		P.O. Box 50285
*Indicate Water Bearing Zones		Columbia, SC 29250 Telephone No.: 803-783-3314 Fax No.: 803-783-2587
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	8702000	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		
DMW-1		4 1. 1. 1/357/A TLIA
		Signed: Andrewleiel#1356 (Fr.) Date: 5/7/13
		Well Driller
. TYPE: ☐ Mud Rotary ☐ Jetted ☑	Bored	If D Level Driller, provide supervising driller's name:
	Driven	
☐ Cable tool ☐ Other		



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

I. WELL OWNER INFORMATION:	7. PERMIT NUMBER: UMW-24502				
Name: Fredrick Cecchini	OW W - 24302				
(last) (first)	8. USE:				
Address: 4335 Broad River Rd.	☐ Residential ☐ Public Supply ☐ Process				
City: Columbia State: SC Zip: 29210	☐ Irrigation ☐ Air Conditioning ☐ Emergency				
- Columbia	☐ Test Weil ☐ Monitor Well ☐ Replacement				
Telephone: Work: Home:	9. WELL DEPTH (completed) Date Started: 12/21/12				
2. LOCATION OF WELL: COUNTY: Richland	65.0 • ft. Date Completed: 1/10/13				
Name: Broad River Amoco	10. CASING: ☐ Threaded ☐ Welded				
Street Address: 4335 Broad River Rd.	Diam.: 2.0", 6.0" Height: Above /Below				
City: Columbia Zip: 29210	Type: ☑ PVC ☐ Galvanized Surface Ū.Ū'				
	Usteel Uther Weight Weight In. to 60.0 ft. depth Drive Shoe? Yes IN No				
Latitude: N34d03.910' Longitude: W81d07.012'	6.0 in. to 50.0 ft. depth				
3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:	44 000000				
N/A	11. SCREEN: Type: PVC Slot/Gauge: 0.010' Length: 5.0'				
4. ABANDONMENT: ☐ Yes ☑ No	Slot/Gauge: 0.010' Length: 5.0'				
4. ABANDONIMENT: LI TES LE NO	Set Between: 60.0 ft. and 65.0 ft. NOTE: MULTIPLE SCREENS				
Grouted Depth: from fl. to ft.	ft. use second sheet				
*Thickness Depth to	Sieve Analysis Yes (please enclose) No 12. STATIC WATER LEVEL 2.40 ft. below land surface after 24 hours				
Formation Description of Bottom of					
Stratum Stratum	13. PUMPING LEVEL Below Land Surface.				
See attached log	ft. after hrs. Pumping G.P.M. Pumping Test: Yes (please enclose) No				
	Yield:				
	14. WATER QUALITY				
	Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No				
	Please enclose lab results.				
	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No				
	Installed from <u>65.0</u> ft. to <u>58.0</u> ft.				
	Effective size #3 Uniformity Coefficient ~1				
	16. WELL GROUTED? ☑ Yes ☐ No				
	☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other				
	Depth: From <u>58.0</u> ft. to <u>0</u> ft.				
	17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction				
	Type Well Disinfected □ Yes ☑ No Type: Amount:				
	18. PUMP: Date installed: Not installed				
	H.P Volts Length of drop pipe ft. Capacity gpm				
	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine				
	☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal				
	19. WELL DRILLER: Todd Allred CERT. NO.: 1446				
	Address: (Print) Level: A B C D (circle one)				
	P.O. Box 50285 Columbia, SC 29250				
*Indicate Water Bearing Zones	Telephone No.: 803-783-3314 Fax No.: 803-783-2587				
	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under				
(Use a 2nd sheet if needed)	my direction and this report is true to the best of my knowledge and belief.				
5. REMARKS:	1				
DMW-2	N 1 / 1/4/27 (5/1)				
	Signed: Adeuluil#1358 (2) Date: [7]/13				
	Well Driller				
-6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored	If D Level Driller, provide supervising driller's name:				
☐ Dug ☐ Air Rotary ☐ Driven	atorno ma care en 1975 de Paradorno de Proposito Villendo Primerio				
☐ Cable tool ☐ Other					



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

. WELL OWNER INFORMATION:			7. PERMIT NUMBER: UMW-24502					
Name: Fredrick Cecchini	1013-11	1- (IDS)	UWW-24302					
(last)	(firs	st)	8. USE:					
Address: 4335 Broad River Rd.			☐ Residential ☐ Public Supply ☐ Process					
City: Columbia State: SC	Zip: 20	2210	☐ Irrigation ☐ Air Conditioning ☐ Emergency					
Columbia Sales Sc	, Lip. 23	210	☐ Test Well ☐ Monitor Well ☐ Replacement					
Telephone: Work:	Home:	a- 199	9. WELL DEPTH (completed) Date Started: 1/14/13					
2. LOCATION OF WELL: C	OUNTY: Rich	land	65.0 Date Completed: 1/21/13					
Name: Broad River Amoco			10. CASING: ☑ Threaded ☐ Welded					
Street Address: 4335 Broad Rive	r Rd.		Diam.: 2.0", 6.0" Height: Above /Below					
City: Columbia	Zip: 29210		Type: ☑ PVC ☐ Galvanized Surface U.U' ft.					
5 50 - 444 OKINE OK 14 14 14 14 14 14 14 14 14 14 14 14 14			Steel Other Weight					
Latitude: N34d03.910' Longitude	: W81d07.0	12'	2.0 in. to 60.0 ft. depth Drive Shoe? ☐ Yes ☑ No 6.0 in. to 50.0 ft. depth					
	JBLIC SYSTE	M NUMBER:	11. SCREEN:					
N/A		VEGETA DESCRIPTION	Type: PVC Diam.: 2.0" Slot/Gauge: 0.010' Length: 5.0'					
4. ABANDONMENT: ☐ Yes ☑	No	25.5%	Set Between: 60.0 ft. and 65.0 ft. NOTE: MULTIPLE SCREENS					
SWELL CONTRICT WAS DESC. 2		100	ft. and ft. USE SECOND SHEET					
Grouted Depth: from	ft. to		Sieve Analysis ☐ Yes (please enclose) ☑ No					
	*Thickness	Depth to	12. STATIC WATER LEVEL 2.10 ft. below land surface after 24 hours					
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.					
	Ouatum	Ouatum	ft. after hrs. Pumping G.P.M.					
See attached log			Pumping Test: ☐ Yes (please enclose) ☑ No					
			Yield:					
			14. WATER QUALITY					
			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No					
		H-4-50-555	Please enclose lab results.					
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No					
			Installed from <u>65.0</u> ft. to <u>58.0</u> ft.					
			Effective size #3 Uniformity Coefficient ~1					
			16. WELL GROUTED? ☑ Yes ☐ No					
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other					
			Depth: From <u>58.0</u> ft. to <u>0</u> ft.					
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. direction					
			Type					
			Well Disinfected ☐ Yes ☑ No Type: Amount:					
			18. PUMP: Date installed: Not installed 🗸					
			Mfr. Name: Model No.:					
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine					
1000		The second of th	TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal					
A 100 A			19. WELL DRILLER: Todd Allred CERT. NO.: 1446 Address: (Print) Level: A B C D (circle one)					
			P.O. Box 50285					
			Columbia, SC 29250					
*Indicate Water Bearing Zones			Telephone No.: 803-783-3314 Fax No.: 803-783-2587					
(1) 0-d -b4 V d-1)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under					
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.					
5. REMARKS:	1 1							
DMW-3			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
			Signed 2011111111 1956 (M) Date: > /7/13					
N 10 10 10 10 10 10 10 10 10 10 10 10 10			Well Driller					
Jetted □ Mud Rotary □ Jetted	2 E	Bored	If D Level Driller, provide supervising driller's name:					
☐ Dug ☐ Air Ro	tary 🗆 t	Oriven						
☐ Cable tool ☐ Other								

APPENDIX FAQUIFER EVALUATION RESULTS

建筑的设计的设计 等的过去式和	SUMMARY	fof SLUG	TEST	a kalif kurk	85 ·
Department of		'H CAROLINA d Environme		ol (DHEC)	
Site Data :					
SITE ID: #	cc	DUNTYR	chland		
FACILITY NAME	-oad Ri	ver Amoce	>		<u>.</u>
Slug Data					
See Appendix Figure (water level logs, etc.) (Co Water Level Recovery Data was measured (Hermit Data Logger, Manual Complete the following table for each well to COMPLETE A SECOND SH	omplete as ap by <u>Manna</u> ally with Wate tested.	ppropriate). 	level indition, etc.) (List	اَدِم لِمَاءِ ht Method).	
Slug Test Conducted in well(s) number	MW-17B	Duw-2	N N N		
Initial Rise/Drawdown in well (feet)	23.59	26,90	•		
Padius of Well Casing (feet)	0.08	0.08			
Effective Radius of Well (feet)	0.25	0.19			
Static Saturated Aquifer Thickness (feet)	50.00	50.00			
Length of Well Screen (feet)	10.00	5.00	*		
Static Height of Water Column in Well (ft) (bottom of screen to semi-confining unit @ +	9.00	35.00			
	40)				
Calculations			to an englishma papalaine, same o		
See Appendix F Table Figure	for calcu	ulations. (Comp	olete as appr	opriate).	
he method for aquifer calculations was	4311	^	THE CASE OF THE PROPERTY OF THE PARTY OF THE		er, etc.
Calculated values by well were as follows:			2000		
Slug Test Conducted in well(s	s) number	MW-17B	DMW-2		
Hydraulic Conductivity (F	t/sec.) L	2.72E-7	1.01 E-7		
hickness of the aquifer used to calculate hy he aquifer is confined semi-	draulic condu	uctivity was	fee	t	

SUMMARY of SLUG TEST

feet per year based on

soil (list type i.e., silty sand ,clay, etc).

RISK.WK3 (REV. 11/95)

The estimated seepage velocity is 1.07 a hydraulic conductivity of 1.87 E - 7

. Witter I'V HOUSE HOUSE

appropriate of 32 per cent for clayer silf

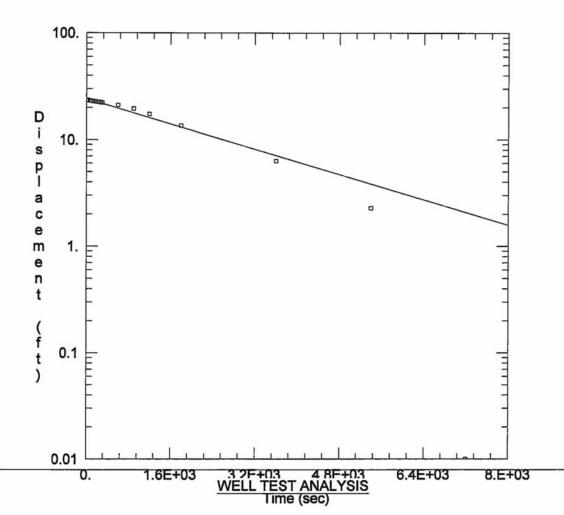
Slug Test Data for AQTESOLV Broad River Amoco (UST Permit #11946) Performed in Monitoring Well MW-17B March 8, 2013

Static Depth to Water (ft.) = Total Depth (ft.) =

9.05

39.5

Elapsed Time (sec)	Depth to Water (feet)	Displacement (feet)
0	32.64	23.59
5	32.63	23.58
10	32.58	23.53
15	32.56	23.51
20	32.54	23.49
30	32.52	23.47
60	32.35	23.30
90	32.21	23.16
120	32.10	23.05
150	31.94	22.89
180	31.81	22.76
210	31.70	22.65
240	31.60	22.55
270	31.45	22.40
300	31.30	22.25
600	30.10	21.05
900	28.60	19.55
1200	26.43	17.38
1800	22.59	13.54
3600	15.35	6.30
5400	11.32	2.27
7200	9.06	0.01



PROJECT INFORMATION

Company: ARM Environmental Services

Client: Cecchini Project: 06-414.1-12

Test Location: Broad River Amoco

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-17B)

Initial Displacement: 23.59 ft Wellbore Radius: 0.25 ft

Screen Length: 10. ft Gravel Pack Porosity: 0.3 Casing Radius: 0.083 ft Well Skin Radius: 0.25 ft

Total Well Penetration Depth: 9. ft

SOLUTION

Aquifer Model: Confined

K = 2.716E-07 ft/sec

Solution Method: Bouwer-Rice

y0 = 24.21 ft

2nd ZONE AQUIFER CALCULATIONS

HYDRAULIC GRADIENT

The top of casing elevations of each of the permanent groundwater monitoring wells were established by direct survey. The elevation of the aquifer was then calculated and utilized to evaluate the primary direction of groundwater flow and the hydraulic gradient in the water bearing formation at the site

Calculations

Based on water elevation change per unit distance as measured from MW-18B to MW-15B as presented on Figure 5B:

SEEPAGE VELOCITY

Vs = Seepage Velocity

K = Hydraulic Conductivity = 2.72 E-7 ft/sec

Hydraulic conductivity calculated from slug test conducted in MW-17B.

n = Effective Porosity (assumed) = 0.32 (clayey silt to clayey sand)

$$Vs = \frac{I \times K}{n}$$

$$Vs = \frac{(3.98E - 2 \text{ ft/ft})(2.72E - 7 \text{ ft/sec})}{0.32}$$

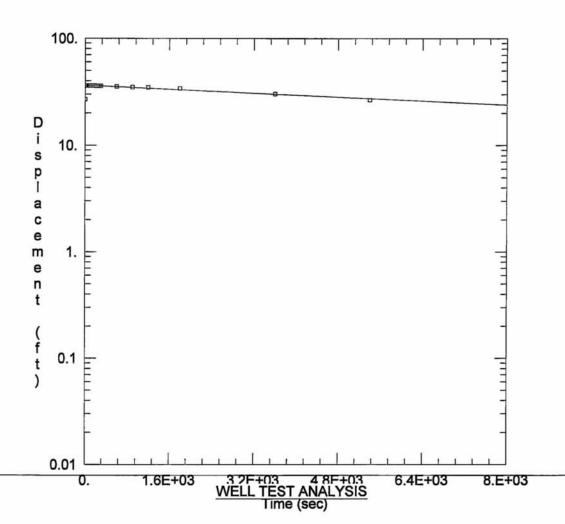
$$Vs = 3.38E - 8 \text{ ft/sec}$$

$$Vs = 1.07 \text{ ft/yr}$$

Slug Test Data for AQTESOLV Broad River Amoco (UST Permit #11946) Performed in Monitoring Well dMW-2 March 8, 2013

Static Depth to Water (ft.) = 9.40 Total Depth (ft.) = 65.0

Elapsed Time (sec)	Depth to Water (feet)	Displacement (feet)
0	45.70	36.30
5	45.69	36.29
10	45.68	36.28
15	45.67	36.27
20	45.66	36.26
30	45.65	36.25
60	45.62	36.22
90	45.58	36.18
120	45.55	36.15
150	45.51	36.11
180	45.47	36.07
210	45.42	36.02
240	45.40	36.00
270	45.36	35.96
300	45.33	35.93
600	44.97	35.57
900	44.48	35.08
1200	44.30	34.90
1800	43.50	34.10
3600	39.80	30.40
5400	36.01	26.61



PROJECT INFORMATION

Company: ARM Environmental Services

Client: Cecchini Project: 06-414.1-12

Test Location: Broad River Amoco

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (DMW-2)

Initial Displacement: 26.9 ft Wellbore Radius: 0.19 ft

Wellbore Radius: 0.19 ft Screen Length: 5, ft

Gravel Pack Porosity: 0.3

Casing Radius: 0.083 ft

Well Skin Radius: 0.2 ft

Total Well Penetration Depth: 35. ft

SOLUTION

Aquifer Model: Confined

K = 1.007E-07 ft/sec

Solution Method: Bouwer-Rice

y0 = 36.49 ft

2ND ZONE AQUIFER CALCULATIONS (deeper depth)

HYDRAULIC GRADIENT

The top of casing elevations of each of the permanent groundwater monitoring wells were established by direct survey. The elevation of the aquifer was then calculated and utilized to evaluate the primary direction of groundwater flow and the hydraulic gradient in the water bearing formation at the site

Calculations

Based on water elevation change per unit distance as measured from DMW-3 to DMW-1 as presented on Figure 5C:

SEEPAGE VELOCITY

Vs = Seepage Velocity
 K = Hydraulic Conductivity = 1.01 E-7 ft/sec
 Hydraulic conductivity calculated from slug test conducted in DMW-2.
 n = Effective Porosity (assumed) = 0.30 (clayey sand)

$$Vs = \frac{I \times K}{n}$$

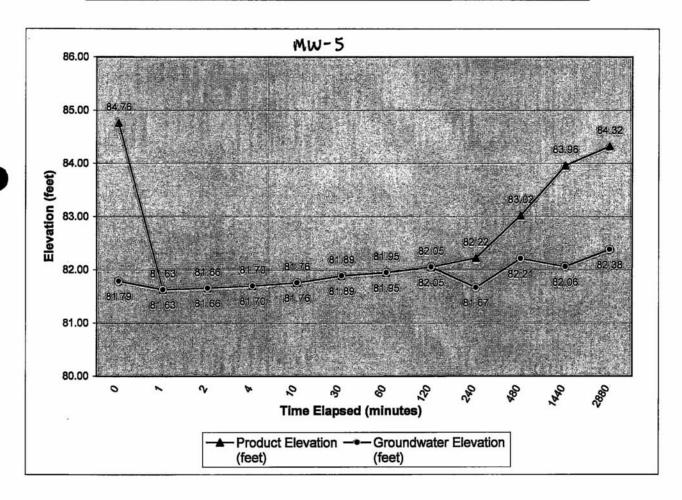
$$Vs = \frac{(1.27E - 2 \text{ ft/ft})(1.01E - 7 \text{ ft/sec})}{0.30}$$

$$Vs = 4.28E - 9 \text{ ft/sec}$$

$$Vs = 0.13 \text{ ft/yr}$$

Appendix F – Free Product Recovery Rate Test March 11 through March 13, 2013

		Groundwater Elevation (feet)			
0	84.76	81.79	2.97		
1	81.63	81.63	0.00		
2	81.66	81.66	0.00		
4	81.70	81.70	0.00		
10	81.76	81.76	0.00		
30	81.89	81.89	0.00		
60	81.95	81.95	0.00		
120	82.05	82.05	0.00		
240	82.22	81.67	0.55		
480	83.02	82.21	0.81		
1440	83.96	82.06	1.90		
2880	84.32	82.38	1.94		



APPENDIX GDISPOSAL MANIFEST(S)

NON-HAZARDOUS WASTE MANIFEST	Generator ID Number		of 3. Emergency Respon			racking Nu	04	
5. Generator's Name and Mail	ARM ENVIRONMENTAL PO BOX 50285 COLUMBIA, SC 29250		BROAD RIVER	BP RIVER RD.	a tiporepai de estado - P oblo estad	ress)		
Generator's Phone 793 331. 6. Transporter 1 Company Nat	ne		COLUMBIA, SC	<u></u>	U.S. EPA ID	Number		
7. Transporter 2 Company Nar	K TANK SERVICES, INC.				U.S. EPA ID	Number		
8. Designated Facility Name at Facility's 1802-418-5314	T K TANK SERVICES 425 BOULEVARD RI SUMTER, SC				U.S. EPA ID) Number		
9. Waste Shipping Nam	ne and Description	100000	10. Co	ntainers	11. Total Quantity	12. Unit Wt./Vol.		9-250
1. nonhazardous pet	roleum contaminated soil/pr	oduct	001	12	23	om		
2.								
3.								
							1	的阿特特
4. 13. Special Handling Instruction	ens and Additional Information							
Special Handling Instruction	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co	that the contents of this consignme indition for transport according to ap	nt are fully and accurately oplicable international and n	described above	e by the proper sinental regulation	hipping nam	Mon	th Day
13. Special Handling Instruction 14. GENERATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/1 15. International Shipments	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name	that the contents of this consignme indition for transport according to ap	oplicable international and no Signature om U.S. Port of	entry/exit:	e by the proper s nental regulation	itipping nam	Mon	
Special Handling Instruction Special Handling Instruction Special Handling Instruction 14. GENERATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name Import to U.S. onts only): ent of Receipt of Materials lame	Indition for transport according to ap	opticable international and rising signature om U.S. Port of Date is	national governm	nental regulation	chipping names.	Mon 8	Day
13. Special Handling Instruction 14. GENEHATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/15. International Shipments Transporter Signature (for explicit in the shipment of the ship	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name Import to U.S. onts only): ent of Receipt of Materials lame A Game	Indition for transport according to ap	opticable international and rising signature om U.S. Port of Date le	entry/exit:	nental regulation	s. De	Mon Mon	Day Day 1
14. GENERATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/15. International Shipments Transporter Signature (for exp 16. Transporter Acknowledgm Transporter 1 Printed/Typed No. 17. Discrepancy Indication States 17. Discrepancy Indication States 17. Discrepancy Indication States 18. Special Printed/Typed No. 17. Discrepancy Indication States 18. Special Printed/Typed No. 17. Discrepancy Indication States 18. Special Printed/Typed No. 18. Discrepancy Indication States 18. Discrepancy Indication Indicatio	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name Import to U.S. onts only): ent of Receipt of Materials lame A Game	Indition for transport according to ap	opticable international and rising signature om U.S. Port of Date les Signature	entry/exit:	nental regulation	2 ejection	Mon Mon	Day Day 1
13. Special Handling Instruction 14. GENERATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/1 15. International Shipments Transporter Signature (for exp 16. Transporter Acknowledgm Transporter 1 Printed/Typed N Transporter 2 Printed/Typed N 17. Discrepancy	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name Import to U.S. orts only): ent of Receipt of Materials lame A Cuantity pace Quantity	Indition for transport according to ap	opticable international and risignature om U.S. Port of Date les Signature Residue	entry/exit:	Partial R	2 ejection	Mon Mon	Day Day Day The Day Full Rejection
14. GENERATOR'S/OFFERO marked and labeled/placar Generator's/Offeror's Printed/15. International Shipments Transporter Signature (for exp 16. Transporter Acknowledgm Transporter 2 Printed/Typed N 17. Discrepancy 17a. Discrepancy Indication S 17b. Alternate Facility (or Generality's Phone:	R'S CERTIFICATION: I hereby declare ded, and are in all respects in proper co Typed Name Import to U.S. orts only): ent of Receipt of Materials lame A Cuantity pace Quantity	Indition for transport according to ap	opticable international and risignature om U.S. Port of Date les Signature Residue	entry/exit:	Partial R	2 ejection	Mon Mon Mon	Day Day Day The Day Full Rejection

CERTIFICATE OF DISPOSAL

certify to all that

T K TANK SERVICES, INC.

OF TONS 11.5 Contaminant NONHAZARDOUS PETROLEUM CONTAMINATED SOIL

This is to certify that the above water/product has been disposed of in accordance with EPA regulations on petroleum contaminated soil/product

BROAD RIVER BP

8/29/12 Date

Sionature

1		NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number		2. Page 1 of	3. Emergency Respons	e Phone	4. Waste	Tracking Nu	mber		
	Gen	erat &93 h 7r&3-3314	ARM ENVIRONMEN PO BOX 30285 COLUMBIA, SC 29		4	Generator's Site Address BROAD RIVER BP 355 BROAD RIVE COLUMBIA, SC	,	han mailing add	(ress)			
	6. Tr	ransporter 1 Company Nam T K 7	ne FANK SERVICES,IN	C .				U.S. EPA ID	Number			
200		ransporter 2 Company Nan						U.S. EPA ID	Number			
2012-2015		esignated Facility Name ar 803-418-5314 ity's Phone:	d Site Address T K TANK SERV 425 BOULEVAR SUMTER, SC	ICES INC. D RD.				U.S. EPA ID	Number			
2.00	racii	9. Waste Shipping Nam	e and Description			10. Cont		11. Total Quantity	12. Unit			
GENERALDH	NC	NHAZARDOUS S	OIL CUTTINGS FRO	M WELL DRILLIN	NG	32	Туре	3Z	WL/VOL			: ***;
TO THE OWNER WHEN		2										
2 200		3.								3		
1000		4.										
TO STATE OF THE PARTY OF THE PA	n	BENERATOR'S/OFFEROF narked and labeled/placard erator's/Offeror's Printed/Ty	n'S CERTIFICATION: I hereb led, and are in all respects in roed Name	y declare that the contents proper condition for transp	ort according to applic	tre fully and accurately decable international and national	scribed above i	by the proper st ental regulations	3.	Month		ged, Yea
		nternational Shipments	Allred Import to U.S.	74.7	Export from	Todal K	ll L		2	48	2013	
	Color Color	sporter Signature (for exporter Acknowledgme	erts only):			Date leav			1			
2	EVÆ	SPANORED Typed Na	18 A. C	Ga 66	e is	S terre	a	2	la 2	28fonth	2018	Yea
inginorement.		sporter 2 Printed/Typed Na	ime		Siç	nature				Month	Day	Yea
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DESIGNALED FACILITY	Facil	Alternate Facility (or Gene		U				U.S. EPA ID	Number			
1	170.	Signature of Alternate Fac	illy (or Generator)							- Month	Day	Yea
Ψĺ	1								200	· and a second		
											51. IS	
		Designated Facility Owner of ed/Typed Name	or Operator: Cartification of re		, Qir	mature	m	///	16	2 28 Month	1	Yes

1		NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Numbe	r	2. Page 1 of	3. Emergency Response	Phone	4. Waste	Tracking Nur	nber 72	
	5.	Generator's Name and Mailin	ng Address			Generator's Site Address	(if different th	an mailing add	ress)		
V. D. Color Section of		enerat&C3h73&3-3314	ARM ENVIRONIMI PO BOX 50285 COLUMBIA, SC 2		43	ROAD RIVER BP 355 BROAD RIVER OLUMBIA, SC	RD			- 32 30	
ZON MILE	6.	Transporter 1 Company Nam T K T	ne ANK SERVICES,	INC.				U.S. EPA ID) Number		
200		Transporter 2 Company Nam					122.0	U.S. EPA ID	Number		
- Company	8.	Designated Facility Name an	d Site Address T K TANK SEI	RVICES INC.				U.S. EPA ID	Number		
Marie Sanda		803-418-5314 acility's Phone:	425 BOULEV/ SUMTER, SC	AKU KU.				1			9 E-3-180/55
2000	_	9. Waste Shipping Name	e and Description	Control of the Contro		10. Contain		11. Total Quantity	12. Unit Wt./Vol.		7
-	п	non fazardous petrole	eum contaminated	soll/product		No.	<i>Om</i>	Quality	TVL/VOI.		
GENERATOR		A		ALBERT EXCENSES		10					
- GEN		2.			7.5					1	
ALC: NO	-	3.							91		
E-Schaner			ALU-				/ (4 -		***	<i>j</i>	- 1
4		4.	-							i i	
(O) de	13	3. Special Handling Instruction	ns and Additional Informat	lion			- :		1_1		1
A CONTRACTOR OF STATE	14	4. GENERATOR'S/OFFEROR	R'S CERTIFICATION: 1 h	ereby, declare that the contents o	f this consignment a	re fully and accurately desc	l evoda bedin	by the proper s	hipping name	, and are classified	i, packaged, Day Year
A SECTION AS		marked and labeled/placard enerator's/Offeror's Printed/Ty	ied, and are in all respect yped Name	is in proper condition for transport	t according to applic Sig	able international and natio	nal governme	ental regulation	s. +	Month	Day Year
LEN		5. International Shipments	Import to U.S.		Export from L				1		
9		ransporter Signature (for expo 6. Transporter Acknowledgme				Date leavir	g U.S.:				V
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- Contract of the Contract of		910	NS DI	weix	41	Manifest Reference N	umber:	20			
ILITY	17	7b. Alternate Facility (or Gene	aralor)					U.S. EPA ID	Number.	iot.	
DESIGNATED FACILITY	Ft	acility's Phone: 7c. Signature of Alternate Fac	cility (or Generator)				•			Month	Day Year
GNAT	L	10)	797				30	and the state of	-544	1.1	
DESI							. :				
	-			of receipt of materials covered b	Cla				- 1		013 Day Year
Y	P	rinted/Typed Name	Jonn	y Keels	Slg	nature To	m	210	ub	Month 3	413
16	9-E	BLC-0 5 11977 (Rev	, 9/09)	1			ø	ESIGNAT	ED FAC	ILITY TO GI	ENERATOR

CERTIFICATE OF DISPOSAL

Certify to all that

T K TANK SERVICES, INC.

#TONS

25 TONS

Contaminant: NONHAZARDOUS PETROLEUM CONTAMINATED SOIL/PRODUCT

This is to certify that the above SOIL/product has been disposed of
In accordance with EPA regulations on PETROLEUM CONTAMINATED SOIL

BROAD RIVER BP

3/04/13		Tomy luk
DATE	SIGNATUR	RE

NON-HAZARDOUS WASTE MANIFEST

Plea	se print or type (Form designed for use on elite (12 pitch) typewriter)			n enderer		
	NON-HAZARDOUS WASTE MANIFEST 1. Generator's US EPA ID No		-0.500	Manifest Document No	851	2. Page 1 of
	3. Generator's Name and Malling Address Broad River A 4335 Broad R 4. Generator's Phone () Columbia 150	mocs		06	-414.1-	12
1	4. Generator's Phone () Calcumbra , SC	20210				
Ó	5. Transporter 1 Company Name 6.	US EPA ID Number		A, State Trans	sporter's ID	_
•	ARM ENVIRONMENTAL SERVICES, INC.	\$99C3H\$T\$P\$T\$C\$EC\$13059070010009		B. Transporter	1 Phone 803-783-3	3314
7	7. Transporter 2 Company Name 8.	US EPA ID Number		C. State Trans	sporter's ID	10
	C Designated Section 2016 Address	US EPA ID Number		D. Transporte		
	9. Designated Facility Name and Site Address U.S. Water Accovery 10.	OS EPA ID Number		E. State Facili	ty's ID	
	435 old. Mt. Holly Rd.			F. Facility's Pt	none	
7	435 old. Mt. Holly SC 29445			F. Facility's Pt		
6	11. WASTE DESCRIPTION		12. Co No.	ntainers Type	13. Total Quantity	14. Unit Wt./Vol.
1 100	a. NON-HAZARDOUS PETROLEUM CONTAMINATEI	OSOIL				
	b.					
GEZ	NON-HAZARDOUS PETROLEUM CONTAMINATED	WATER	1	14	110	9-16
E	C.					
12						
P	d.					
2 5						t
WASTE					Commercial	
	G. Additional Descriptions for Materials Listed Above			H. Handling C	odes for Wastes Listed Ab	oove
N-HAZARDOUS						
AR						
3	15. Special Handling Instructions and Additional Information					
Ì	ARM ENVIRONMENTAL SERVICES, INC.					
	PO BOX 50285					
ON NO	COLUMBIA, SC 29250					
				7 - 7		
	16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this ship in proper condition for transport. The materials described on this manifest are no	ment are fully and accurately described at subject to federal hazardous waste reg	and are in pulations.	all respects		
	-				Г	Date
	Printed/Typed Name as agent for:	Signature M-	7		М	onth Day Year
T	17. Transporter 1 Acknowledgement of Receipt of Materials	war.	Van	b		Date
Ř	Printed/Typed Name				onth Day Year	
AZ@PORT	Billy Pitterger	ger			<u> 51313</u>	
ફ	18. Transpolter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	0		M	onth Day Year
Ė				1987		
F	19. Discrepancy Indication Space					
				44 S 44		
Ļ	20. Facility Owner or Operator; Certification of receipt of the waste materials covered	d by this manifest, except as noted in ite	m 19.		Г	Date
Ť	Printed/Typed Name	Signature	10	1/2	/ 2	onth Day Year

APPENDIX H LOCAL ZONING REGULATIONS

Local Zoning Regulations

Officials of the County of Richland, the City of Columbia Water Works and the SCDHEC EQC Office indicated that no restrictions are enforced in the site study area regarding the installation of water supply wells for drinking water and/or irrigation. For commercial and industrial properties, no restrictions are enforced regarding the installation of water supply wells for irrigation or as source of process water. A permit application is required for commercial and industrial properties regarding the installation of water supply wells (public) as a drinking water source. The City of Columbia is served by a municipal water supply system.

No potable water wells or irrigation wells were identified within 1,000 feet of the contaminant plume from the subject site while conducting this assessment or during the potential receptors survey completed during the Tier I Assessment in 2011.

APPENDIX IFATE & TRANSPORT MODELING

APPENDIX J PROPERTY ACCESS DOCUMENTATION



ASSESSMENT & REMEDIAL SERVICES

amenv.com

September 18, 2012

Jim R. Rice, Jr. 22 Caddis Creek Ct. Irmo, SC 29063

Re: Request for Access to Private Property: 1257 Dothan Rd. in Columbia, SC

Richland Co. Tax Map # R06108-04-27

Dear Mr. Rice;

The South Carolina Department of Health and Environmental Control (DHEC) has requested additional environmental assessment at the Broad River Rd. BP gas station site. The gas station is located at the 4335 Broad River Rd. at the intersection of Dothan Rd. in Columbia, South Carolina. The site is designated as DHEC Underground Storage Tank (UST) Permit # 11946. ARM Environmental Services, Inc. (ARM) has been contracted to conduct the assessment required by DHEC.

The gas station utilizes underground storage tanks for the storage of fuel for retail sales. Previous assessments conducted at the site and surrounding properties have shown elevated levels of petroleum contamination in the groundwater beneath the gas station and other private properties. DHEC has required that the extent of the contamination be completed defined both horizontally and vertically.

In order to complete the assessment required by SC DHEC, it is necessary to install groundwater monitoring wells on your property.

The monitoring wells will be installed flush with the ground surface in such a way as not to interfere with lawn equipment or vehicle / foot traffic. The well manhole covers will be bolted and locked for security.

The work required is being done under the direction of SC DHEC and is being funded by the former owner/operator of the underground storage tanks and the State of South Carolina SUPERB Fund in order to protect human health and the environment.

Request for Access to Private Property Broad River BP gas station site Columbia, Richland County, South Carolina

Your permission for site access would be greatly appreciated and will help us to evaluate and monitor the area of ground water pollution in a timely manner.

We appreciate your assistance in this matter. If you should have any questions or need additional information, please do not hesitate to contact me at 800 831-7803 or mfaris@armenv.com.

Sincerely,	
ARM Environmental Services, Inc	٥.
1 -1 / 7	- ius
Michael L. Faris, P.G.	
Senior Geologist	

- Please return this form via fax, email, or mail
- Please provide a phone number so that I may contact you regarding the proposed schedule for the work.
 803-917-834/

Richland Co. Tax Map # R06108-04-27

Property Access Granted

Property Access Denied

803 896-4114 office / 803 917-8341 cell Telephone # (daytime)

Signature

9/19/12

Date

APPENDIX K SCDHEC CONTRACTOR CHECKLIST

Broad River Amoco Tier II Assessment UST Permit #11946, CA #42065

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	×		
2	Is UST Owner/Operator name, address, & phone number provided?	×		
3	Is name, address, & phone number of current property owner provided?	×		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	×		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	×		
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	×		
7	Has the facility history been summarized?	×		
8	Has the regional geology and hydrogeology been described?	×		
9	Are the receptor survey results provided as required?	×		
10	Has current use of the site and adjacent land been described?	×		
11	Has the site-specific geology and hydrogeology been described?	X		
12	Has the primary soil type been described?	×		
13	Have field screening results been described?	×		
14	Has a description of the soil sample collection and preservation been detailed?	×		
15	Has the field screening methodology and procedure been detailed?	×		
16	Has the monitoring well installation and development dates been provided?	×		
17	Has the method of well development been detailed?	×		
18	Has justification been provided for the locations of the monitoring wells?	×		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	×		
20	Has the groundwater sampling methodology been detailed?	×		
21	Have the groundwater sampling dates and groundwater measurements been provided?	×		
22	Has the purging methodology been detailed?	×		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	×		
24	If free-product is present, has the thickness been provided?	×		
25	Does the report include a brief discussion of the assessment done and the results?	×		
26	Does the report include a brief discussion of the aquifer evaluation and results?	×		
27	Does the report include a brief discussion of the fate & transport models used?			×

Broad River Amoco Tier II Assessment UST Permit #11946, CA #42065

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			×
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			×
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			×
31	Have recommendations for further action been provided and explained?	×		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)	×		
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	×		
34	Has the current and historical laboratory data been provided in tabular format?	×		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?	×		
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			×
37	Has the topographic map been provided with all required elements? (Figure 1)	×		
38	Has the site base map been provided with all required elements? (Figure 2)	×		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	×		
40	Has the site potentiometric map been provided? (Figure 5)	×		
41	Have the geologic cross-sections been provided? (Figure 6)	×		
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			×
43	Has the site survey been provided and include all necessary elements? (Appendix A)	×		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	×		
45	Is the laboratory performing the analyses properly certified?	×		
46	Has the tax map been included with all necessary elements? (Appendix C)	×		
47	Have the soil boring/field screening logs been provided? (Appendix D)	×		
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)	×		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)	X		
50	Have the disposal manifests been provided? (Appendix G)	×		
51	Has a copy of the local zoning regulations been provided? (Appendix H)	×		
52	Has all fate and transport modeling been provided? (Appendix I)			×
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)	×		
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	×		

Broad River Amoco Tier II Assessment UST Permit #11946, CA #42065

Explanation for missing and incomplete information?						
* * * * * * * * * * * * * * * * * * *						
1000 March						
· · · · · · · · · · · · · · · · · · ·						



Shrader, Art A. <shradeaa@dhec.sc.gov>

Re: Broad River Amoco; UST Permit #11946.

1 message

Jim R. Rice <ricejr@dhec.sc.gov>
To: "Shrader, Art A." <shradeaa@dhec.sc.gov>

Thu, Jun 6, 2013 at 12:09 PM

Thanks Art, I appreciate it.

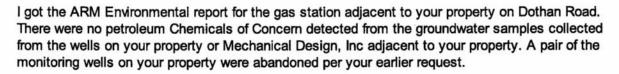
Jim

Sent from my iPad

On Jun 6, 2013, at 11:17 AM, "Shrader, Art A." <shradeaa@dhec.sc.gov> wrote:

Jim,

FYI.



Art Shrader

----- Forwarded message -----

From: Shrader, Art A. <shradeaa@dhec.sc.gov>

Date: Thu, Mar 21, 2013 at 7:24 AM

Subject: Re: Broad River Amoco; UST Permit #11946

To: Michael Faris <mfaris@armenv.com>
Cc: "Jim R. Rice" <ricejr@dhec.sc.gov>

Mike.

I went out visiting sites in Richland and Lexington counties yesterday afternoon.

I agree with Jim Rice that there are too many wells in his front yard (28 ft. and 9 in. from the pad of MW-15B to the pad of MW-16B). After your comprehensive sampling event please abandon MW-16A and 16B in accordance with the QAPP (well grouted to 6" of the surface, pads removed, and soil replaced to bring all to grade). Yesterday the well covers were reversed (MW-16A ob MW-16B). I'll pay for well install and abandonment.

Please check to make sure the well id plates are on the four original wells also. It appeared the well id plate was gone from MW-2.

Are you planning on installing another product recovery well? There was an "X" marked in the vicinity of MW-2 but no recovery well installed in that area.

Thanks

Art

On Wed, Feb 27, 2013 at 9:10 AM, Michael Faris <mfaris@armenv.com> wrote:

Art.

We are drilling at the site again. We plan to drill the recovery wells starting this week and hope to finish by mid-week next week onsite. We were scheduled to install the four monitoring wells behind the day care last weekend, but it was simply too wet. We will attempt to install those four this weekend.

Thanks for speaking with Jim Rice regarding his adjacent property. He doesn't like having four concrete pads in the front yard of that property, but is agreeable to letting us finish.

Please find attached a cost addendum request for the job. Let me know if you have any questions. If at all possible, the goal is to complete the installation and development by mid-week next week and begin the purging and sampling process ASAP thereafter.

Michael

Michael L. Faris, P.G. ARM Environmental Services, Inc. 1210 First Street South Columbia, SC 29209 mfaris@armenv.com ph: 803 783-3314 cell: 803 269-3913

Arthur Shrader, Hydrogeologist Assessment Section Underground Storage Tank Management Division Bureau of Land & Waste Management

tel: (803) 896-6669 fax: (803) 896-6245

Please Note We Have Moved to Bull Street.

Arthur Shrader, Hydrogeologist Assessment Section Underground Storage Tank Management Division Bureau of Land & Waste Management tel: (803) 898-0586

tel: (803) 898-0586 fax: (803) 898-

Table 2 – Potentiometric Data Historical and March 6 & 25, 2013

Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)
MW-1	1/21/2011	40.0	20.0 - 40.0	101.84	20.92	N/A	N/A	N/A	80.92
	3/5/2011	40.0	20.0 - 40.0	101.84	14.45	N/A	N/A	N/A	87.39
	3/6/2013	40.0	20.0 - 40.0	101.84	18.62	N/A	N/A	N/A	83.22
MW-2	3/5/2011	28.0	18.0 - 28.0	101.13	13.50	N/A	N/A	N/A	87.63
	3/6/2013	28.0	18.0 - 28.0	101.13	17.66	16.32	1.34	16.70	84.43
MW-3	3/5/2011	31.0	21.0 - 31.0	101.09	13.72	N/A	N/A	N/A	87.37
	3/6/2013	31.0	21.0 - 31.0	101.09	17.94	N/A	N/A	N/A	83.15
MW-4	3/5/2011	25.0	15.0 - 25.0	97.02	9.15	N/A	N/A	N/A	87.87
	3/6/2013	25.0	15.0 - 25.0	97.02	12.41	10.10	2.31	10.75	86.27
MW-5	6/20/2011	20.0	10.0 - 20.0	101.34	14.05	13.75	0.30	13.83	87.51
	3/6/2013	20.0	10.0 - 20.0	101.34	19.63	16.80	2.83	17.59	83.75
MW-6A	3/6/2013	25.5	15.5 - 25.5	101.84	18.00	N/A	N/A	N/A	83.84
MW-6B	3/6/2013	38.5	28.5 - 38.5	101.91	18.05	N/A	N/A	N/A	83.86
MW-7A	3/6/2013	24.0	14.0 - 24.0	100.04	16.60	N/A	N/A	N/A	83.44
MW-8A	3/6/2013	23.0	13.0 - 23.0	100.45	16.84	N/A	N/A	N/A	83.61
MW-8B	3/6/2013	37.5	27.5 - 37.5	100.37	16.60	N/A	N/A	N/A	83.77
MW-9A	3/6/2013	23.0	13.0 - 23.0	101.36	18.61	N/A	N/A	N/A	82.75
MW-9B	3/6/2013	31.5	21.5 - 31.5	101.38	17.60	N/A	N/A	N/A	83.78
MW-10A	3/6/2013	17.5	7.5 - 17.5	97.20	11.05	N/A	N/A	N/A	86.15
MW-10B	3/6/2013	39.0	29.0 - 39.0	97.34	13.87	N/A	N/A	N/A	83.47
MW-11A	3/6/2013	20.0	10.0 - 20.0	89.93	10.52	N/A	N/A	N/A	79.41
MW-11B	3/6/2013	35.0	29.0 - 39.0	90.26	10.30	N/A	N/A	N/A	79.96
MW-12A	3/6/2013	20.0	10.0 - 20.0	99.26	13.95	N/A	N/A	N/A	85.31
MW-12B	3/6/2013	36.5	26.5 - 36.5	99.35	16.72	N/A	N/A	N/A	82.63
MW-13A	3/25/2013	22.0	12.0 - 22.0	98.70	19.80	N/A	N/A	N/A	78.90
MW-13B	3/6/2013	33.5	23.5 - 33.5	98.69	19.88	N/A	N/A	N/A	78.81
MW-14A	3/6/2013	20.0	10.0 - 20.0	97.49	14.52	N/A	N/A	N/A	82.97
MW-14B	3/6/2013	38.5	28.5 - 38.5	97.45	17.27	N/A	N/A	66₩\	80.18

JUN ; 0 7813

Note:

** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable NM - Not Measured NL - Not Located UST Permit #11946 dditoral Tien II Dat

Table 2 – Potentiometric Data Historical and March 6 & 25, 2013

Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)
MW-15A	3/25/2013	17.0	7.0 - 17.0	96.87	16.01	N/A	N/A	N/A	80.86
MW-15B	3/6/2013	40.0	30.0 - 40.0	96.82	17.60	N/A	N/A	N/A	79.22
MW-16A	3/25/2013	18.0	8.0 - 18.0	95.95	16.21	N/A	N/A	N/A	79.74
MW-16B	3/6/2013	37.0	27.0 - 37.0	95.68	16.75	N/A	N/A	N/A	78.93
MW-17B	3/6/2013	39.5	29.5 - 39.5	92.69	9.05	N/A	N/A	N/A	83.64
MW-18A	3/6/2013	13.0	3.0 - 13.0	88.20	0.85	N/A	N/A	N/A	87.35
MW-18B	3/6/2013	35.0	25.0 - 35.0	88.30	1.05	N/A	N/A	N/A	87.25
MW-19A	3/6/2013	15.0	5.0 - 15.0	91.63	7.95	N/A	N/A	N/A	83.68
MW-19B	3/6/2013	34.0	24.0 - 34.0	91.69	8.35	N/A	N/A	N/A	83.34
MW-20A	3/6/2013	15.0	5.0 - 15.0	88.67	5.05	N/A	N/A	N/A	83.62
MW-20B	3/6/2013	35.0	25.0 - 35.0	88.61	4.11	N/A	N/A	N/A	84.50
MW-21A	3/6/2013	12.0	2.0 - 12.0	87.16	0.85	N/A	N/A	N/A	86.31
MW-21B	3/6/2013	35.0	25.0 - 35.0	87.23	1.35	N/A	N/A	N/A	85.88
MW-22B	3/6/2013	35.0	25.0 - 35.0	87.40	2.10	N/A	N/A	N/A	85.30
RW-1	3/6/2013	40.0	20.0 - 40.0	101.21	17.26	17.11	0.15	17.15	84.06
RW-2	3/6/2013	40.0	20.0 - 40.0	100.96	16.96	N/A	N/A	N/A	84.00
RW-3	3/6/2013	41.0	21.0 - 41.0	101.44	17.41	17.36	0.05	17.37	84.07
RW-4	3/6/2013	40.5	20.5 - 40.5	100.83	16.73	N/A	N/A	N/A	84.10
RW-5	3/6/2013	38.5	18.5 - 38.5	101.62	17.64	17.58	0.06	17.6	84.02
DMW-1	3/6/2013	65.0	60.0 - 65.0	101.16	18.21	N/A	N/A	N/A	82.95
DMW-2	3/6/2013	65.0	60.0 - 65.0	92.63	9.40	N/A	N/A	N/A	83.23
DMW-3	3/6/2013	65.0	60.0 - 65.0	87.41	2.10	N/A	N/A	N/A	85.31

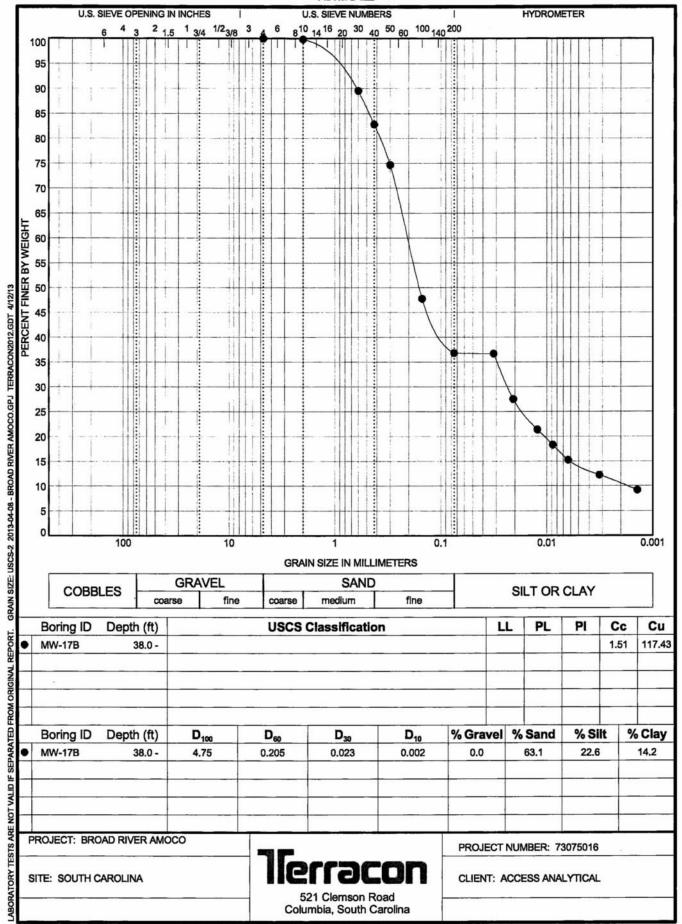
Note:

** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable
NM - Not Measured
NL - Not Located

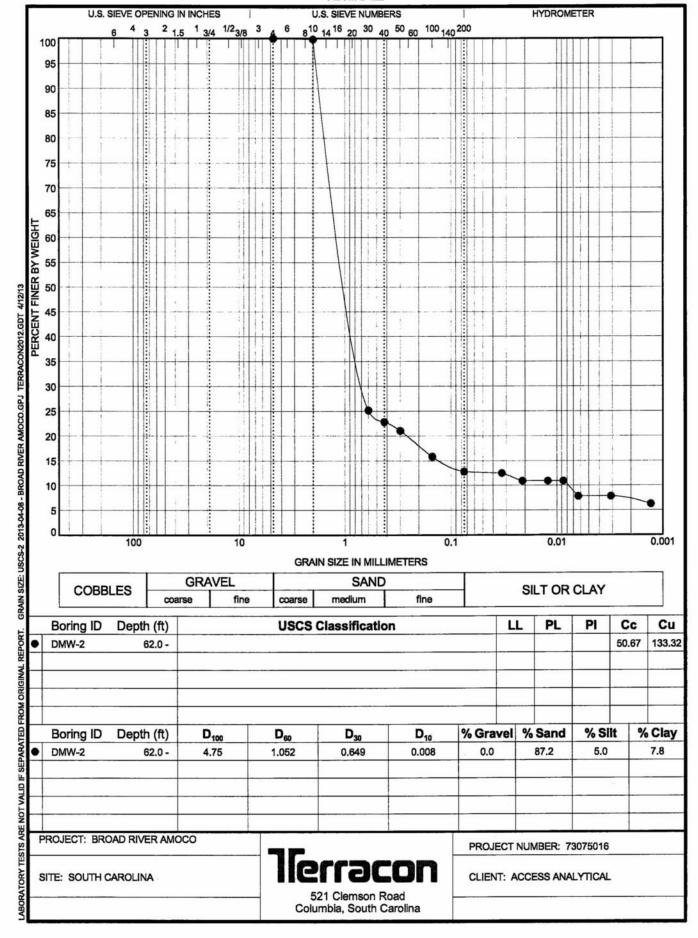
GRAIN SIZE DISTRIBUTION

ASTM D422



GRAIN SIZE DISTRIBUTION

ASTM D422





Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR FREDERICK CECCHINI 4335 BROAD RIVER RD COLUMBIA SC 29210-4009

AUG 2 0 2013

Re: Corrective Action Options

Broad River Amoco, 4335 Broad River Rd., Columbia, SC

UST Permit # 11946

Release reported January 4, 2011

Tier II Assessment Report received May 30, 2013

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced report submitted by ARM Environmental Services, Inc. on your behalf. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce the petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator you are the responsible party for the release reported on January 4, 2011. You may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

• If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, DHEC will not hold you responsible for the failure of the state selected contractor to meet the terms of the contract. To utilize the state lead option, please sign and return the applicable Permission and Right-of-Entry forms within 15 days of the date of this letter.



Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide you copies to send to contractors of your choice. In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.
- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Division's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit # 11946. If you have any questions, please contact me at (803) 898-0614 or fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

Corrective Action Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Permission/Right-of-Entry Forms

Active Corrective Action Options Form

cc: Enviro-Test Services, PO Box 2237, Irmo, SC 29063 (w/enc)

Technical File (w/ enc)

PERMISSION FORM

UNDERGROUND STORAGE TANK AND PROPERTY OWNER

UST Permit # 11946

If you are both the owner of the existing underground storage tanks for the release reported on January 4, 2011 and the current property owner, please complete this form. I, ______, certify that I am the identified legal owner of the underground storage tanks for the release reported on January 4, 2011 and property located at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf contractor services to conduct assessment and corrective action activities as required, and authorize SCDHEC, or a contractor selected by SCDHEC, to enter this property at reasonable times only to accomplish these site rehabilitation tasks. The contractor(s) will be designated as my contractor for only the required site rehabilitation activities. Compensation to the contractor(s) will be from the SUPERB Account and I will have no obligation to pay the contractor(s). I understand that SCDHEC or its contractor will be responsible for notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Division of Underground Storage Tank Management in writing. Name of Facility Phone # Street Address of Facility Town, City, District, Suburb Name of nearest intersecting street, road, highway, alley Is this facility within the city limits? (yes or no) ______ Does a public water or sewer utility service this facility? (yes or no) , if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _______, phone number Is the property currently leased or rented to someone? (yes or no) ______. If yes, please provide his/her name _____ and phone number and let him/her know about the pending site rehabilitation activities. If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before SCDHEC's contractor arrives at the site. NAME of UST/property owner (Please Print):______ Phone Number (home/cell) (work) Signature of UST/property Owner:

Date: ______Month ______ Day ______Year

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit # 11946

If you are the owner of the existing underground storage tanks for the release reported on January 4, 2011 or are designated as their authorized representative, but do not own the property, please complete this form.

2011 or serve as the a South Carolina Departure of a contractor will be rehabilitation activition will have no obligate one responsible for ob- activities that are necessary and activities that are necessary activities are necessary and activities are neces	at the facility identified be authorized representative of the authorized representative of the factor of Health and Environtractor to conduct assess the designated as my contractes. Compensation to the control to pay the contractor. It is the factor of	t I am the legal owner of the existelow and for the release reported for the UST owner. I grant permit frommental Control (SCDHEC) to establish and corrective action activator for only the required environmentator will be from the SUPIT I understand that SCDHEC or in the property owner and notifying tion and will promptly provide to may choose to select my own country the Division of Underground Stockholm	d on January 4, hission to the o secure on my vities, as required. nmental site ERB Account and ts contractor willing me of all o me a copy of intractor at the
Name of Facility		Phone #	
Street Address of Fac	cility		
Γown, City, District,	Suburb		
Name of nearest inter	rsecting street, road, high	way, alley	
s this facility within	the city limits? (yes or no)	
olease provide the na ocation of private wa	me and phone number of	s facility? (yes or no) a person that we can contact th	at can assist in the
NAME of UST owne	er (Please Print):		
Phone Number (home	e/cell)	(work)	
Signature of UST Ov	vner:		
Witness:			
Date:	Month	Day	Year

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit # 11946

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

by SCDHEC, to enter this property at reasonable corrective action activities, as required. The corthe UST owner or operator for only the required Compensation to the contractor will be from the to pay the contractor. I understand that SCDHE	e times only to conduct assessment and entractor will be designated as the contractor for
Name of Facility	Phone #
Town, City, District, Suburb	
Name of nearest intersecting street, road, highw	ay, alley
Is this facility within the city limits? (yes or no)	
	facility? (yes or no), if no, a person that we can contact that can assist in the
provide his/her name let him/her know about the pending site rehal	and phone number and bilitation activities. If vehicles or other mobile ells, they should be moved before SCDHEC's
NAME of Property owner (Please Print):	
Phone Number: (home/cell)	(work)
Current Mailing Address:	
Signature of Property Owner:	
Witness:	
Date: Month	Day Year

ACTIVE CORRECTIVE ACTION OPTIONS FORM

UST PERMIT # 11946

I,
NAME of UST owner or authorized representative (Please Print):
Phone Number: (home/cell) (work)
Signature of UST Owner:
Date:
Witness:
Date:

ACTIVE CORRECTIVE ACTION OPTIONS FORM

UST PERMIT # 11946

I, Frederick Cechini, certify that I am the legal owner on record for the underground storage tanks at the facility identified below for the release reported on January 4, 2011 or serve as the authorized representative for the owner. I wish to secure price quotations for corrective action activities as required by SCDHEC, and to select my own corrective action contractor after price quotation results are received. I understand that the SCDHEC will also advertise for price quotations in the South Carolina Business Opportunities and provide the results to me. I understand compensation to the contractor will be from the SUPERB Account, but I may have the obligation to pay the contractor for any costs not approved by the SCDHEC. I understand that if the contractor I select does not or cannot complete the required activities, I will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount and that no additional funding from the SUPERB Account may be allowed. I also understand that the SCDHEC will pursue enforcement actions against me if the contractor I select does not make satisfactory progress towards achieving established corrective actions goals.

NAME of UST owner or authorized representative (Please Print):

Phone Number: (home/cell)(803) 781-662(6503) 238-2143 (work)

Signature of UST Owner: 9-16-13

Witness: 9-16-13

RECEIVED

SEP 16 2013

SC Department of Health and Environmental Control



ENVIRO-TEST SERVICES

February 4, 2011

Mr. Arthur Shrader Hydrogeologist Assessment Section Underground Storage Tank Program Bureau of Land and Waste Management SCDHEC 2600 Bull Street Columbia, SC 29201



RE:

IGWA: Initial Groundwater Assessment

Broad River BP (Amoco)

Site # 11946; Richland County

Dear Mr. Shrader,

Enviro-Test Services Inc. has completed the Initial Groundwater assessment and installed the Monitor Well (MW-1) in the location as directed in your January 12th 2011 directive. The results of the analytical data show there are several COC's (Chemicals of Concern), which are over the RBSL's (Risk Based Screening Levels).

Please apply the amount of \$1,300.00 to Mr. Cecchini \$25,000.00 deductible a copy of the paid check is included.

Should you have any questions, comments or require any additional information, please call (803)-413-4936 at your convenience.

Very truly yours,

Terry Teate

Project Manager

ENVIRO-TEST SERVICES, INC.

Attachments



INITIAL GROUNDWATER ASSESSMENT REPORT

Facility Name Broad River BP			
Facility Address 4335 Broad River Rd. C	olumbi	a.5C.29	210
Facility Telephone Number 803 - 798 - 305			
UST Permit Number 11946	7		_
UST Owner and Operator's Name Fred Ce	cchi	Ní	_
Address 4335 Broad River Rd. Columbia			_
Phone Number 803 - 238 - 2143			_
Property Owner's Name Fred Cecchin	ví		152
Address 4335 Broad River Rd. Co	lumbia	25029	210
Phone Number 803 - 238 - 2143		,	_
Contractor ENVIro-TEST Services INC	ert. #/	4	
Address P.O. Box 2237 Irmo, S	5C 2	9063	
Phone Number 803 - 413 - 4936			
Well Driller Terry TeaTe C	ert. #/ 2	242	21
Address P.O. Box 2237 Irmo,	SC 29	1063	
Phone Number 803 - 413 - 4936			
Receptor and Site Data			
Please place a check in the appropriate answer block for each q	uestion:		
Receptor Survey Questions	No	Yes *	
	NO	162	
Are any drinking water supply wells (public or private) or surface water supply intakes within 1000 feet of the UST?	V		
Are irrigation or other non-drinking water wells located within	1		
1000 feet of the UST?	<u></u>		
Are other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST?		V	
* If "yes" provide additional information below: Water Lines, Jas Lines, Phone lines	5,		

Were any water supply wells or surface waters within 250 ft. sampled?

	. /							
YesNo(Show on site base map)								
Is a public water supply line in the area? YesNo(Show on site base map)								
Is the current agricultural or	Is the current use of the facility and surrounding properties commercial, residential, agricultural or industrial?							
Site: <u>Resi</u>	devtiál	4 COMM	ercial					
Adjacent Properties: North: SLED South Carolina Law Enforcement Division East: Mechanical Engineering Firm South: Nail + Beauty Salon West: Day Care Play Pals								
Soil and Bori		•						
Primary Soil T	ype: <u>Cla</u>	y						
Well Installation	n Method and	d Date: <u>Avg</u> Date: <u>Bail</u>	er	1-20	-2011			
Development I	Method and D	Date: Bail	er (Teflo	N) 1-2	0-20	//_		
Soil Sample of		w						
		SOIL ANALY	TICAL DATA					
Benzene (μg/kg)	Toluene (μg/kg)	Ethylbenzene (μg/kg)	Xylenes (μg/kg)	Naphthalene (μg/kg)	MTBE (μg/kg)	18 9 T		
<293	834	520	2760	635				
Benzo(a)- anthracene (μg/kg)	Benzo(b)- fluoranthene (μg/kg)	Benzo(k)- fluoranthene (μg/kg)	Chrysene (μg/kg)	Dibenz(a,h) anthracene (μg/kg)	Total PAH (μg/kg)	Lead (μg/kg)		
65,9 J	83.0 J	55.6 J	969 T	11.1	312.5	4.77		

*For waste oil UST releases only:

Chromium*	Mercury*	Selenium*	Silver*	Arsenic*	Barium*	Cadmium*
(μg/kg)	(μg/kg)	(μg/kg)	(μg/kg)	(μg/kg)	(μg/kg)	(μg/kg)
					8	

Include Laboratory Data and Chain of Custody Form in Appendix B.

Groundwater Data

Depth to Groundwater: 20.92 Depth to FP, if present: None
Free Product Thickness: WA
Well Purging/Sampling Method: Teflon Bailer
Date Sampled: 1-21-2011
Equilibrated values: Temperature: 21.3 c pH: 8.3
Dissolved Oxygen: 2.73 Specific Conductance: 76
Soil/Water Disposal Method: Crandall Corp.
Include in Appendix D. Costs for work cannot be compensated without manifest.

GROUNDWATER ANALYTICAL DATA

Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	EDB	Naphthalene
(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)
929	10,300	684	2,960	243	40.010	922

Benzo(a)- anthracene (μg/l)	Benzo(b)- fluoranthene (μg/l)	Benzo(k)- fluoranthene (μg/l)	Chrysene (μg/l)	Dibenz(a,h) anthracene (μg/l)	Total PAH (μg/l)	Lead (μg/l)
L10.1	L10.1	L10.1	L10.1	L10.1		L15

*For waste oil UST releases only:

Chromium*	Mercury*	Selenium*	Silver*	Arsenic*	Barium*	Cadmium*
(µg/l)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)

Include Laboratory Data and Chain of Custody Form in Appendix B.

Report Completed By (Print Name):	1 Teate
Signature: Terry L. Teatle	
DHEC Contractor Certification # 14	Data: 2-4-2011

Appendices

The appendices required for this report are as follows:

Appendix A. Well Construction Log

Appendix B. Laboratory Data

Appendix C. Maps (Topographic and Site Base)

Appendix D. Disposal Manifest(s). (Must be included for payment from SUPERB)

Appendix E. Additional Data (Property owner name, address, phone number for any

water supply wells or surface water bodies sampled.)

APPENDIX A



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:			7. PERMIT NUMBER:
Name: SCDHEC			UMW-24060
(last) (first)			8. USE:
Address: 2600 Bull Street			☐ Residential ☐ Public Supply ☐ Process
City: Columbia State: SC	Zip: 29	9201-0000	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: (803) 898-3432	Home:		9. WELL DEPTH (completed) Date Started: 01-20-2011
2. LOCATION OF WELL: CO	UNTY: Rich	nland	40.0 ft. Date Completed: 01-20-2011
Name: Broad River BP DHE			10. CASING: ☑ Threaded ☐ Welded
Street Address: 4335 Broad Rive	r Rd.	1 100	Diam.: 2 inch Height: Above /Below
	Zip: 29219-4	1009	Type: ☑ PVC ☐ Galvanized Surface U ft.
			Steel Other Weight — Ib./ft.
Latitude: N 34*03.920' Longitude:	W 081*06.	995'	in. to 0 ft. depth Drive Shoe? ☐ Yes ☑ No in. to 20 ft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN:
MW-1	Permit # 11	946	Type:
4. ABANDONMENT: ☐ Yes ☑	No		Set Between:ft. andft. NOTE: MULTIPLE SCREENS
Grouted Depth: from ft	. to	ft	ft. and 40 ft. USE SECOND SHEET
	*Thickness	Depth to	Sieve Analysis ☐ Yes (please enclose) ☑ No
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 20.92 ft. below land surface after 24 hours
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface. NA ft. after fr. Pumping G.P.M.
			Pumping Test: Yes (please enclose) No
CDE A PPRA CONTRA	100000	AND A STATE OF	Yield:
SEE ATTACHED			14. WATER QUALITY
BORING LOG			Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
BORING LOG			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from
			Effective size No.2 sand Uniformity Coefficient
			16. WELL GROUTED? ☑ Yes ☐ No
			□ Neat Cement □ Bentonite ☑ Bentonite/Cement □ Other □ Depth: From 18 ft. to 0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 10 ft. S direction Type Petroleum
			Well Disinfected ☐ Yes ☑ No Type: Amount:
			18. PUMP: Date installed: NA Not installed □
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
	11000		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Terry L. Teate CERT. NO.: 1242
			Address: (Print) Level: A B C D (circle one)
1.000			P.O. Box 2237 Irmo, SC 29063
*Indicate Water Bearing Zones			Telephone No.: 6U3-413U4930 Fax No.:
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			In strong and the report is that to the best of my knowledge and benefit.
			1 1 7 4
			Signed: Date: 02-02-2011
			Signed: Date: 02-02-2011
6. TYPE: ☐ Mud Rotary ☐ Jetted	[Z] B	ored	If D. Lovel Driller provide cupenileing drilled
☐ Dug ☐ Air Rota	1 200	riven	If D Level Driller, provide supervising driller's name:
☐ Cable tool ☐ Other	538	2 m 2555 1 P C	

SOIL BORING LOG

Project Name: Broad River BP		Site #: 11946	Location: 4335 Broad River Rd. Columbia, SC 29210	County: Richlan		
Driller: Terry		Logged by: T. Teate	Installed: 01/20/11	TD: 40 Feet		
Sample Method: Cuttings		Development Method: Bailing			931	
D D D D D D D D D D D D D D D D D D D	T					
DEPTH (FT)	DESCRIPTI			PPM	ODOR	
	Sandy CLAY	- Dark Brown Red, very fir	m, sandy; dry CXLN	190	Slight	
10	Sandy CLAY	– Lt Gray, Orange, mod. fir	m, sandy, silty; Dry MXLN	567	Slight	
15	CLAY- Lt Ora	ange, Red , FXLN Dry		1782	Strong	
20	CLAY- Tan,	Brown, Orange Mott, VFXI	LN Dry	1760	Strong	
25	CLAY- Tan,	Brown, Orange, VFXLN D	Pry	1281	Moderate	
30	CLAY – Oran	ge Lt Red Brown, mod. firm	, silty; moist, micaceous, FVXLN	1243	Moderate	
35	CLAY – Lt Gr	ray. firm, silty; moist, VFXL	N	715	Moderate	
40	CLAY – Lt Gr	ray, silty; firm, VFXLN We	t	208	Slight	

APPENDIX B



ANALYTICAL REPORT

CLIENT

P.O. Box 2237 Irmo, SC 29063

ATTENTION

Terry Teate

PROJECT ID

Broad River BP

LABORATORY REPORT NUMBER

211012406

DATE

01/31/2011

Primary Data Review By

Secondary Data Review By

Curtis Ekker

Data Validation Manager, GCAL

Ashley B. Amick

Project Manager, Access Analytical, Inc. aamick@accessanalyticalinc.com

PLEASE NOTE:

- Unless otherwise noted, all analysis on this report performed at Gulf Coast Analytical Labs (GCAL), 7979 GSRI Avenue, Baton Rouge, LA 70820.
- GCAL is SCDHEC certified laboratory # 73006, NCDENR certified lab # 618, GA certified lab # LA-01955, NELAP certified laboratory # 01955
- Local support services for this project are provided by Access Analytical, Inc.. Access Analytical is a representative of GCAL serving clients in the SC/NC/GA areas. All questions regarding this report should be directed to your local Access Analytical representative at 803.781.4243 or toll free at 888.315.4243.

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue
Baton Rouge, LA 70820

Report Date 01/31/2011

GCAL Report 211012406



Deliver To Enviro-Test Services P.O. Box 2237 Irmo, SC 29063 803-732-5770

Attn Terry Teate

Project Broad River BP

CASE NARRATIVE

Client: Enviro-Test Services Report: 211012406

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the SW-846 8260B analysis, samples 21101240602 (MW-1) and 21101240601 (MW-1-SB) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument.

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8270D analysis for prep batch 449503, the LCS/LCSD exhibited recoveries above the established control limits for Benzo(g,h andi)perylene and Indeno(1,2,3-cd)pyrene. However, Benzo(g,h ,i)perylene and Indeno(1,2,3-cd)pyrene were not detected in the associated samples, therefore the data is reportable.

MISCELLANEOUS

Sample 21101240601 (MW-1-SB) container ID 21101240601-2 had to be preserved at the laboratory with HNO3. This container was used to analyze SW-846 6010B.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND Indicates the result was Not Detected at the specified RDL

DO Indicates the result was Diluted Out

MI Indicates the result was subject to Matrix Interference
TNTC Indicates the result was Too Numerous To Count

SUBC Indicates the analysis was Sub-Contracted

FLD Indicates the analysis was performed in the Field

PQL Practical Quantitation Limit
MDL Method Detection Limit
RDL Reporting Detection Limit

00:00 Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J Indicates an estimated value

U Indicates the compound was analyzed for but not detected

B (ORGANICS) Indicates the analyte was detected in the associated Method Blank

B (INORGANICS) Indicates the result is between the RDL and MDL

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Robyn Migues Technical Director

GCAL REPORT 211012406

THIS REPORT CONTAINS OF PAGE

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21101240601	MW-1-SB	Solid	01/20/2011 10:30	01/22/2011 09:00
21101240602	MW-1	Water	01/21/2011 10:45	01/22/2011 09:00

Summary of Compounds Detected

GCAL ID 21101240601	Client ID MW-1-SB	Matrix Solid	Collect Date/Time 01/20/2011 10:30		Recalve Date/Time 01/22/2011 08:00	
SW-846 60	10B		and the second s			
CAS#	Parameter		Result	RDL	MDL	Units
7439-92-1	Lead		4.77	0.74	0.089	mg/kg
SW-846 82	60B					
CAS#	Parameter		Result	RDL	MDL	Units
108-88-3	Toluene		834	293	11.7	ug/Kg
100-41-4	Ethylbenzene		520	293	12.1	ug/Kg
1330-20-7	Xylene (total)		2260	585	40.2	ug/Kg
91-20-3	Naphthalene		635	293	48.3	ug/Kg
1634-04-4	tert-Butyl methyl ether (MTBE)		189J	293	9.78	ug/Kg
SW-846 82	70D					
CAS#	Parameter		Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene		65.9J	403	17.2	ug/Kg
50-32-8	Benzo(a)pyrene		62.7J	403	23.2	ug/Kg
205-99-2	Benzo(b)fluoranthene		83.0J	403	12.6	ug/Kg
191-24-2	Benzo(g,h,i)perylene		57.0J	403	11.1	ug/Kg
207-08-9	Benzo(k)fluoranthene		55.6J	403	18.4	ug/Kg
218-01-9	Chrysene		96.9J	403	13.5	ug/Kg
206-44-0	Fluoranthene		235J	403	8.91	ug/Kg
86-73-7	Fluorene		15.9J	403	12.3	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene		41.1J	403	16.1	ug/Kg
91-20-3	Naphthalene		46.0J	403	13.4	ug/Kg
85-01-8	Phenanthrene		191J	403	16.4	ug/Kg
129-00-0	Pyrene		166J	403	56.5	ug/Kg
9CAL ID 21101240802	Citent ID	Metrix Water	Collect Date/Time		Placetre Date/Flore 01/22/2011 09:09	4-1
SW-846 82	- II 	77480	0/12/12/01/10:45		The state of the s	150mg
CAS#	Parameter		Result	RDL	MDL	Units
91-20-3	Naphthalene		170	10.1	0.135	ug/L
85-01-8	Phenanthrene		0.671J	10.1	0.152	ug/L
SW-846 826	60B					
CAS#	Parameter		Result	RDL	MDL.	Units
71-43-2	Benzene		929	100	5.42	ug/L
100-41-4	Ethylbenzene		684	100	6.27	ug/L
91-20-3	Naphthalene		922	500	8.17	ug/L
108-88-3	Toluene		10300	100	5.90	ug/L
1330-20-7	Xylene (total)		2960	300	5.80	ug/L

Summary of Compounds Detected (con't)

GCAL 10 21101240802	Citient 1D MW-1	Matrix Water	Collect Date/Time 01/21/2011 10:45	25 76 C	2/2011 08:00	
SW-846 82	60B					
CAS#	Parameter		Result	RDL	MDL	Units
1634-04-4	tert-Butyl methyl ether (MTBE)		243	100	5.17	ug/L

GCAL ID	Client ID	2 2 T	Matrix	Collect Date/Time Results Date Date
21101240601	MW-1-98		Solid .	01/20/2011 10:30 01/22/2011 09:08

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution 50	Analyzed 01/28/2011 13:09	By Analytica RJU 449790	l Batch
CAS#	Parameter		Result	RDL	MDL	Units
71-43-2	Benzene		8.02U	293	8.02	ug/Kg
108-88-3	Toluene		834	293	11.7	ug/Kg
100-41-4	Ethylbenzene		520	293	12.1	ug/Kg
1330-20-7	Xylene (total)		2260	585	40.2	ug/Kg
91-20-3	Naphthalene		635	293	48.3	ug/Kg
1634-04-4	tert-Butyl methyl ether	(MTBE)	189J	293	9.78	ug/Kg
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	2360	2160	ug/Kg	92	62 - 127
1868-53-7	Dibromofluoromethane	2360	2470	ug/Kg	105	65 - 130
2037-26-5	Toluene d8	2360	2310	ug/Kg	98	71 - 132
17060-07-0	1,2-Dichloroethane-d4	2360	2620	ug/Kg	111	62 - 125

SW-846 8270D

Prep Date 01/26/2011 10:1	Prep Batch 5 449579	Prep Method	Dilution	Analyzed	Ву	Analytical Batch	1
01/20/2011 10.1	3 449079	3550B	1	01/27/2011 16:01	KCB	449756	10,000
CAS#	Parameter		Result	RDL		MDL	Units
83-32-9	Acenaphthene		22.8U	403		22.8	ug/Kg
208-96-8	Acenaphthylene		13.5U	403		13.5	ug/Kg
120-12-7	Anthracene		14.2U	403		14.2	ug/Kg
56-55-3	Benzo(a)anthracene		65.9J	403		17.2	ug/Kg
50-32-8	Benzo(a)pyrene		62.7J	403		23.2	ug/Kg
205-99-2	Benzo(b)fluoranthene		83.0J	403		12.6	ug/Kg
191-24-2	Benzo(g,h,i)perylene		57.0J	403		11.1	ug/Kg
207-08-9	Benzo(k)fluoranthene		55.6J	403		18.4	ug/Kg
218-01-9	Chrysene		96.9J	403		13.5	ug/Kg
53-70-3	Dibenz(a,h)anthracene		11.1U	403		11.1	ug/Kg
206-44-0	Fluoranthene		235J	403		8.91	ug/Kg
86-73-7	Fluorene		15.9J	403		12.3	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene		41.1J	403		16.1	ug/Kg
91-20-3	Naphthalene		46.0J	403		13.4	ug/Kg
85-01-8	Phenanthrene		191J	403		16.4	ug/Kg
129-00-0	Pyrene		166J	403		56.5	ug/Kg
CAS# S	urrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy Re	c Limits
4165-60-0 N	litrobenzene-d5	1640	1230	ug/Kg		75	6 - 123
321-60-8 2	-Fluorobiphenyl	1640	1210	ug/Kg		74	7 - 127
1718-51-0 T	erphenyl-d14	1640	1200	ug/Kg		73 3	8 - 167

GCAL ID 21101240801	Client ID MW-1-68		Metrtx Solid	O1/20/2011 1	4		0011 00:00	
SW-846 601	0B				A SEASON OF THE		The state of the s	CARTE
Prep Date 01/24/2011 1	Prep Batch 2:00 449472	Prep Meth SW-846 36		Dilution 1	Analyzed 01/25/2011 20:58	By BNB	Analytical Batc 449617	h
CAS#	Parameter			Result	RDL		MDL	Units
7439-92-1	Lead			4.77	0.74		0.089	mg/kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID 21101240602	Client (D) - MW-1				Matrix Water	Collect Data/Time 01/21/2011 19:45		Receive Department 01/22/2017 bigs01
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SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	Ву	Analytical Ba	tch
			100	01/26/2011 20:25	CLH	449688	
CAS#	Parameter		Result	RDL		MDL	Unit
107-06-2	1,2-Dichloroethane		8.60U	100		8.60	ug/l
71-43-2	Benzene		929	100		5.42	ug/l
100-41-4	Ethylbenzene		684	100		6.27	ug/l
91-20-3	Naphthalene		922	500		8.17	ug/l
108-88-3	Toluene		10300	100		5.90	ug/l
1330-20-7	Xylene (total)		2960	300		5.80	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	243	100		5.17	ug/L
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Rec	overy I	Rec Limits
460-00-4	4-Bromofluorobenzene	5000	5870	ug/L		117	78 - 130
1868-53-7	Dibromofluoromethane	5000	5190	ug/L		104	77 - 127
2037-26-5	Toluene d8	5000	5560	ug/L		111	76 - 134
17060-07-0	1,2-Dichloroethane-d4	5000	4710	ug/L		94	71 - 127

SW-846 8270D

Prep Date 01/25/2011 07:1	Prep Batch 7 449503	Prep Method 3510C	Dilution	Analyzed	•	nalytical Batch
01/25/2011 07.1	7 449505	35100	1	01/25/2011 19:45	KCB 44	9613
CAS#	Parameter		Result	RDL	1	MDL Unit
83-32-9	Acenaphthene		0.204U	10.1	0).204 ug/
208-96-8	Acenaphthylene		0.119U	10.1	0).119 ug/
120-12-7	Anthracene		0.159U	10.1	0).159 ug/
56-55-3	Benzo(a)anthracene		0.159U	10.1	0).159 ug/
50-32-8	Benzo(a)pyrene		0.123U	10.1	0).123 ug/
205-99-2	Benzo(b)fluoranthene		0.242U	10.1	0).242 ug/
191-24-2	Benzo(g,h,i)perylene		0.162U	10.1	0).162 ug/
207-08-9	Benzo(k)fluoranthene		0.239U	10.1	0).239 ug/
218-01-9	Chrysene		0.267U	10.1	0).267 ug/
53-70-3	Dibenz(a,h)anthracene		0.263U	10.1	0).263 ug/
206-44-0	Fluoranthene		0.175U	10.1	0).175 ug/
86-73-7	Fluorene		0.135U	10.1	0).135 ug/
193-39-5	Indeno(1,2,3-cd)pyrene		0.270U	10.1	0).270 ug/
91-20-3	Naphthalene		170	10.1	0).135 ug/l
85-01-8	Phenanthrene		0.671J	10.1	0).152 ug/l
129-00-0	Pyrene		0.203U	10.1	0	0.203 ug/
CAS# S	urrogate	Conc. Spiked	Conc. Rec	Units	% Recover	y Rec Limit
4165-60-0 N	litrobenzene-d5	50.5	42.4	ug/L	8	34 52 - 120
321-60-8 2	-Fluorobiphenyl	50.5	44.1	ug/L	8	7 16 - 12
1718-51-0 T	erphenyl-d14	50.5	39	ug/L	7	7 43 - 138
4165-62-2 P	henol-d5	101	37.8	ug/L	3	7 10 - 120
367-12-4 2	-Fluorophenol	101	34.5	ug/L		10 - 120
118-79-6 2	,4,6-Tribromophenol	101	76.6	ug/L		6 52 - 12

20CAL ID Client ID 21101240802 MW-1	Maérix Water	Collect Date/Time 01/21/2011 10:45	Officers in each
		A SECOND OF THE PERSON OF THE	The said of the sa

SW-846 8011

Prep Date 01/25/2011 1	Prep Batch 16:15 449506	Prep Method SW-846 8011	Dilution 1	Analyzed 01/28/2011 18:01	By DLB	Analytical Batch 449866	
CAS#	Parameter		Result	RDL		MDL	Units
106-93-4	1,2-Dibromoethane		0.00380U	0.010		0.00380	ug/L

SW-846 6010B Dissolved

Prep Date 01/25/2011 09	Prep Batch 9:35 449486	Prep Method SW-846 3005 Dissolved	Dilution 1	Analyzed 01/26/2011 23:19	By BNB	Analytical Batch 449658	
CAS#	Parameter		Result	RDL		MDL	Units
7439-92-1	Lead		0.0014U	0.015		0.0014	mg/L

GC/MS Volatiles Quality Control Summary

	2000	Client ID	Client ID MB449688			LCS449688			LCSD449688			
Prep Batch N/A	A/A	GCAL ID	916356			916357			916358			
		Sample Type	Method Blank			CS			CSD			
		Analytical Date	01/26/2011 19:19			01/26/2011 17:52			01/26/2011 18:35			
		Matrix	Water			Water			Water			
Ū.	SW-846 8260B	SOR	Units	ng/L	Spike	1		Control				RPD
	2000	2	Result	RDL	Added	Result	% R	Limits % R	Kesuit	% R	RPD	Limit
107-06-2	1,2-Dichloroethane	ane	0.086U	0.086	20.0	58.2	116	71 - 129	55.1	110	2	30
	Ethylbenzene		0.063U	0.063	20.0	26.8	114	74 - 126		105	80	30
AT el	tert-Butyl methy	tert-Butyl methyl ether (MTBE)	0.052U	0.052	20.0	55.9	112			110	,	30
-1	Xylene (total)		0.058U	0.058	150	168	112		157	105	7	30
	Naphthalene		0.082U	0.082	50.0	44.9	06	57 - 138	48.6	97	80	35
71-43-2	Benzene		0.054U	0.054	20.0	58.6	117		53.6	107	0	20
108-88-3	Toluene		0.059U	0.059	20.0	58.2	116		54.3	109	7	20
Surrogate												
	4-Bromofluorobenzene	enzene	51.1	102	20	49.4	66	78 - 130	48.8	86		7
1868-53-7	Dibromofluoromethane	nethane	53.1	106	20	47.6	92		46.7	93		
2037-26-5	Toluene d8		55.6	111	20	46.8	94		47.8	96		
17060-07-0	1,2-Dichloroethane-d4	ane-d4	48.1	96	20	49.5	66	71 - 127	48.1	96		807

Prep Batch N/A	Analytical Batch 449790 Prep Batch N/A	GCAL ID	Client ID MB449790			LCS449790			ه د	LCSD449790			
		Sample Type	Method Blank			rcs			במ	LCSD			
		Analytical Date	01/28/2011 10:09			01/28/2011 07:49			0	01/28/2011 10:52			
		Matrix	Solid			Solid			S	Solid			31 001 1
0,	SW-846 8260B	50B	Units	ug/Kg	Spike	Doesell		Control	-	1			RPD
	200		Result	RDL	Added	Mesull	% R	Limits % R	~	Result	% R	RPD	Limit
100-41-4	Ethylbenzene		10.3U	10.3	2500	2440	86	74 - 130	30	2320	93	5	30
1634-04-4	tert-Butyl meth	tert-Butyl methyl ether (MTBE)	8.35U	8.35	2500	2630	105		126	2510	100	2	30
1330-20-7	Xylene (total)		34.30	34.3	7500	6870	92	71 - 1	129	6640	88	က	30
91-20-3	Naphthalene	10 March 1997	41.30	41.3	2500	2390	96		132	2220	88	7	30
71-43-2	Benzene		6.85U	6.85	2500	2660	106		128	2470	66	7	30
108-88-3	Toluene		10.0U	10.0	2500	2290	92		121	2290	6	c	30
Surrogate									i		!	,	3
460-00-4	4-Bromofluorobenzene	penzene	2310	92	2500	2350	94		127	2460	86		
1868-53-7	Dibromofluoromethane	nethane	2500	100	2500	2640	106	65 - 1	130	2570	103		
2037-26-5	Toluene d8		2430	26	2500	2300	92		132	2380	95		
17060-07-0	1,2-Dichloroethane-d4	nane-d4	2750	110	2500	2700	108		125	2700	108		

GC/MS Semi-Volatiles Quality Control Summary

Prep Batch 449503					LCS449503			I CSD449503	2503			
	GCALID	915446			015447			2000	200			
Pren Method 35100	Sample Times	Mothed Direct		====	1440			915448				
On the mental of the second	Sample Type	Method Blank			rcs			CSD				
	Prep Date				01/25/2011 07:17			01/25/2011 07:17	11 07:17			
	Analytical Date	01/25/2011 18:37			01/25/2011 18:54			01/25/2011 19:10	11 19:10			
	Matrix	Water			Water			Water				
SW-846 8270D	270D	Units	ng/L	Spike	4		Control					RPD
		Result	RDL	Added	Result	% R	Limits % R		Result	% R	RPD	Limit
	lene	0.118U	0.118	100	94.7	95	55 - 120	0.	102	102	-	50
_		0.157U	0.157	100	94.7	95	58 - 12	120	102	102	7	20
	thracene	0.157U	0.157	100	89.3	89	56 - 120	0	98.6	66	10	20
	oranthene	0.240U	0.240	100	86.1	98	55 - 120	0	94.9	95	10	20
	oranthene	0.237U	0.237	100	82.7	83	49 - 121	-	89.3	88	80	20
7	perylene	0.160U	0.160	100	128	128	44 - 132	2	155	155*	19	20
	епе	0.122U	0.122	100	92.3	92	56 - 120	0	102	102	10	20
5		0.264U	0.264	100	9.96	97	58 - 120	0	103	103	9	20
	anthracene	0.260U	0.260	100	120	120	50 - 138	8	137	137	13	20
0	a	0.1730	0.173	100	98.0	86	55 - 120	0	89.5	06	6	20
		0.134U	0.134	100	97.6	93	54 - 120	0	95.7	96	က	20
c C	3-cd)pyrene	0.267U	0.267	100	121	121	43 - 133	3	142	142*	16	20
	•	0.1340	0.134	100	92.2	92	44 - 120	0	98.5	66	7	20
	Je .	0.150U	0.150	100	92.7	93	58 - 120	0	102	102	10	20
3/8	ne	0.2020	0.202	100	94.3	94	52 - 120	0	100	100	9	32
129-00-0 Pyrene		0.2010	0.201	100	84.8	82	54 - 120	0	266	100	16	2
Surrogate										!	2	3
4165-60-0 Nitrobenzene-d5	e-d5	42.8	98	20	42.8	98	52 - 120		44.7	08		
321-60-8 2-Fluorobiphenyl	ienyl	43.7	87	20	44.4	88	,		47.1	3 8		
1718-51-0 Terphenyl-d14	14	42.2	84	20	39.4	29			74.3	0	<u> </u>	
4165-62-2 Phenol-d5		39.5	40	100	39.9	40	,		744.7	3 4		3 <u>2 2 9</u>
367-12-4 2-Fluorophenol	lou	58.1	28	100	59.3	29			64.7	2 4	- 1	
118-79-6 2,4,6-Tribromophenol	nophenol	71	77	100	80.9	18			82.8	83 83		

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 449756	449756	Client ID	Client ID MB449579			LCS449579			I CSD449579				
Prep Batch 449579	449579	GCAL ID	915804			915805			915806				
Prep Method 3550B	3550B	Sample Type	Method Blank			rcs			LCSD				
		Prep Date	01/26/2011 10:15		RIFO -	01/26/2011 10:15			01/26/2011 10:15	:15			
		Analytical Date	01/27/2011 13:14			01/27/2011 13:31			01/27/2011 13:48	3:48			
		Matrix	Solid			Solid			Solid				
30	SW-846 8270D	5	Units	ng/Kg	Spike	the second		Control				F	RPD
	2000	3	Result	RDL	Added	Result	% R	Limits % R	Kesult	%	%R R	RPD	Limit
	Acenaphthylene	m	11.10	11.1	3330	3040	91	53 - 120	3270		98	7	40
_	Anthracene		11.6U	11.6	3330	3090	93	52 - 120	3250	100	98	2	40
	Benzo(a)anthracene	cene	14.10	14.1	3330	2890	87	48 - 120			95	6	4
	Benzo(b)fluoranthene	thene	10.30	10.3	3330	3090	93	31 - 130	3260		86	2	40
	Benzo(k)fluoranthene	thene	15.0U	15.0	3330	3250	86	36 - 122	100	_	101	4	40
2	Benzo(g,h,i)perylene	ylene	9.09U	60.6	3330	3170	95	29 - 134	3410	-	22	7	40
	Benzo(a)pyrene	•	18.90	18.9	3330	3210	96	44 - 120	(15T)		0	8	40
6	Chrysene		11.10	11.1	3330	3190	96	51 - 120			4	8	40
	Dibenz(a,h)anthracene	racene	9.03U	9.03	3330	3150	92	27 - 129	16.310.01	30 102	2	7	40
0	Fluoranthene	- · · ·	7.28U	7.28	3330	3260	86	39 - 120	2000		0	7	40
	Fluorene		10.10	10.1	3330	3030	91	48 - 120				9	4
2	Indeno(1,2,3-cd)pyrene)pyrene	13.2U	13.2	3330	3180	92	43 - 132		70 101	_	9	40
	2-Methylnaphthalene	alene	17.60	17.6	3330	2760	83	43 - 120			89	7	40
	Naphthalene		11.00	11.0	3330	2920	88	48 - 120	VI.53		94	7	40
TO ENGLISH	Phenanthrene		13.40	13.4	3330	3080	92	53 - 120	3270		86	9	40
	Acenaphthene		18.60	18.6	3330	3050	92	50 - 120		_	95	4	40
129-00-0 P	Pyrene		46.10	46.1	3330	2850	98	38 - 136		_	95	-	40
Surrogate							3		»				!
4165-60-0 N	Nitrobenzene-d5	20	1340	81	1670	1440	86	46 - 123	1420		85		
	2-Fluorobiphenyl		1340	81	1670	1500	06		37.0	-	88		
1718-51-0 T	Terphenyl-d14		1370	82	1670	1400	84	38 - 167			89		- 22-3

Analytical Ba	Analytical Batch 449756	Client ID SB0078	SB0078			SB0078 MS			SB0078 MSD			
Prep Ba	Prep Batch 449579	GCAL ID	GCAL ID 21101202413			21101202414						
Prep Meth	Prep Method 3550B	Sample Type	SAMPLE			MS			MSD			to le sec
		Prep Date	Prep Date 01/26/2011 10:15			01/26/2011 10:15			01/26/2011 10:15			
		Analytical Date	Analytical Date 01/27/2011 17:08			01/27/2011 17:24			01/27/2011 17:41			
		Matrix Solid	Solid			Solid			Solid			
	SW-846 8270D	70D	Units	ug/Kg	Spike	Result		Control	Recuit			RPD
			Result	RDL	Added		% R	Limits % R	ineou.	% R	RPD	Limit
208-96-8	Acenaphthylene	10	0.00	10.9	3280	3080	94	53 - 120	2990	06	9	40

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 449756	449756	Client ID SB0078	SB0078			SB0078 MS			SB0078 MSD			
Prep Batch 449579	449579	GCAL ID	21101202413			21101202414			21101202415			
Prep Method 3550B	3550B	Sample Type	SAMPLE			MS			MSD			
		Prep Date	01/26/2011 10:15			01/26/2011 10:15			01/26/2011 10:15			
		Analytical Date	01/27/2011 17:08			01/27/2011 17:24			01/27/2011 17:41			
		Matrix	Solid			Solid			Solid			
5	SW-846 8270D	20.	Units	ug/Kg	Spike	4		Control				RPD
	20 040	3	Result	RDL	Added	Result	% R	Limits % R	Kesult	% R	RPD	Limit
_	Anthracene		0.00	11.4	3280	3030	92	52 - 120	3040	91	0.3	40
	Benzo(a)anthracene	Icene	0.00	13.9	3280	3040	93	48 - 120	3100	93	7	40
	Benzo(b)fluoranthene	nthene	0.00	10.1	3280	2880	88	31 - 130	2700	81	9	40
	Benzo(k)fluoranthene	thene	0.00	14.9	3280	2780	85	36 - 122	2820	85	-	40
2	Benzo(g,h,i)perylene	ylene	0.00	8.97	3280	3800	116	29 - 134	3720	112	2	40
	Benzo(a)pyrene	ø.	0.00	18.7	3280	3040	93	44 - 120	2910	87	4	4
6	Chrysene		0.00	10.9	3280	3140	96	51 - 120	2870	98	6	40
	Dibenz(a,h)anthracene	racene	0.00	8.91	3280	3870	118	27 - 129	3680	110	2	40
0	Fluoranthene		0.00	7.18	3280	3070	98	39 - 120	3180	98	4	4
	Fluorene		0.00	9.93	3280	2960	90	48 - 120	2930	88	-	40
2	Indeno(1,2,3-cd)pyrene	1)pyrene	0.00	13.0	3280	3710	113	43 - 132	3560	107	4	40
	2-Methylnaphthalene	alene	00.0	17.4	3280	2650	81	43 - 120	2650	80	0	40
	Naphthalene		0.00	10.8	3280	2900	88	48 - 120	2860	98	-	40
	Phenanthrene		0.00	13.2	3280	3040	93	53 - 120	3050	92	0.3	40
	Acenaphthene		0.00	18.4	3280	3000	92	50 - 120	2920	88	8	40
129-00-0	Pyrene		0.00	45.5	3280	2780	82	38 - 136	2800	84	0.7	40
Surrogate												
0	Nitrobenzene-d5	2			1640	1300	62	46 - 123	1310	62		
	2-Fluorobiphenyl	~			1640	1360	83	47 - 127	1300	78		
1718-51-0	Terphenyl-d14				1640	1200	73	38 - 167	1200	72		

General Chromatography Quality Control Summary

	RPD	1 8	9 4
	_	1	180.00
	200	_	_
	8	86	122
LCSD449506 915759 LCSD 01/25/2011 16:15 01/28/2011 16:16 Water	Result	1.07	1.33
	Control Limits % R	_	55 - 141
	% R	102	124
LCS449506 915457 LCS 01/25/2011 16:15 01/28/2011 15:54 Water	Result	1.17	1.43
	Spike	1.15	1.15
·	ug/L RDL	0.00650	0.00380
Client ID MB449506 GCAL ID 915456 Sample Type Method Blank Prep Date 01/25/2011 16:15 Analytical Date 01/28/2011 15:32 Matrix Water Water	Units Result	0.00650U	0.00380U
Sa	1	chloropropane	ane
lytical Batch 449866 Prep Batch 449506 Prep Method SW-846 8011	SW-846 8011	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane
Analytical Batch 449866 Prep Batch 449506 Prep Method SW-846	.,		106-93-4

Inorganics Quality Control Summary

Analytical Batch 449617	49617	Client ID	Client ID MB449472			LCS449472		
Prep Batch 4	449472	GCAL ID 915323	915323			915324		
Prep Method S	SW-846	Sample Type	Method Blank			rcs		
ē	050B	Prep Date	01/24/2011 12:00			01/24/2011 12:00		
		Analytical Date	01/25/2011 20:44			01/25/2011 20:51		
		Matrix	Solid			Solid		
SW	SW-846 6010B	108	Units Result	mg/kg RDL	Spike	Result	% R	Control Limits % R
7439-92-1 Le	ead		0.072U	0.072	20.0	19.8	66	80 - 120

Analytical Batch 449617	449617	Client ID	Client ID MW-1-SB			915386MS		
Prep Batch 449472	449472	GCAL ID	GCAL ID 21101240601			915389		
Prep Method	SW-846	Sample Type SAMPLE	SAMPLE			MS		
	3050B	Prep Date	Prep Date 01/24/2011 12:00			01/24/2011 12:00		
		Analytical Date	Analytical Date 01/25/2011 20:58			01/25/2011 21:11		
		Matrix	Solid			Solid		
15	SW-846 6010B	aut	Units	mg/kg	Spike	110		Control
5	2000		Result	RDL	Added	Mesuli	% R	% R Limits % R
7439-92-1	Lead		3.85	0.072	20.0	22.9	96	75 - 125

Analytical Batch 449617	449617	Client ID	Client ID MW-1-SB	0	915386DUP		
Prep Batch 449472	449472	GCAL ID	GCAL ID 21101240601		915388		
Prep Method	SW-846	Sample Type SAMPLE	SAMPLE		DUP		
	3050B	Prep Date	01/24/2011 12:00		01/24/2011 12:00		
		Analytical Date	Analytical Date 01/25/2011 20:58		01/25/2011 21:05		
		Matrix	Solid		Solid		
SV	SW-846 6010B	10B	Units Result	mg/kg RDL	Result	RPD	RPD Limit
7439-92-1	Lead		3.85	0.072	3.53	6	20

Inorganics Quality Control Summary

Analytical Batch 449658	Client ID	Client ID MR449486			1 CCAAOAOC		
2000		20101			LC04448400		
Prep Batch 449486	GCAL ID 915392	915392			915393		
Prep Method SW-846 3005	05 Sample Type Method Blank	Method Blank			rcs		
Dissolved		Prep Date 01/25/2011 09:35			01/25/2011 09:35		
	Analytical Date	Analytical Date 01/26/2011 23:05		3 - 400	01/26/2011 23:12		
	Matrix	Water			Water		
SW-846 6010B Dissolved	Dissolved	Units	mg/L	Spike	Positife		Control
		Result	RDL	Added	lineau	% R	%R Limits %R
7439-92-1 Lead		0.0014U	0.0014	0.50	0.52	103	80 - 120

Analytical Batch 449658	28	Client ID MW-1	MW-1			915387MS		
Prep Batch 449486	98	GCAL ID	GCAL ID 21101240602			915395		
Prep Method SW-8	SW-846 3005	Sample Type	SAMPLE			MS		
Dissolved	plyed	Prep Date	01/25/2011 09:35			01/25/2011 09:35		
		Analytical Date	Analytical Date 01/26/2011 23:19		LPV - 100	01/26/2011 23:33		
		Matrix	Water			Water		
SW-846 601	10B Dis	6010B Dissolved	Units	mg/L	Spike	the second		Control
			Result	ZQ.	Added	Uneau	% R	%R Limits %R
7439-92-1 Lead			0.0	0.0014	0.50	0.52	104	75 - 125

Analytical Batch 449658	Client ID MW-1	MW-1		915387DLIP		
Prep Batch 449486	GCAL ID	GCAL ID 21101240602		015304		
Prep Method SW-846 3005	San	SAMPLE		DUP		
Dissolved	Prep Date	01/25/2011 09:35		01/25/2011 09:35		
	Analytical Date	Analytical Date 01/26/2011 23:19		01/26/2011 23:26		
	Matrix	Water		Water		
SW-846 6010B Dissolved	Discolved	Units	mg/L			RPD
20100 040-440	Descived	Result	RDL	Kesuit	RPD	Limit
7439-92-1 Lead		0.0	0.0014	0.0	0	20

(N/A) (N/A) (N/A) NA ANALYTICAL, INC. Phone: (803) 781-4243 Fax: 781-4303 NOTES / COMMENTS
(If sample is a composite plasse use space below to note startificats times & class) Sample Temp. Upon Recept (°C): 5. 6°C) 0 4.6(0) ACCESS www.axs-inc.com Project Work order # aboratory ID: aken @ 1900 7478 Carlisle Street Irmo, SC 29063 Access Arialytical - Chain of Custody Record Received By: Access Quote # REQUESTED LAB ANALYSIS 9 × 52 Servicas # 0 d 6 1-20-11/103015 348 153 Project Location: Other NC 413-4936 Fax: Company Name: ENVICO-1-17-1 (specify) Project ID: Broad 17 87 LAB USE ONLY emailed/faxed by end of business day on date required) MW-1-5B Turnaround Time: (For rush work, results ample 4D/Description くとこと *Date Required: Report To: Sampled By: Standard M K-Address: Phone: Email:

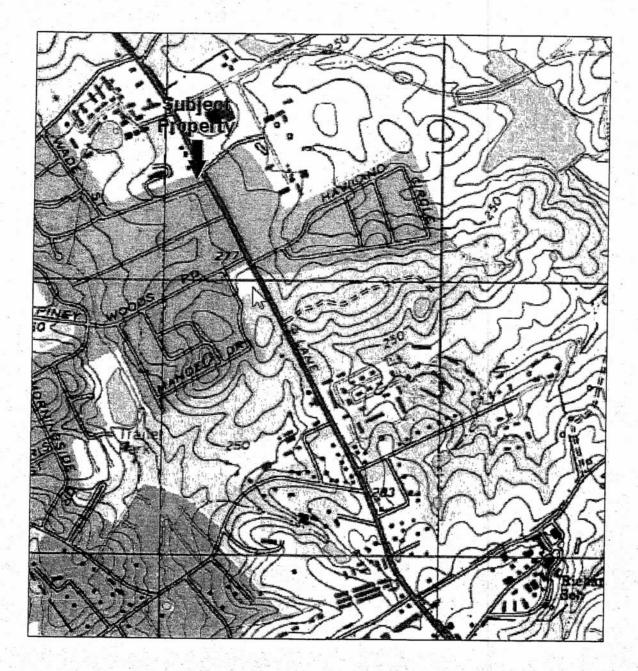
See Reverse for Terms and Conditions

of

Pg

Original Copy - Returned w/Report Yellow Copy - Access File Copy Pink Copy - Client Copy

APPENDIX C

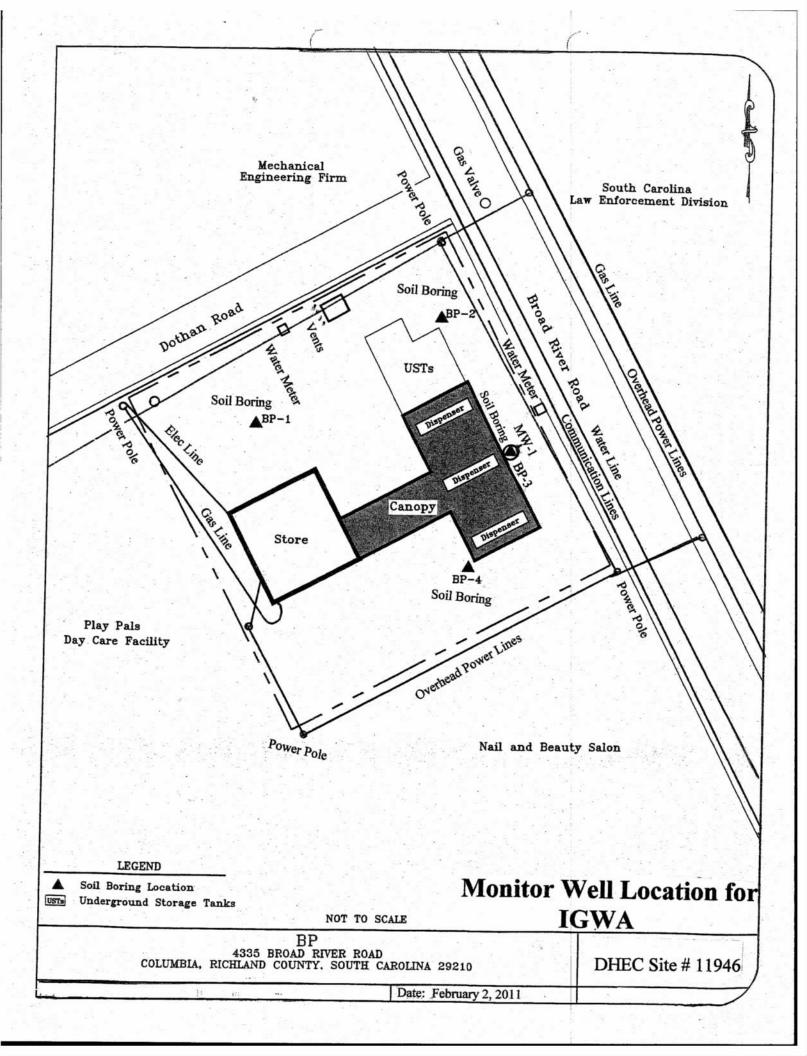


NOT TO SCALE

SITE VICINITY MAP

BP
4335 BROAD RIVER ROAD
COLUMBIA, RICHLAND COUNTY, SOUTH CAROLINA 29210
PROJECT NO: 10-72634.2

FIGURE 1



APPENDIX D

Crandall __

	1. Generator's L	JS EPA ID No.	Manifest Document No	2. Page 1 of		- W. W	
7505 Irmo Dr Columbia, SC 29212 4. Generator's Phone ((803)) 732-57	viro-Test : 770					10 LV	
5. Transporter 1 Company Name Crandall Corporation		6. US EPA	ID Number 4499	A. Transport) 791-4800	
7. Transporter 2 Company Name			ID Number	B. Transporte			
9. Designated Facility Name and Site Address Crandall Corporation 100 Rich Lex Or Lexington, 3C 29072		10. US EPA	ID Number	C. Facility's P		. 791-4800	
11. Waste Shipping Name and Description		1 . 5 . 5 . 5 . 5 . 5 . 5		12	2. Containers	13. Total	14. Unit
o. Non - Hasardous Waste, Pe	stroleum Co	ontaminated S	oil		O. Type		Wt./Vol
D.							
c.							
d.							
15. Special Handling Instructions and Additional Info	america.						
13. Special Hariding Instructions and Additional Info	Bro	ad Riv	er B	P	L G	WA	
Infotrac 800-535-5053 Reg	gistrant Cz	Mb/d) S					
Infotrac 800-535-5053 Reg Srv Call ID: GLB0164226	gistrant Cz	andall Corp	Ma. Prohk.	ENVO	04-60	1-C	
16. GENERATOR'S CERTIFICATION: 1 certify the Printed/Typed Name Terr/ Tea T- 17. Transporter 1 Acknowledgement of Receipt of M	gistrant Cz	andall Corp	Ma. Prohk.	ENVO	04-60	1-C	
SIV Call ID: GLB0164226 16. GENERATOR'S CERTIFICATION: 1 certify the Printed/Typed Name Terr/ Tea Tell 17. Transporter 1 Acknowledgement of Receipt of M Printed/Typed Name Terr/ Tea Tell Printed/Typed Name Terr/ Tea Tell Printed/Typed Name Terr/ Tea Tell	materials described a	andall Corp	Ma. Prohk.	ENVO	04-60	disposal of Hazardou	Year / /./
16. GENERATOR'S CERTIFICATION: I certify the Printed/Typed Name Terrify Teal 17. Transporter 1 Acknowledgement of Receipt of M. Printed/Typed Name Terrify Teal 18. Transporter 2 Acknowledgement of Receipt of M. Printed/Typed Name	materials described a	bove on this manifest are	Ma. Prohk.	ENVO	04-60	disposal of Hazardou Month Day Month Day	Year /./ Year /./
16. GENERATOR'S CERTIFICATION: 1 certify the Printed/Typed Name Terr Tea Tell 17. Transporter 1 Acknowledgement of Receipt of M Printed/Typed Name Terr Tea Tell 18. Transporter 2 Acknowledgement of Receipt of M	materials described a	bove on this manifest are Signature	Ma. Prohk.	ENVO	04-60	disposal of Hazardou Month Day O. / 3	Year /./ Year /./
16. GENERATOR'S CERTIFICATION: I certify the Printed/Typed Name Terrify IRa 17. Transporter 1 Acknowledgement of Receipt of M. Printed/Typed Name Terrify IRa Printed/Typed Name Terrify IRa Printed/Typed Name Terrify IRa 18. Transporter 2 Acknowledgement of Receipt of M. Printed/Typed Name	materials described a	bove on this manifest are Signature Signature	Many Teles	ENVO	04-60	disposal of Hazardou Month Day O. / 3	Year /./ Year /./



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR FREDERICK CECCHINI 4335 BROAD RIVER RD COLUMBIA SC 29210-4009 NOV 2 6 2013

Re:

Corrective Action Solicitation

Broad River Amoco, 4335 Broad River Rd., Columbia, SC

UST Permit # 11946

Release reported January 4, 2011

Tier II Assessment Report received May 30, 2013

Corrective Action Options Form received September 16, 2013

Richland County

Dear Mr. Cecchini:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the May 2013 Tier II Report submitted by ARM Environmental Services, Inc. Free-phase product has been detected in multiple monitoring wells. Active corrective action is necessary to remediate the subsurface and ensure there is no potential impact to human health or the environment at the receptor locations.

The site's priority classification is 2BA. Therefore, funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account are currently available for implementation of an acceptable method of corrective action. The selected technology must completely reduce the petroleum chemicals of concern to those concentrations listed in the Corrective Action Solicitation package. All rehabilitation activities associated with a release from an UST must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98 and in accordance with the UST Quality Assurance Program Plan (QAPP), Revision 2.0.

The Division understands that you wish to select the rehabilitation contractor to perform the corrective action. In addition to the three solicitation responses you personally obtain as outlined below, the Agency will announce the Corrective Action Solicitation in the South Carolina Business Opportunities. This announcement is to ensure enough responses are received to establish a fair and competitive price to initiate corrective action in a timely manner. This announcement will clearly indicate that the UST owner/operator will make the contractor selection to receive financial and technical approval.



Procedures

The following steps should be followed as you secure responses to the Corrective Action Solicitation.

- Step 1. Select a minimum of three (3) certified site rehabilitation contractors to complete the enclosed Financial Approval Form. A list of currently certified contractors is enclosed.
- Step 2. Please provide each of the proposed site rehabilitation contractors a copy of this letter. The Corrective Action Solicitation package is available at http://www.scdhec.gov/environment/lwm/usthome/OOBid.htm.
- Step 3. Direct each of your proposed site rehabilitation contractors to submit their Financial Approval Form, addressed to the attention of Lee A. Monts, by the date specified in the table on Page 3 of the attached solicitation. The form may be hand delivered or mailed in a sealed envelope to SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC 29201. The envelope must be marked as Financial Approval Form for UST Permit # 11946.

You will be provided copies of all the solicitation response forms submitted. Upon review of the responses, you will be required to complete a Corrective Action Solicitation Proposal - Summary form that designates which site rehabilitation contractor you wish to use. Once you select a contractor, the Agency strongly suggests that a written contract between you and the contractor be developed. The only parties to this contract would be you and the contractor you choose. Since the Agency's only function would be to monitor the corrective action activities to ensure progress toward achieving defined corrective actions goals, rather than perform and/or oversee the associated activities, the Agency would not be party to your contract. Please note that under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor.

On all future correspondence, please reference the UST Permit # 11946. Please note that approval from the Agency must be issued before corrective action begins. If you have questions concerning this correspondence, please contact me by telephone at (803) 898-0614, by fax at (803) 898-0673, or by email at fulmersb@dhec.sc.gov.

Sincerely,

Susan B. Fulmer, P.G., Hydrogeologist

sisen B. Filed

Corrective Action Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

Enc: Corrective Action Solicitation Package

List of Certified Site Rehabilitation Contractors

Cc: Technical File (Cover letter and solicitation package)

I. FINANCIAL APPROVAL FORM

A. ACCEPTANCE and DELIVERY STATEMENT

	by the UST Owner/Operator within submittal, to complete the corrective action as a below. For the purpose of this submittal and put this company understands the nature of the reledocumented in the technical file and this solicit method(s) below are estimates and changes to	ation. Any quantities listed in the corrective action to those quantities or to the listed method(s) will not onally, I certify that this company understands that
	Offeror (Print)	UST Site Rehabilitation Contractor Certification #
	Registered Professional Name (Print)	Registered Professional Signature (required)
	P.G. P.E. (check appropriate box)	Professional Certification #
В.	Broad River Rd., Columbia, SC: 1. State and briefly describe the corrective active.	RESPONSE UST Permit # 11946, Broad River Amoco, 4335 ion method(s) or technology(ies) that will be discussed in five years, should financial approval occur. Attach an
	of corrective action plan implementation us and maintained for 2 consecutive quarters is	months, to complete the corrective action from the date ntil the final corrective action goal has been achieved s months. All activities must be incial approval unless otherwise approved in writing by
	permitted technology applied, to treat the arthicknesses do not exceed 0.01' at any poin monitoring and post-corrective action verification and meet all terms and conditions of	res, regardless of the type, quantity, or duration of the rea of concern shown in the Appendix such that FPP in the area of concern; complete all associated fication; prepare all plans, reports, and correspondence; all required permits and licenses; design, install, eleted, properly abandon or remove all assessment and the other items outlined in this solicitation is:

II. SCOPE OF WORK

A. DEFINITIONS:

For the purposes of this solicitation the following terms and definitions shall apply:

- Area of Concern: The horizontal and vertical area in which concentrations of petroleum chemicals of concern have been quantified and/or can be relatively determined by actual data and subsequent interpretation using accepted scientific principles.
- 2. <u>Catastrophic Occurrence</u>: An event (e.g., hurricane) that results in a declared state of emergency and directly and substantially affects the Contractor's operations at a site.
- 3. <u>Chemicals of Concern (CoC)</u>: Specific petroleum constituents that are identified for monitoring and corrective action.
- 4. <u>Corrective Action Completion Time</u>: The time in months, submitted by the Contractor, necessary to reduce FPP thicknesses to at or below 0.01', verify attainment of corrective action goals, and remove and/or properly abandon assessment and corrective action components (wells, treatment lines, etc.). All activities must be completed within 5 years of the date of financial approval unless otherwise approved in writing by the Agency.
- 5. <u>Corrective Action Cost</u>: The total amount established via the procurement process to complete the scope of work/specifications detailed in the solicitation.
- Corrective Action Plan (CAP): A document submitted by the Contractor that outlines and details
 proposed corrective action(s) and contains a timetable consistent with the Corrective Action
 Completion Time.
- 7. Corrective Action Plan Implementation Date: The date on which the Contractor initiates corrective action (i.e., physical treatment activities such excavation, extraction, injection, etc.) under the approved Corrective Action Plan. The date must be within 30 days of receipt of a Notice to Proceed issued by the Agency.
- 8. <u>Day</u>: For the purpose of this solicitation, any reference to day(s) will be intended as calendar day(s) and not business day(s).
- 9. <u>Free-Phase Product (FPP)</u>: Petroleum lighter than water non-aqueous phase liquid (LNAPL) identified for monitoring and corrective action.
- 10. QAPP: UST Management Division Quality Assurance Program Plan.
- 11. <u>Site Incentive Period</u>: The period of time in months established by the Agency during which the Contractor must achieve the corrective action goals (see Solicitation Item III.A.9.) in order to qualify for the Early Completion Incentive.

B. SOLICITATION STATEMENT

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) is seeking services on behalf of Frederick Cecchini to perform corrective action of a petroleum release at a regulated underground storage tank site in accordance with defined corrective action goals. The objectives are to prevent significant further migration of FPP and to remove measurable (>0.01') thicknesses of FPP. All Offerors must be South Carolina-Certified Class I Site Rehabilitation Contractors.

C. SCHEDULE OF DELIVERABLES

The following table summarizes the deadlines for deliverables associated with this solicitation:

DELIVERABLE DUE	DEADLINE
Questions	By December 30, 2013, 4:30 PM ET
Financial Approval Form	By January 15, 2014, 4:30 PM ET in sealed envelope
QAPP Contractor Addendum for Initial Monitoring Report	15 days from date of financial approval
Corrective Action Plan and QAPP Contractor Addendum for Corrective Action	30 days from date of financial approval
Initial Monitoring Report	45 days from approval of QAPP Contractor Addendum for Initial Monitoring Report
CAP Implementation	30 days from Notice to Proceed
CAP Implementation Report	60 days from Notice to Proceed
Notify Project Manager of Sampling	At least 2 weeks prior to sampling event
Corrective Action System Evaluation Report (CASE)	Quarterly from date of CAP Implementation Report or other schedule approved by the Agency
Groundwater Sampling Results	Annually from date of CAP Implementation Report or other schedule approved by the Agency
Update QAPP Contractor Addendum for	First quarter of each year or as needed until
Corrective Action	completion of corrective action
Abandon and/or Remove Assessment and Corrective Action Components	Within 60 days from notice by the Agency

D. SITE SPECIFIC INFORMATION

The scope of work defined in this solicitation is to be implemented at UST Permit # 11946, Broad River Amoco, 4335 Broad River Rd., Columbia, SC 29210 for the release(s) reported on January 4, 2011. A copy of the technical file will be available on-line at

http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm until the initial Corrective Action Plan is approved. The technical file may also be reviewed at the Freedom of Information (FOI) Office located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC (803-898-3882).

III. SOLICITATION REQUIREMENTS

A. GENERAL REQUIREMENTS

- 1. PAYMENT PERIOD: The payment period will be effective from the date of financial approval until corrective action is complete as outlined in this solicitation.
- 2. EQUAL OPPORTUNITY EMPLOYMENT: Contractor must agree to make positive efforts to employ women, other minorities, and minority-owned businesses.
- AMENDMENTS: All amendments to this solicitation shall be in writing from the Agency. The
 Agency shall not be legally bound by any amendment, interpretation or settlement that is not in
 writing.
- 4. RESTRICTION . . . THE ONLY OFFICIAL CONTACT PERSON AT THE AGENCY DURING THE SOLICITATION AND FINANCIAL APPROVAL PROCESS IS LEE MONTS. OFFERORS ARE NOT TO CONTACT ANY OTHER AGENCY PERSONNEL OR OTHER CONTRACTORS.
- 5. FINANCIAL APPROVAL: The UST Owner/Operator has the right to select an SCDHECcertified Class I Site Rehabilitation Contractor to perform corrective action in accordance with SUPERB Act (Title 44, Chapter 2 of the Code of Laws of South Carolina), and is not limited to Contractors who respond to this solicitation. Therefore, financial approval may be made to a Contractor who has been selected by the Owner/Operator but has not responded to this solicitation. The financial approval will be for the reasonable cost as defined in Solicitation Item III.A.6. The selected Contractor must agree to make positive efforts to employ women, other minorities, and minority-owned businesses. The Agency strongly suggests that a written contract be developed between the Owner/Operator and the selected Contractor following completion of the solicitation process. The Agency will not be a party to this contract. If the selected Contractor does not or cannot complete the corrective action in accordance with the specifications outlined in this solicitation, the Owner/Operator will be required to find another SCDHEC-certified Class I Site Rehabilitation Contractor to complete the corrective action for the remainder of the existing financial approval amount. Additional SUPERB funding in excess of financial approval amount may not be allowed. Per the Underground Storage Tank Control Regulations R. 61-92, Part 280, the Owner/Operator is ultimately responsible to the Agency for the actions of their selected Contractor. Therefore, the Agency will pursue enforcement actions against the Owner/Operator if their selected Contractor does not make satisfactory progress towards achieving corrective action goals as outlined in Solicitation Item III.A.9.
- 6. REASONABLE COST: The lowest Corrective Action Cost submitted on a Financial Approval Form in response to this solicitation will be considered the reasonable or SUPERB-allowable cost to complete corrective action as defined by the solicitation. The Agency reserves the right to reject any and all submitted Financial Approval Forms that propose Corrective Action Costs that are not advantageous to the State of South Carolina, that propose a Corrective Action Completion Time that is not protective of public health and the environment, and that propose remediation technology(ies) or method(s) that cannot be permitted in the State of South Carolina and/or that

are not protective of public health and the environment.

- a. The Corrective Action Completion Time for the site shall be determined by the Offeror and entered on the Financial Approval Form in Solicitation Item I.B.
 - Time is of the essence in completing the site work to restore the aquifer and protect human health and the environment. Therefore, the Offeror is encouraged to strive for efficient corrective action methods and to propose the shortest practical completion time for the site.
 - The Offeror shall enter the number of months in the space provided for the site in Solicitation Item I.B.
- 7. SITE WORK VERIFICATION: The Contractor will be required to treat the area of concern as defined in Solicitation Item II.A.1. and as shown in the Appendix (Figure 4). Verification that interim corrective action goals have been achieved will be based upon gauging results from the site-specific target level (SSTL) wells and gauging points listed in the Appendix. Verification that the final corrective action goal has been achieved will be based upon gauging results from all wells and gauging points listed in the Appendix, all injection and/or extraction wells installed as part of corrective action, and all verification wells to be installed at locations and depths designated by the Agency (see Solicitation Item IV.B.11. for more details). It is understood that seasonal fluctuations in FPP thicknesses will occur. It is the intent of this corrective action to prevent further degradation of the aquifer(s) by continued migration of FPP into areas not previously impacted. If the corrective action allows FPP to migrate into areas not previously impacted, the Contractor will be responsible for completing assessment activities necessary to redefine the impacted areas and for providing amendments to their Corrective Action Plan (CAP) to address the additional impact.
- 8. REPORTS: Reports are to be submitted to the Agency on, or prior to, established due dates unless otherwise approved in writing by the Agency. Deliver one paper copy and one electronic copy of each plan and report to: SCDHEC, Bureau of Land and Waste Management, UST Management Division 2600 Bull Street, Columbia, SC 29201. The electronic copy should be submitted on compact disk (CD) in Personal Data Format (PDF). All data tables should be in MS Excel or comparable format. One copy of each plan or report must be delivered to each party listed on the Distribution List included in the Appendix. The distribution copies may be electronic or paper as agreed upon by the party and the Contractor. Based on permitting and other requirements, additional copies of plans and reports may be required by the Agency. The Agency will notify the Owner/Operator of the exact number of copies of each document to be submitted.
- 9. INVOICING: Invoices will be submitted to SCDHEC, Bureau of Land and Waste Management, UST Management Division, ATTN: Financial Section, 2600 Bull Street, Columbia, SC 29201, using the Corrective Action (CA) Invoice form. The initial invoice must be received at the above address within 4 months of CAP approval or funds will be uncommitted as required by the Section 44-2-40(B) of the SUPERB Act. If funds are uncommitted, the invoice will be held until funds become available. Payment will only be made for achieving corrective action goals as specified below. No partial payments will be made, except as outlined in Solicitation Item

IV B 4. Payment to the Contractor will be on a pay-for-performance basis as follows:

- a. Payment of 40% of the total Corrective Action Cost will be made within 90 days following receipt of an invoice and documentation that the Contractor has completed Corrective Action Plan implementation. All corrective action activities must be as described in the CAP and are subject to the limitations of Section 44-2-40 of the SUPERB Act. The implementation should be documented in the Corrective Action Plan Implementation Report. The Corrective Action Plan Implementation Report must include the construction logs for all injection and/or extraction wells installed in accordance with the CAP.
- b. Payment of 30% of the total Corrective Action Cost will be made based on achieving interim and final FPP thickness reduction goals as verified in the SSTL wells and gauging points listed in the Appendix, in all injection and/or extraction wells, and in all verification wells. Payments will be made upon receipt of invoices and documentation that the Contractor has achieved interim and final goals of 60, 90 and 100% reduction of the total FPP thickness above 0.01' by the implementation of corrective action. The FPP thicknesses are listed in the Appendix.
 - 1) The first interim thickness reduction goal will be achieved when 60% of the total FPP thickness above 0.01' in the SSTL wells and gauging points listed in the Appendix is removed. The following formula will be used to calculate the percent total thickness reduction: sum of FPP thicknesses above 0.01' from initial gauging less sum of FPP thicknesses above 0.01' from subsequent gauging divided by sum of FPP thicknesses above 0.01' from initial gauging. Payment of 10% of the total Corrective Action Cost will be made upon confirmation by CASE report or by verification (see Solicitation Item IV.B.11.for the method of verification) that at least 60% of the total FPP thickness above 0.01' has been removed.

The following is an example to demonstrate the FPP Thickness Reduction Calculation:

Well		Thickness	Thickness>Target
MW-1	Initial A	0.11	A CELEBRATE
	Target B	0.01	В
	Initial > Target C	0.10	0.10 ^C
	Subsequent	0.08	, D
4	Target	0.01	E
	Subsequent > Target F	0.07	0.07 F
MW-4	Initial G	2.40	- G
	Target H	0.01	
	Initial > Target	2.39	2.39 ¹
	Subsequent	1.80	
	Target K	0.01	i Si di na K

	Subsequent> Target L	1.79	1.79 ^L
Totals	Initial > Target	(C+I)	2.49 ^M
	Subsequent > Target	(F+L)	1.86 ^N

FPP Thickness Reduction =
$$(M-N)$$
 = $(2.49-1.86)$ = 0.25 * 100 = 25% (M) (2.49)

- 2) The second interim thickness reduction goal will be achieved when 90% of the total FPP thickness above 0.01' in the SSTL wells and gauging points listed in the Appendix is removed. The formula outlined in Solicitation Item III.A.9.b.1 will be used to calculate the percent total thickness reduction. Payment of 10% of the total Corrective Action Cost will be made upon verification (see Solicitation Item IV.B.11. for the method of verification) that at least 90% of the total FPP thickness above 0.01' has been removed. Achievement of this goal must be verified by gauging conducted by the Agency.
- 3) The final thickness reduction goal will be achieved when 100% of the total FPP thickness above 0.01'in the SSTL wells and gauging points listed in the Appendix is removed. The formula outlined in Solicitation Item III.A.9.b.1 will be used to calculate the percent total thickness reduction. Payment of 10% of the total Corrective Action Cost will be made upon verification (see Solicitation Item IV.B.11. for the method of verification) that 100% of the total FPP thickness above 0.01' has been removed. The 100% payment milestone must be verified following two consecutive quarters with all corrective action activities completely ceased prior to payment eligibility. Achievement of this goal must be verified by gauging conducted by the Agency (to be completed during the 2nd 100% verification quarter). FPP thicknesses must not exceed 0.01' in all wells and gauging points listed in the Appendix, in all injection and/or extraction wells, in all verification wells, and at any point in the area of concern.
- c. The final 30% of the total Corrective Action Cost will be paid upon receipt of an invoice and verification that all assessment and corrective action components (e.g., piping, wells, trenches, etc.) have been removed from the site or properly abandoned (see Solicitation Items IV.B.11-14. for more details), and the facility and associated adjacent properties have been restored to the condition that existed prior to assessment and corrective action (Solicitation Item IV.B. 13.). If 100% FPP thickness reduction is not achieved, the final payment may be reduced accordingly (e.g., 98% paid for 98% final reduction) as mutually agreed upon by the Agency and the Contractor.
- 10. LIMITATIONS: The approved Corrective Action Cost will be final and will not be increased or cancelled for any reason (e.g., unanticipated iron fouling of a system, wells clogging because of biological activity or sediments, damage by lightning, increased subcontractor costs, loss of utilities, modification to the system to meet the remediation goals, etc.) with the exception of: 1) unforeseen subsurface conditions as determined solely at the discretion of the Agency; or 2) identification of additional FPP from a confirmed release that occurs subsequent to financial approval and that adversely impacts corrective action as determined by the Agency. Payment will only be made for achieving the corrective action goals as specified in this solicitation. No interim or partial payments will

be made once corrective action is initiated, except as outlined in Solicitation Item IV.B.4. Once corrective action has been initiated and in the event of a cancellation due to any of the conditions described in this solicitation Item, final payment, if appropriate, will be a percentage of the Corrective Action Cost. The percentage will be equal to the actual percent total FPP thickness reduction based upon last gauging results, as verified by the Agency, from all wells and gauging points listed in the Appendix, all injection and/or extraction wells, and all verification wells, less the amount previously paid. Contractorowned items used on-site for the corrective action that are damaged or destroyed by common acts of nature, improper maintenance or handling, theft or vandalism will not be replaced or reimbursed by the SUPERB Account. The Contractor cannot delay progress or suspend corrective action activities at the site based upon a claim of a suspected new petroleum release from the UST system. Unless directed otherwise by the Agency, the Contractor must continue to perform corrective action activities under this solicitation during any period of time during which a new petroleum release from the UST system is being investigated. The Contractor must clearly demonstrate sufficient evidence of the release in the form of analytical test results or other demonstrative evidence to the Agency. The determination that a new petroleum release from the UST system has occurred that post-dates the financial approval, and that adversely impacts corrective action at the site, is the sole discretion of the Agency.

B. SPECIFIC REQUIREMENTS

- SCOPE OF SOLICITATION: This solicitation is for corrective action at one site in South Carolina.
- 2. INQUIRIES: A copy of the technical file will be available on-line at http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm until the initial Corrective Action Plan is approved. The technical file may also be reviewed at the Freedom of Information (FOI) Office located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC (803-898-3882). All questions or requests for information must be submitted in writing to Lee Monts, FAX number (803) 898-0673, in accordance with the date specified in Solicitation Item II.C. After this date, no further questions or requests for information will be addressed. A written response will be provided.
- 3. PROVISION FOR EARLY COMPLETION INCENTIVE: The Agency will pay the Contractor an incentive of 10% of the Corrective Action Cost for early completion, subject solely to the conditions set forth in this provision. Payment will be made if the corrective action goals have been met in accordance with the terms and conditions of this solicitation prior to the end of the Site Incentive Period, as established by the Agency and verified in accordance with Solicitation Item IV.B.11.

The Site Incentive Period will commence on the Corrective Action Plan Implementation Date. A month starts at 12:00 Midnight on the Corrective Action Plan Implementation Date and ends at Midnight preceding the same day of the following month. Months will be counted consecutively from the Corrective Action Plan Implementation Date. Following implementation, the Agency will notify the Contractor in writing of the closing date of the Site Incentive Period.

The Site Incentive Period will not be adjusted for any reason, cause, or circumstance whatsoever, regardless of fault, save and except: 1) in the instance of a catastrophic occurrence (e.g., hurricane) that results in a declared state of emergency and that directly and substantially affects the Contractor's operations at a site and results in unavoidable delay of the corrective action, or 2) an unforeseen condition that could not have been anticipated following financial award to which the Agency has been notified in writing by the Contractor and as the Agency has approved in writing. In the event of a catastrophic occurrence or unforeseen condition on a specific site, the Agency shall determine the number of months reasonably necessary to extend the Site Incentive Period due solely to such catastrophic occurrence. Any amendments to the Site Incentive Period will be provided to the Contractor in writing.

The parties anticipate that routine delays may be caused by or arise from any number of events during the course of corrective action, including, but not limited to: work performed, work deleted, supplemental agreements, delays, disruptions, differing site conditions, utility conflicts, design changes or defects, extra work, right-of-way issues, permitting issues, actions of suppliers, subcontractors, or other Contractors, actions by third parties, revision of the work scope by the Contractor, weather, weekends, holidays, suspensions of the Contractor's operations, or any other such events, forces or factors experienced in environmental work. Such delays or events, and their potential impacts on performance by the Contractor are specifically contemplated and acknowledged by the Contractor upon entering into this contract, and shall not affect the Site Incentive Period or incentives set forth in this contract item. Further, any and all costs or impacts whatsoever incurred by the Contractor to complete corrective action within the Site Incentive Period, whether successful or not, shall be the sole responsibility of the Contractor in every instance.

The Contractor shall have no rights under the contract to make any claim arising out of this incentive provision except as is expressly set forth in this provision.

The Site Incentive Period for UST Permit # 11946, Broad River Amoco, 4335 Broad River Rd., Columbia, SC 29210 is 36 months.

4. SITE-SPECIFIC DETAILS: A brief technical summary, including maps and data tables, is attached in the Appendix. A copy of the technical file will be available on-line at http://www.scdhec.gov/environment/lwm/usthome/OpenBids.htm until the initial Corrective Action Plan is approved. The technical file may also be reviewed at the Freedom of Information Office (FOI) located at the Sims/Aycock Building, 2600 Bull Street, Columbia, SC. Appointment(s) to view the technical file may be scheduled on weekdays between the hours of 8:30 A.M. to 5:00 P.M. by calling FOI at 803-898-3882. Offerors are strongly encouraged to review the file(s) to ensure a complete understanding of corrective action requirements. The selected Contractor will be responsible for all information in the technical file(s).

IV. SPECIFICATIONS for CORRECTIVE ACTION

A. GENERAL SPECIFICATIONS

1. SUBMITTALS: All offerors must submit a completed Financial Approval Form. All submittals must be either hand-delivered or mailed in a sealed envelope to SCDHEC, UST Management

Division, 2600 Bull Street, Columbia, SC 29201, ATTN: Lee A. Monts. The envelope must be marked as a Financial Approval Form for Broad River Amoco, UST Permit # 11946. The completed Form outlines an approach to achieve the corrective action goals (i.e., reduction of FPP to at or below 0.01') and contains the following elements:

- a. A description of the proposed treatment method(s) or technology(ies) for corrective action.
- b. The amount of time in months to meet the corrective action goals, install verification wells, and remove or abandon all assessment and corrective action components.
- c. The total Corrective Action Cost (in U.S. dollars) to meet the corrective action goals and to remove or abandon all assessment and corrective action components.
- 2. MINIMUM REQUIREMENTS: Corrective action will be considered complete when: 1) the FPP thickness are verified to be at or below 0.01' in all wells and gauging points listed in the Appendix, in all injection and/or extraction wells, in all verification wells, and at any point in the area of concern for two consecutive quarters; 2) all assessment and corrective action components (e.g., piping, wells, trenches, etc.) have been removed from the site or are properly abandoned; and 3) the facility and associated adjacent properties have been restored to the condition that existed prior to assessment and corrective action in accordance with Solicitation Item IV.B.13. See Solicitation Item IV.B.11. for the method of verification. Per R. 61-98, all site rehabilitation activities associated with a UST release must be performed by an SCDHECcertified Class I Site Rehabilitation Contractor. The Contractor will be required to adhere to all applicable portions of the OAPP. See http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm and follow the link for UST Quality Assurance Program Plan for the most up-to-date version. All corrective action plans and reports must be sealed by a Professional Engineer or Professional Geologist registered in the State of South Carolina. All engineering reports, drawings and plans must be sealed by a Professional Engineer registered in the State of South Carolina. All laboratory analysis for CoC must be performed by an SC-certified laboratory. All monitoring, verification, injection, and extraction wells must be installed and abandoned by an SC-certified well driller. All applicable certification, training, permits, applications, and fees associated with well installation; injection, discharge, treatment, or transportation of groundwater, air, or soil; construction or operation of a corrective action system; and any other action requiring a permit are the responsibility of the Contractor. Any required business or occupation license and occupational safety and health training (e.g., OSHA) as defined by the laws and regulations of the United States of America, the State of South Carolina, the county or city is also the responsibility of the Contractor. The terms and conditions of all applicable permits will be met. Any contaminated soil or construction debris, contaminated water, and FPP must be properly transported and disposed of, or treated at, an approved facility with prior approval from the Agency. Any costs for utilities construction and service (electric, telephone, sewer, etc.) required by the corrective action are the responsibility of the Contractor.

B. PERFORMANCE REQUIREMENTS

1. QAPP CONTRACTOR ADDENDA: The Contractor must submit a QAPP Contactor Addendum for the Initial Monitoring Report within 15 days from the date of financial approval. The

Addendum for the Initial Monitoring Report must be approved by the Agency prior to initiation of work at the site. A QAPP Contractor Addendum for corrective action must be submitted with the Corrective Action Plan (CAP). The Addendum for corrective action must be updated during the first quarter of each year or as needed until completion of corrective action.

2. CORRECTIVE ACTION PLAN: The Contractor must complete and submit a detailed Corrective Action Plan and QAPP Contractor Addendum for corrective action within 30 days from the date of financial approval. Copies of the CAP must be distributed in accordance with Solicitation Item III.A.8. The CAP must define the method(s) and technology(ies) proposed to achieve corrective action goals in a manner that is consistent with the Corrective Action Completion Time submitted by the Contractor. The corrective action method(s) or technology(ies) must be designed to prevent vapors from entering onsite or adjacent structures. It must be shown, by use of scientific models, computations, or discussion, how FPP thicknesses will be reduced by each method and technology proposed. Any assumptions used in a model will be listed or shown, as well as appropriate references. The use of monitoring well(s) for injection, extraction, or FPP recovery purposes is not allowed. Accordingly, the CAP may propose installation of additional injection, extraction, or compliance wells. General construction details will be included in the CAP (e.g., install 4 extraction wells, install 8 injection wells, excavate 3,000 cubic yards of impacted soils, etc.) as well as details of assessment and corrective action component abandonment and/or removal.

A corrective action timetable that includes demobilization and site restoration (Solicitation Items IV. B. 12-14.) will be provided by the Contractor. As corrective action is required to be completed within 5 years from CAP implementation, the submitted timetable shall not exceed 5 years in any case. The timetable shall itemize when the Contractor expects to meet the 60%, 90%, and 100% interim payment milestones. During corrective action implementation, this timetable may be adjusted (as approved in writing by the Agency) if circumstances beyond the control of the Contractor arise. If the Contractor fails to meet the interim goals in the proposed time frames, a remedy will be sought through the procedures outlined in Solicitation Item III.A.5.

The Agency will review the CAP and initiate a public notice period for a maximum of 30 days. The names and addresses of the owners of all impacted properties and all properties located adjacent to the impacted properties are provided in the Appendix. The Contractor may be required to attend and provide input at one or more public meetings upon request by the Agency. Any CAP amendments and modifications resulting from the public notice must be submitted within 15 days of notification by the Agency. The CAP and any amendments or modifications must be sealed by a qualified Professional Geologist or Engineer registered in the State of South Carolina. The UST Owner/Operator and any other affected property owners will be consulted and will approve the location of the corrective action system. Any aboveground part of the system that is to remain on-site for longer than 30 contiguous days must be secured within a fenced area or building.

3. PERMIT APPLICATIONS: The Contractor must complete and submit all applications for permits (injection, NPDES, BAQC modeling form, thermal treatment, construction, etc.) with the CAP. All submitted applications must comply with the requirements of the respective permitting program. Any required permit changes or corrections will be submitted within 15 days of notification by the Agency.

4. INITIAL MONITORING REPORT: Prior to Corrective Action Plan implementation, the Contractor must submit an Initial Monitoring Report to the Agency documenting CoC concentrations, FPP thicknesses, and potentiometric conditions in all wells and gauging points listed in the Appendix. The report will be due within 45 days after QAPP Contractor Addendum approval. The report should include color photographs with date stamp of the facility/site and surrounding properties to provide documentation of the condition of the facility/site prior to implementation of any corrective action activities. Copies of the Initial Monitoring Report must be distributed in accordance with Solicitation Item III.A.8.

Naturally occurring conditions may cause FPP thicknesses to increase or decrease. For the purpose of this solicitation, the total FPP thickness for all wells and gauging points listed in the Appendix may reasonably increase up to 150% or decrease as much as 50%. If the total FPP thickness in all wells and gauging points listed in the Appendix increases more than 150% based on initial gauging and sampling, or if measurable (>.01') FPP that has not been previously documented in any report is detected during the initial sampling event, the Contractor may request in writing that financial approval be cancelled. If any of these conditions is identified during initial sampling, the Contractor will notify the Agency within 2 days of identification and will submit written documentation within 5 days of notification. Financial approval will be cancelled and the Contractor will be reimbursed based on the following rate schedule:

Subcontract Costs*	Invoice + 15%
Personnel mobilization	\$125.00
Equipment mobilization	\$250.00
Groundwater sample collection	\$35.00 per well
Gauging FPP	\$20.00 per well
Contaminated water disposal	\$0.80 per gallon
CAP preparation and associated costs	\$6,000.00
QAPP Contractor Addendum preparation	\$525.00

^{*} Includes laboratory analysis, drilling, electrical, etc.

If the total FPP thickness in all wells and gauging points listed in the Appendix decreases more than 50% based on initial gauging and sampling, the Agency may cancel financial approval. The Contractor will be notified of the cancellation by certified letter and must submit an invoice for the appropriate items listed in the rate schedule within 20 days from receipt of the letter. If financial approval is cancelled prior to the Corrective Action Plan Implementation Date due to any of the conditions described in this Solicitation Item, final payment will not exceed 40% of the Corrective Action Cost under any circumstances as no FPP thickness reduction will have been accomplished by implementation of corrective action. If the CAP has been implemented and physical treatment activities performed, the Contractor will be required to complete the corrective action unless conditions described in Solicitation Item III.A.10. are encountered.

5. CORRECTIVE ACTION PLAN IMPLEMENTATION: After the CAP, QAPP Contractor Addendum, and all permit applications are reviewed and approved in accordance with the QAPP and R.61-92, Section 280.66, the Agency will issue a Notice to Proceed with CAP implementation. The Contractor will implement the CAP within 30 days of receipt of the Notice to Proceed and any required permit to construct. A penalty of \$100 per day will be assessed for

each calendar day late if the CAP is not implemented in 30 days unless the Contractor obtains written approval from the Agency regarding a change in the implementation schedule. Any assessed penalty amounts will be deducted from the initial payment. If any problem with CAP implementation occurs, the Contractor will notify the Agency within 24 hours of problem identification and will submit written documentation within 5 days of notification. Disruption to the normal business at the site will be kept to a minimum. Any modification, relocation, disturbance, or destruction of physical structures or features as a result of CAP implementation must be approved in writing by the affected property owner prior to CAP implementation. Upon completion of any required construction, the Agency will inspect the corrective action system and issue a permit to operate. The Contractor will, at all times, keep the site free from waste materials and rubbish related to corrective action and maintain the site in a neat and workmanlike condition for the duration of the corrective action. All contaminated soil and construction debris. contaminated water, and FPP generated on-site will be removed from the site promptly. Manifests documenting the proper disposal of contaminated soil and construction debris, contaminated water, and FPP must be included in the appropriate report. The Contractor will repair and/or restore the site/facility to the condition that existed prior to CAP implementation and as documented by the photographs included in the Initial Monitoring Report in accordance with IV.B.4. Any deviation in returning the site/facility to the condition that existed prior to CAP implementation must be documented in writing by the Contractor and signed by the Owner/Operator and property owner.

Implementation of the CAP is not authorized until the Contractor receives a Notice to Proceed from the Agency. If unauthorized implementation occurs, the Agency will not reimburse related costs incurred by the Contractor from the SUPERB Account, and the Corrective Action Cost will be reduced by the amount of the incurred costs. If the Agency agrees with early implementation to better protect human health in an emergency and provides approval in writing, early implementation without any reduction to the Corrective Action Cost will be authorized.

A Corrective Action Plan Implementation Report will be due 60 days from the Notice to Proceed and shall include a description of work sufficient to document CAP implementation activities and the associated dates of work.

- 6. PROPERTY ACCESS: The Contractor will secure access to the site and adjacent properties to gauge wells and gauging points, and to install any corrective action components, as required. The Contractor will be responsible for corrective action components installed on adjacent properties. Costs to repair or replace components of the corrective action system damaged due to the actions of adjacent property owners cannot be paid by the SUPERB Account.
- 7. START-UP: The Contractor will initiate corrective action within 15 days of receipt of a permit to operate, if required. Corrective action as defined in the CAP will begin upon start-up. NOTE: The application of corrective action technologies or natural fluctuations in the water table can mobilize FPP and cause possible appearance of FPP in non-SSTL wells and gauging points.
- 8. REPORTING: The Contractor must complete and submit a Corrective Action Plan (CAP) Implementation Report within 60 days of the Notice to Proceed. The Contractor must also complete and submit a Corrective Action System Evaluation (CASE) report on a quarterly

schedule. The CAP Implementation Report and CASE reports will be distributed in accordance with Solicitation Item III.A.8. The first CASE report is due within 90 days of the CAP Implementation Report. CASE reports must be submitted regardless of the status of corrective action activities.

All wells and gauging points listed in the Appendix will be gauged on a quarterly schedule and sampled on an annual schedule (see Solicitation Item IV.B. 9 for sampling details) following submittal of the CAP Implementation Report. The Contractor must submit a written request for a change in the protocol to the Agency. Approval for any reduction in the number of wells and gauging points to be gauged/sampled, or for any lengthening of the reporting interval, is at the sole discretion of the Agency.

CASE reports must include, at a minimum, all items stipulated in the Documents and Records section and Active Site Rehabilitation Procedures section of the QAPP. CASE reports must also include any additional data required by permits (e.g., air analyses, wastewater effluent analyses, etc.). The Contractor will be provided with the proper report forms and reporting format prior to CAP Implementation. The Agency will notify the Contractor regarding any revisions to the forms or format 60 days prior to the due date for the next CASE report.

9. SAMPLING: The Contractor must collect water samples from all wells and gauging points listed in the Appendix on an annual schedule. Do not sample wells and gauging points containing measurable (>0.01') FPP. If measurable FPP is present, the thickness of product and depth to groundwater must be recorded to the nearest 0.01'. The sampling will be conducted in accordance with applicable portions of the QAPP. Additional samples (air, groundwater, effluent, soil) required by permits must be collected in accordance with established QA/QC protocol and submitted to an SC-certified laboratory for analysis. The samples will be analyzed for parameters stipulated in the permits. Sampling and analytical data for each sample (e.g., field sampling logs, chain of custody forms, certificates of analysis, lab certification number) will be included in the CASE report.

The Contractor must submit a written request to the Agency for a change in the gauging/sampling protocol. Approval for any reduction in the number of wells and gauging points to be gauged/sampled is at the sole discretion of the Agency. The Contractor may choose to conduct gauging/sampling more frequently in order to document that a reduction milestone has been achieved.

- 10. DISPOSAL: The Contractor must properly dispose of all contaminated water, contaminated soil, and FPP generated during corrective action. The Owner/Operator of the UST facility will be considered the generator. In the case of an orphan site, the Contractor will be considered the generator. Treatment and disposal must be conducted at an SCDHEC-approved facility, and must be documented in the CASE reports.
- 11. QUALITY ASSURANCE & VERIFICATION: Once gauging data indicate 100% FPP thickness reduction, the Contractor must completely suspend corrective action and provide notification to the Agency. After 30 days, the Contractor will gauge all wells and gauging points listed in the Appendix and all injection and/or extraction wells to verify that the final (100%) FPP thickness reduction goal has been achieved and maintained. If the goal is maintained, the date of the 30-

day sampling event will be considered the start of the two-quarter, post-corrective action verification period. During the verification period, the Contractor will conduct quarterly sampling of all wells and gauging points listed in the Appendix and all verification wells, and conduct quarterly gauging of all injection and/or extraction wells after the start of the verification period. **Do not sample wells and gauging points containing measurable (>0.01') FPP.** If measurable FPP is present, the thickness of product and depth to groundwater must be recorded to the nearest 0.01'. The samples should be analyzed for the parameters listed in the Appendix, and for dissolved oxygen, ferrous iron, methane, nitrate, and sulfate using the analytical methods and reporting limits detailed in the QAPP.

If gauging results show that the final FPP thickness reduction goal has not been maintained, and/or the FPP thickness exceeds 0.01' in any injection, extraction, or verification well, corrective action must be resumed. The Agency may require the Contractor to propose a revised corrective action strategy and timetable to achieve and maintain the goal. The strategy may require modification of the existing corrective action system. The post-corrective action period will be suspended and corrective action will continue until the final (100%) FPP thickness reduction goal is again achieved and maintained for a period of 30 days, and the FPP thicknesses in the injection, extraction, and verification wells remain at or below 0.01' for a period of 30 days. Once again, the Contractor will suspend corrective action and a new post-corrective action verification period will begin. The aforementioned cycle of activity must be repeated until the FPP thicknesses remain at or below 0.01' in all wells and gauging point listed in the Appendix, in all injection and/or extraction wells, and in all verification wells for 2 consecutive quarters.

The Agency may require installation of three (3) verification wells during the post-corrective action verification period at designated locations and depths. Costs for the verification wells will be considered part of the Corrective Action Cost. The SSTL for any verification well will be an FPP thickness of 0.01'.

The Agency will conduct gauging to verify achievement of the second (90%) interim FPP thickness reduction goal, and <u>may</u> conduct gauging to verify achievement of the first (60%) interim FPP thickness reduction goal and to confirm the start of the two-quarter, post-corrective action verification period. The Agency will also conduct gauging during the two-quarter, post-corrective action verification period to confirm that corrective action goals have been maintained.

If the Contractor anticipates that gauging by the Agency is warranted, and desires to participate or is required to participate, the Agency must be allowed at least 2 weeks to schedule a mutually agreeable time for the gauging event.

- 12. DEMOBILIZATION: The Contractor will disassemble and remove the corrective action system and associated components including utilities from the site within 60 days of notification by the Agency that the final FPP thickness reduction goal has been achieved and maintained for 2 consecutive quarters. Disruption to the UST Owner/Operator's or property owner's business must be kept to a minimum.
- 13. SITE RESTORATION: The Contractor must remove or properly abandon all assessment and corrective action components (piping, monitoring wells, injection and/or extraction wells, trenches, etc.) within 60 days of notification by the Agency that the final FPP thickness reduction

goal has been achieved and maintained for 2 consecutive quarters. Abandonment will be in accordance with the South Carolina Well Standards and Regulations R. 61-71, the UST Management Division QAPP, and accepted industry standards for abandonment of trenches and piping/utility runs. Disruption to the Owner/Operator's or property owner's business must be kept to a minimum. The Contractor must provide the Agency with documentation of the abandonment and disposal of any remaining contaminated soil, contaminated groundwater, and FPP. The Contractor will restore the site and adjacent properties to the condition that existed prior to assessment and corrective action (e.g., repaving, reseeding, etc.) as documented by the photographs included in the Initial Monitoring Report or other written documentation detailing a variance from the conditions documented by the photographs. Neither the Agency nor the SUPERB Account will be liable for any damages caused by the Contractor. As required by Section IV.A.4c. of the SUPERB Site Rehabilitation and Fund Access Regulations R.61-98, the Contractor shall be required to indemnify the property owner, UST Owner/Operator and the State of South Carolina from and against all claims, damages, losses and expenses arising out of or resulting from activity conducted by the Contractor, its agents, employees or subcontractors.

14. COMPLETION NOTICE: Written notice must be provided to the Agency at least 2 weeks prior to completion of site restoration. This will allow the Agency and the Contractor time to jointly inspect the site and adjacent properties, and compile a list of tasks to be finished. Task items may include, but are not limited to, well abandonment, pavement repair, debris removal, etc. Site restoration will be complete once all the tasks are finished, the site passes a final inspection by the Agency, and the Agency issues written notice that the corrective action is complete.

UST # 11946, Broad River Amoco Richland County

Appendix

UST # 11946, Broad River Amoco Richland County

Distribution List for Plans and Reports

Responsible Party and Site Property Owner:

Mr. Frederick Cecchini

4335 Broad River Rd

Columbia SC 29210

Tax Map R06108-04-69

MW-1, 2, 3, 4, 5, 6A, 6B, DMW-1, RW-1, RW-2, RW-3,

RW-4, RW-5

Affected Property Owners*:

William & Bonnie Saville

4509 Wade St

Columbia SC 29210

Tax Map R06108-04-68, 1252 Dothan Rd Tax Map R06108-04-67, 1246 Dothan Rd

MW-11A, 11B, 17B, 18A, 18B, 19A, 19B, 20A, 20B,

21A, 21B, 22B, DMW-2, DMW-3

James & Wendy Rice 22 Caddis Creek Ct

Irmo SC 29063

Tax Map R06108-04-27, 1257 Dothan Rd

MW-15A, 15B, 16A, 16B

MDC Associates 4403 Broad River Rd Columbia SC 29210 Tax Map R06108-04-25, 4409 Broad River Rd Tax Map R06108-04-26, 4403 Broad River Rd

MW-12A, 12B, 13A, 13B, 14A, 14B

State of SC General Services 300 Gervais St Columbia SC 29201

Tax Map R06200-03-02, 4430 Broad River Rd

MW-7A, 8A, 8B, 9A, 9B

Herteline Lowman 4315 Broad River Rd Columbia SC 29210 Tax Map R06108-04-70, 4313 Broad River Rd

MW-10A, MW-10B

^{*}Property owners are subject to change.

Table 1: Analytical Parameters

Analyte	Analytical Method*
BTEX	8260B
Naphthalene	8260B
MTBE	8260B
1,2-DCA	8260B
EDB	8011
Oxygenates + Ethanol	8260-OXY

^{*} See Programmatic QAPP for Reporting Limits.

The analyses listed in Table 1 are required for all sampling events.

Table 2: Natural Attenuation Parameters

Analyte	Analytical Method*
Dissolved Oxygen	SM4500-O G
Ferrous Iron	SM3500-Fe D
Methane	Kerr Method
Nitrate	9056/9210
Sulfate	9038/9056

See Programmatic QAPP for Reporting Limits.

The analyses listed in Table 2 are required for verification sampling.

Verification Wells

Three (3) verification wells may be installed during the post-corrective action monitoring period at locations and depths designated by the UST Management Division. Costs for the well installation are considered part of the approved Corrective Action Cost. The site-specific target level (SSTL) for the verification wells is <0.01' free-phase product thickness per well. During verification, all wells must be sampled for the analytical parameters listed above in Table 1 as well as the natural attenuation parameters listed in Table 2.

Table 3: Current CoC Concentrations in Groundwater

CoC concentrations in micrograms per liter ($\mu g/I$) based on the March 2013 sampling. Product thickness based on the October 30, 2013 gauging:

in the second se	Free Product Thickness	Benzene	Toluene	Ethylbenzene	Xylene	Naphthalene	MTBE	1,2-DCA	EDB
MW-1	None	2480	12,800	1550	5650	623	70.8J	<11.6	<0.0039
MW-2	1.43'								
MW-3		0.417J	1.05	0.408J	1.72J	<0.176	<0.078	<0.116	<0.0039
MW-4	2.25'								
MW-5	6.26'								
MW-6A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-6B		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-7A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-8A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-8B		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-9A		<0.111	<0.122	<0.109	<0.179	<0.176	2.62	0.642J	<0.0039
MW-9B		<0.111	<0.122	<0.109	<0.179	<0.176	2.79	0.675J	<0.0039
MW-10A	2-0/2010/00/0	<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-10B		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-11A		<0.111	<0.122	<0.109	<0.179	<0.176	1	<0.116	<0.0039
MW-11B		<0.111	<0.122	<0.109	<0.179	<0.176	1.12	<0.116	<0.0039
MW-12A	77 - 1917	<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-12B	1000000000	<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-13A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-13B	WWW.TIAN	<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-14A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-14B	21070	<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-15A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-15B		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-16A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-16B		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-17B		6.58	2.47	1.1J	3.87J	<0.352	244	<0.232	<0.0039
MW-18A		<0.111	<0.122	<0.109	<0.179	<0.176	1.42	<0.116	<0.0039
MW-18B		<0.111	0.459J	<0.109	2.03J	<0.176	0.841J	<0.116	<0.0039
MW-19A		0.566J	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-19B		0.253J	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-20A		<0.111	<0.122	<0.109	<0.179	<0.176	1.15	<0.116	<0.0039
MW-20B		<0.111	<0.122	<0.109	<0.179	<0.176	2.25	<0.116	<0.0039
MW-21A		<0.111	<0.122	<0.109	<0.179	<0.176	<0.078	<0.116	<0.0039
MW-21B		<0.111	<0.122	<0.109	<0.179	<0.176	1.34	<0.116	<0.0039
MW-22B		<0.111	<0.122	<0.109	<0.179	<0.176	1.83	<0.116	<0.0039
RW-1	5.30′				44		04.55		
RW-2	None	9420	12,800	2030	11,000	565J	9100	224J	1.65
RW-3	0.01'	2200	1730	077	4000	3101	4450	4E 04	40.0020
RW-4	None	3390	1730	977	4900	210J	4460	<5.81	<0.0039
RW-5	0.03'	F07	e1 22	41.00	41.70	41.70	121	14.21	<0.0020
DMW-1	Charles a linear	507	<1.22	<1.09	<1.79	<1.76	131	14.21	<0.0039
DMW-2		4.12	<0.548J	<0.109	0.805J	<0.176	153	<0.116	<0.0039
DMW-3		0.281J	0.497	<0.109	<0.179	<0.176	1.76	<0.116	<0.0039

^{*} CoC concentations and free product thicknesses may vary due to seasonal fluctuations in the groundwater.

Table 4: Site-Specific Target Levels

Site-specific target levels (SSTLs) for interim payment under this solicitation.

Monitoring Well	Free Product Thickness (feet)
MW-1	<0.01'
MW-2	<0.01'
MW-4	<0.01'
MW-5	<0.01'
RW-1	<0.01'
RW-2	<0.01'
RW-3	<0.01'
RW-4	<0.01'
RW-5	<0.01'
Total Initial Thickness	15.28'
Total SSTL Thickness	<0.09'
Total Initial Thickness Above SSTL	15.19'

List of Adjacent Facilities

- UST Permit # 07374, Walden Correctional Institution, 4340 Broad River Rd., Columbia, SC Release reported April 9, 1999; Conditional No Further Action issued December 3, 2008.
 Release reported April 9, 1999; No Further Action issued January 7, 2008.
- UST Permit # 07375, Kirkland Correctional Institution, 4444 Broad River Rd., Columbia, SC Release reported April 13, 1998, open.

Release reported April 13, 1998; No Further Action issued January 4, 2013.

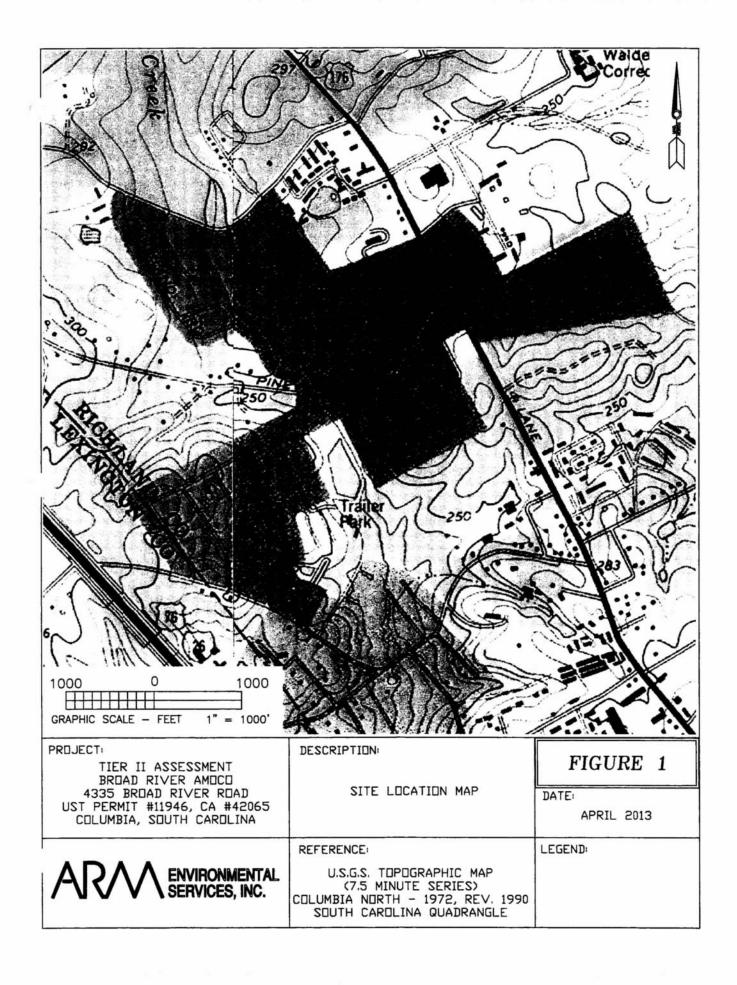
Release reported June 4, 1999; No Further Action issued September 21, 2000.

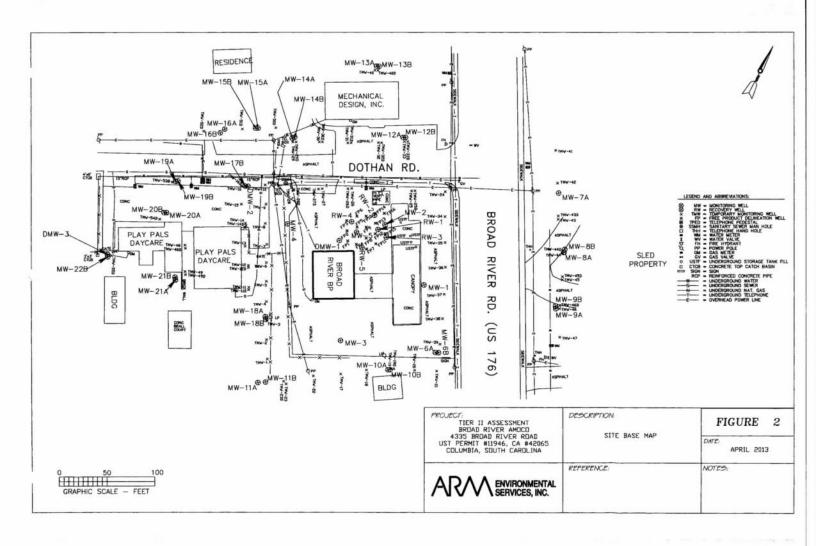
Release reported June 4, 1999, open.

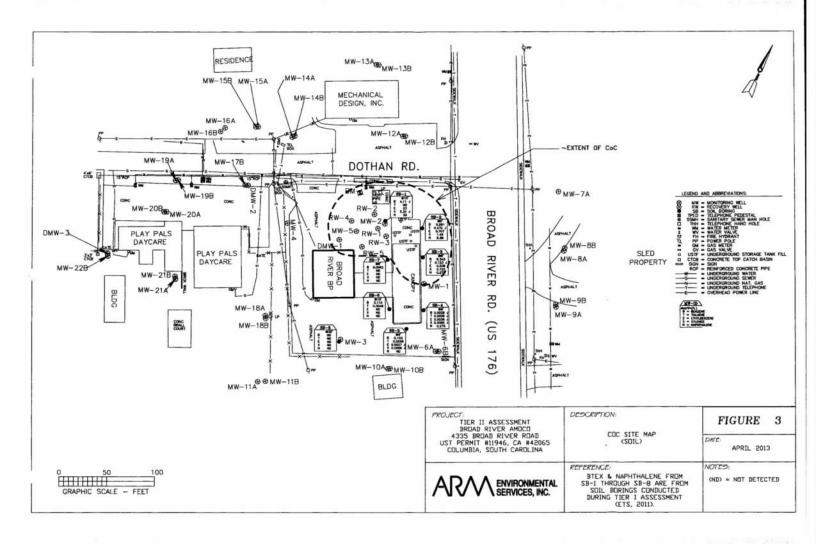
Release reported June 4, 1999; No Further Action issued September 21, 2000.

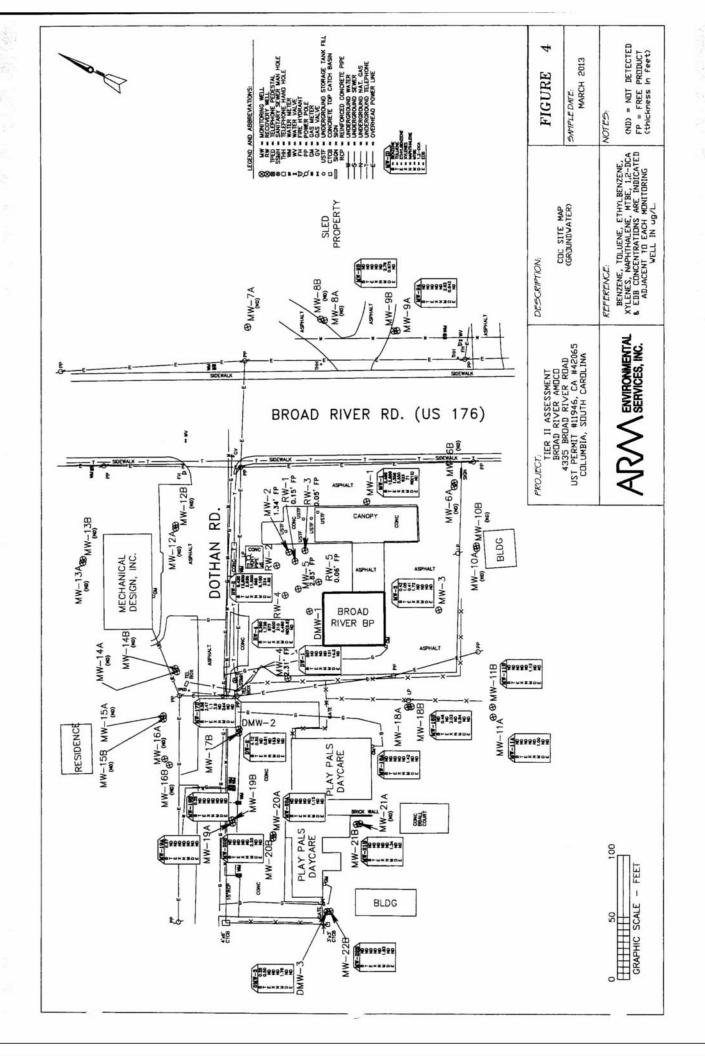
Release reported June 4, 1999; No Further Action issued October 8, 2002.

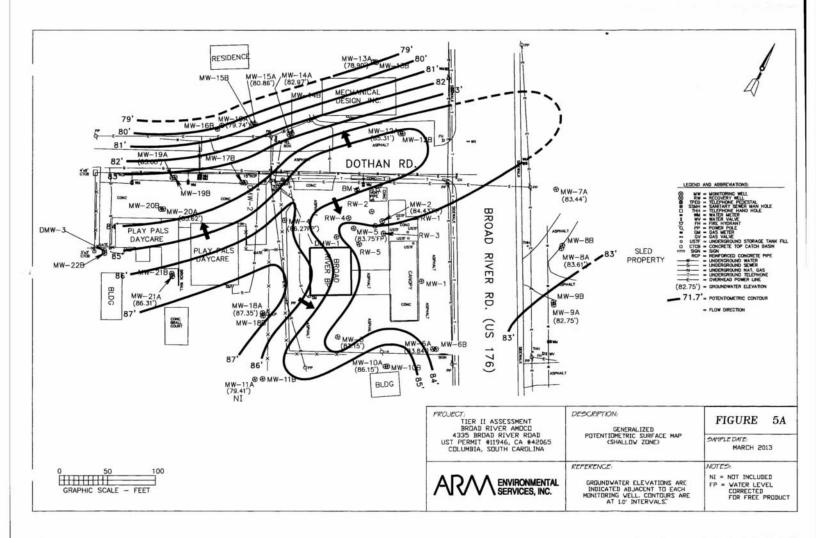
- UST Permit # 13776, SLED, 4400 Broad River Rd., Columbia, SC Release reported July 31, 1991; No Further Action issued September 28, 2000.
- UST Permit # 16466, Women's Correctional Institution, 4450 Broad River Rd., Columbia, SC Release reported June 4, 1999; No Further Action issued June 7, 2000.
- UST Permit # 18391, Broad River Fueling Facility, 4424 Broad River Rd., Columbia, SC No releases reported.
- UST Permit # 18422, SC Computer Data Center, 4430 Broad River Rd., Columbia, SC No releases reported.

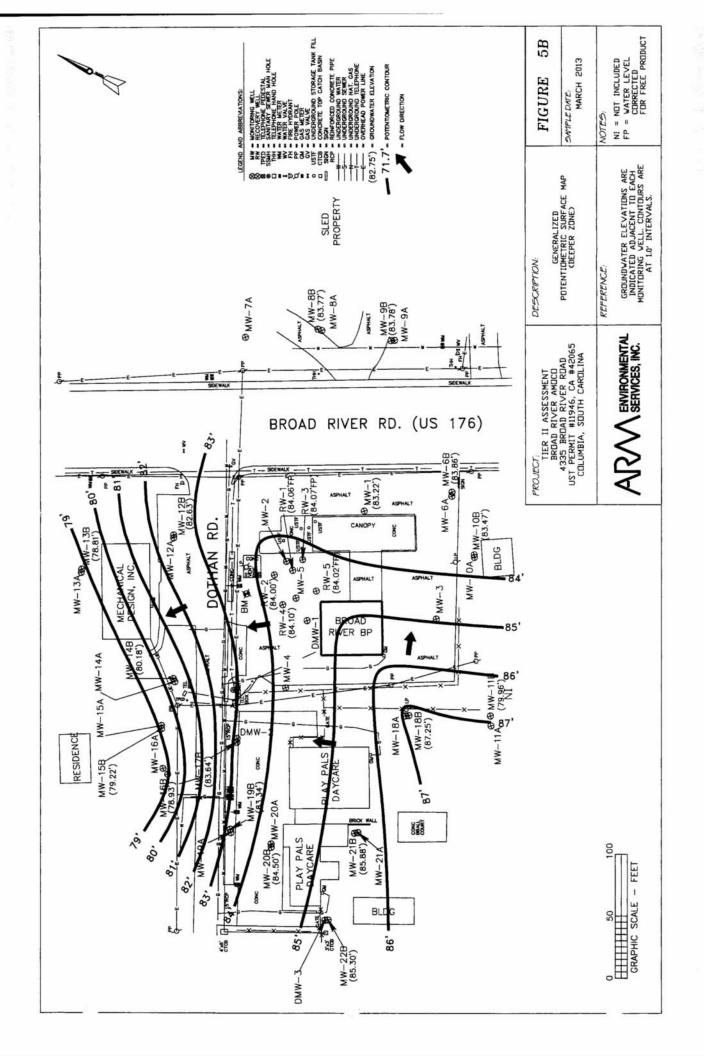


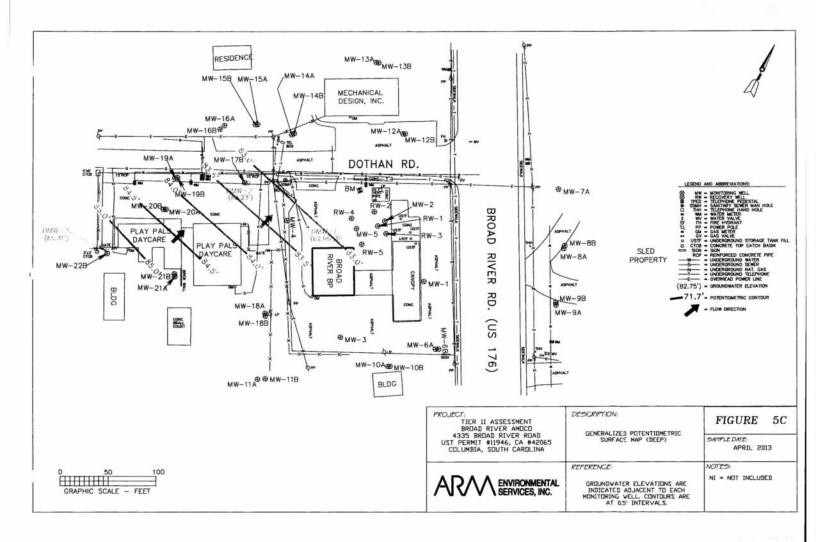


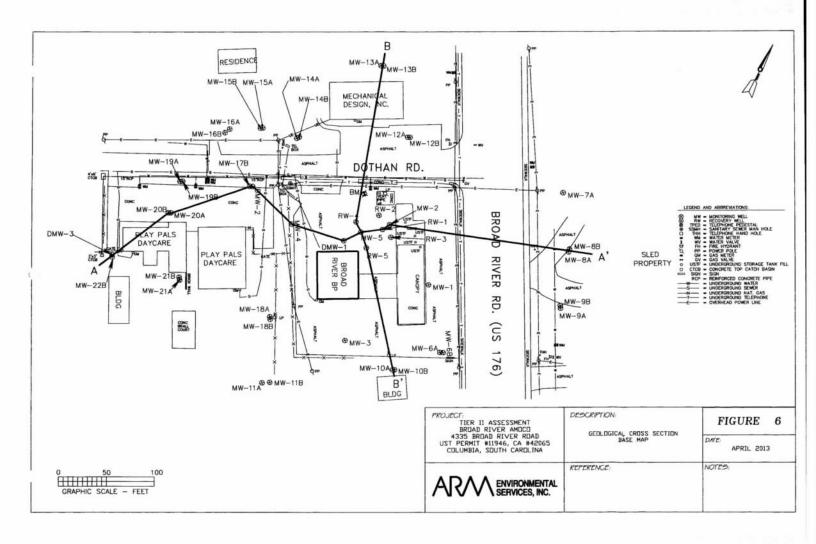


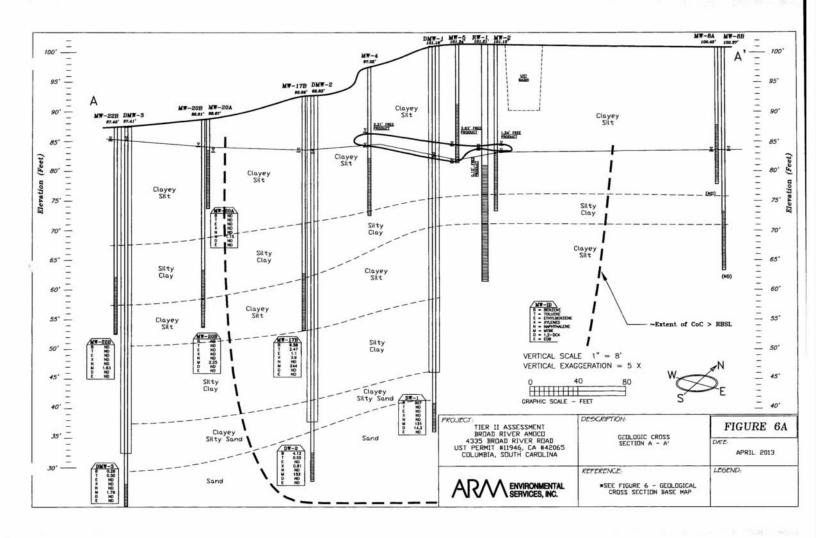


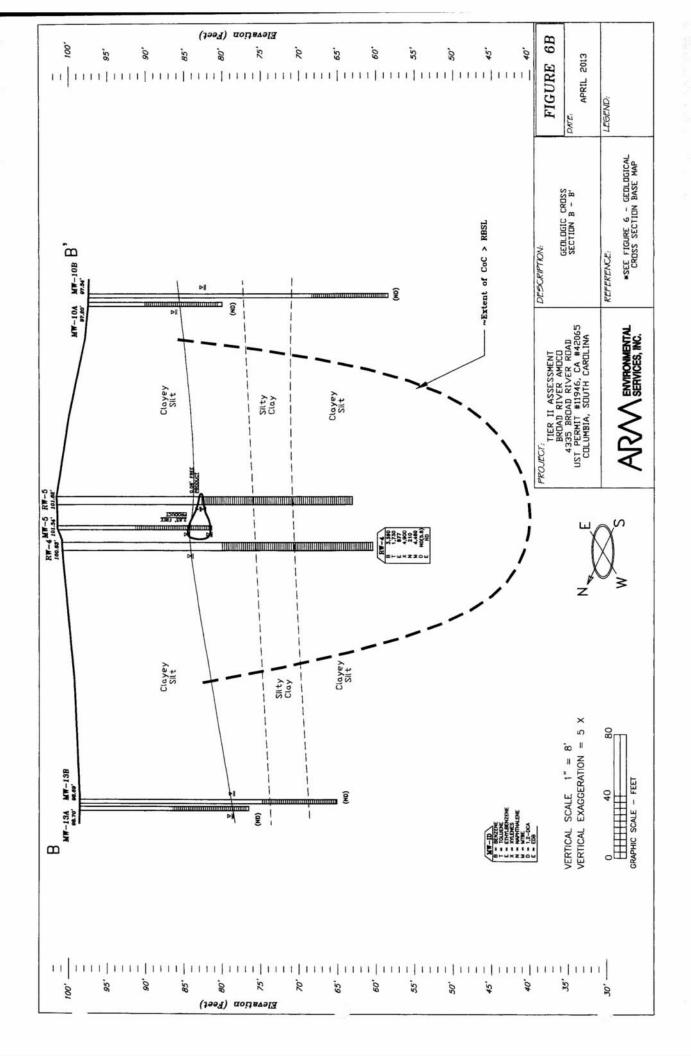


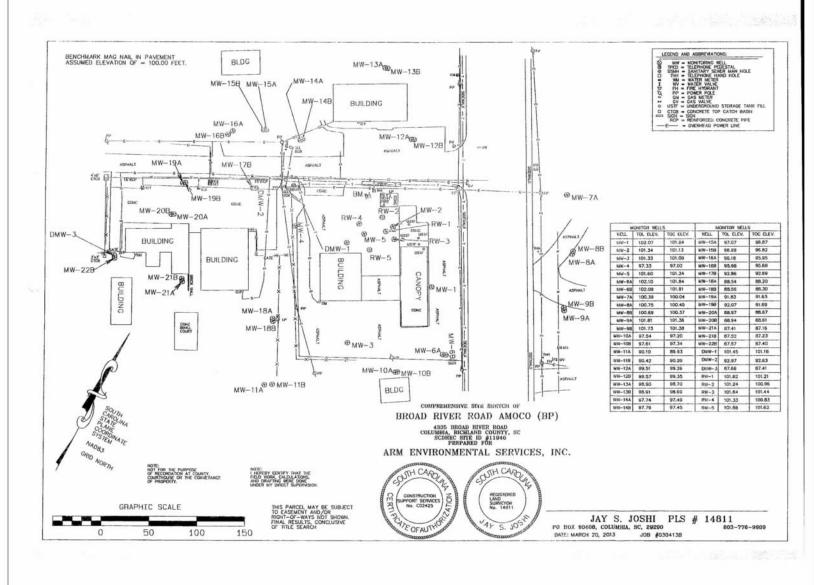












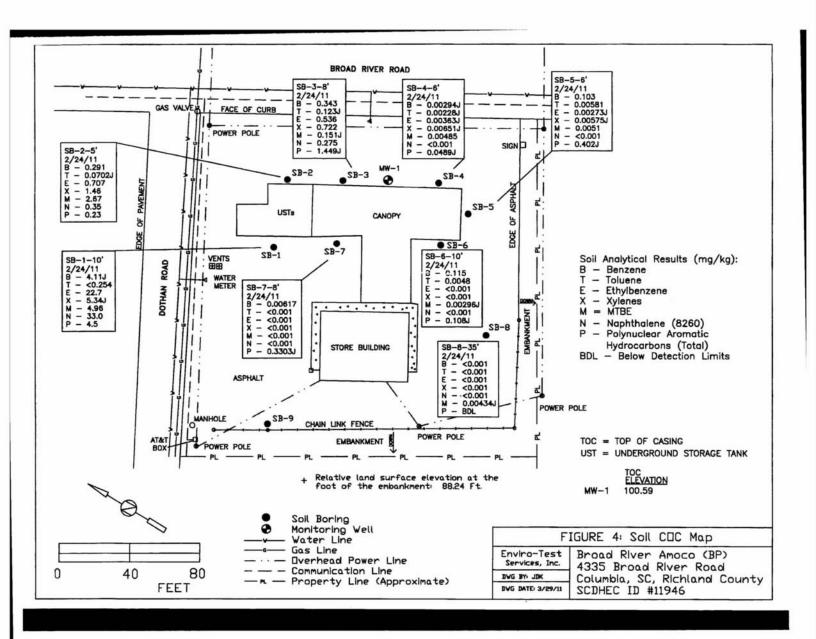


Table 5 - Soil Analytical Data

Soil Boring ID	Sample Depth (ft.)	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene
RBSLs	N/A	N/A	0.187	12.085	1114.5	176.8	0.292
SB-1	10.0	2/24/2011	4.11J	<0.254	23	5.34J	33
SB-2	5.0	2/24/2011	0.291	0.0702J	0.707	1.46	0.35
SB-3	8.0	2/24/2011	0.343	0.123J	0.536	0.722	0.275
SB-4	6.0	2/24/2011	0.00294J	0.00294J	0.00363J	0.00651J	0.275
SB-5	6.0	2/24/2011	0.103	0.00581	0.00273J	0.00575J	< 0.001
SB-6	10.0	2/24/2011	0.115	0.0048	<0.001	< 0.001	<0.001
SB-7	8.0	2/24/2011	0.00617	<0.001	<0.001	<0.001	< 0.001
SB-8	35.0	2/24/2011	< 0.001	<0.001	< 0.001	<0.001	< 0.001

All units expressed in mg/kg (PPM)

< = Not Detected Above Practical Quantitation Limit (limit in μg/kg) NA - Not Analyzed

Table 6 – Potentiometric Data Historical and March 6 & 25, 2013

Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)
MW-1	1/21/2011	40.0	20.0 - 40.0	101.84	20.92	N/A	N/A	N/A	80.92
	3/5/2011	40.0	20.0 - 40.0	101.84	14.45	N/A	N/A	N/A	87.39
	3/6/2013	40.0	20.0 - 40.0	101.84	18.62	N/A	N/A	N/A	83.22
MW-2	3/5/2011	28.0	18.0 - 28.0	101.13	13.50	N/A	N/A	N/A	87.63
	3/6/2013	28.0	18.0 - 28.0	101.13	17.66	16.32	1.34	16.70	84.43
MW-3	3/5/2011	31.0	21.0 - 31.0	101.09	13.72	N/A	N/A	N/A	87.37
	3/6/2013	31.0	21.0 - 31.0	101.09	17.94	N/A	N/A	N/A	83.15
MW-4	3/5/2011	25.0	15.0 - 25.0	97.02	9.15	N/A	N/A	N/A	87.87
	3/6/2013	25.0	15.0 - 25.0	97.02	12.41	10.10	2.31	10.75	86.27
MW-5	6/20/2011	20.0	10.0 - 20.0	101.34	14.05	13.75	0.30	13.83	87.51
	3/6/2013	20.0	10.0 - 20.0	101.34	19.63	16.80	2.83	17.59	83.75
MW-6A	3/6/2013	25.5	15.5 - 25.5	101.84	18.00	N/A	N/A	N/A	83.84
MW-6B	3/6/2013	38.5	28.5 - 38.5	101.91	18.05	N/A	N/A	N/A	83.86
MW-7A	3/6/2013	24.0	14.0 - 24.0	100.04	16.60	N/A	N/A	N/A	83.44
MW-8A	3/6/2013	23.0	13.0 - 23.0	100.45	16.84	N/A	N/A	N/A	83.61
MW-8B	3/6/2013	37.5	27.5 - 37.5	100.37	16.60	N/A	N/A	N/A	83.77
MW-9A	3/6/2013	23.0	13.0 - 23.0	101.36	18.61	N/A	N/A	N/A	82.75
MW-9B	3/6/2013	31.5	21.5 - 31.5	101.38	17.60	N/A	N/A	N/A	83.78
MW-10A	3/6/2013	17.5	7.5 - 17.5	97.20	11.05	N/A	N/A	N/A	86.15
MW-10B	3/6/2013	39.0	29.0 - 39.0	97.34	13.87	N/A	N/A	N/A	83.47
MW-11A	3/6/2013	20.0	10.0 - 20.0	89.93	10.52	N/A	N/A	N/A	79.41
MW-11B	3/6/2013	35.0	29.0 - 39.0	90.26	10.30	N/A	N/A	N/A	79.96
MW-12A	3/6/2013	20.0	10.0 - 20.0	99.26	13.95	N/A	N/A	N/A	85.31
MW-12B	3/6/2013	36.5	26.5 - 36.5	99.35	16.72	N/A	N/A	N/A	82.63
MW-13A	3/25/2013	22.0	12.0 - 22.0	98.70	19.80	N/A	N/A	N/A	78.90
MW-13B	3/6/2013	33.5	23.5 - 33.5	98.69	19.88	N/A	N/A	N/A	78.81
MW-14A	3/6/2013	20.0	10.0 - 20.0	97.49	14.52	N/A	N/A	N/A	82.97
MW-14B	3/6/2013	38.5	28.5 - 38.5	97.45	17.27	N/A	N/A	CHA-	3 80.18

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Note: ** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable NM - Not Measured NL - Not Located UST Permit 11946 lditional Tien II Data

Table 6 – Potentiometric Data Historical and March 6 & 25, 2013

				_						
Monitor Well ID	Date	Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Top of Casing Elevation* (feet)	Static Water Level (feet bgs)	Static Product Level (feet bgs)	Product Thickenss (feet)	Corrected Water Level* (feet)	GW Elevation (feet)	
MW-15A	3/25/2013	17.0	7.0 - 17.0	96.87	16.01	N/A	N/A	N/A	80.86	
MW-15B	3/6/2013	40.0	30.0 - 40.0	96.82	17.60	N/A	N/A	N/A	79.22	
MW-16A	3/25/2013	18.0	8.0 - 18.0	95.95	16.21	N/A	N/A	N/A	79.74	
MW-16B	3/6/2013	37.0	27.0 - 37.0	95.68	16.75	N/A	N/A	N/A	78.93	
MW-17B	3/6/2013	39.5	29.5 - 39.5	92.69	9.05	N/A	N/A	N/A	83.64	
MW-18A	3/6/2013	13.0	3.0 - 13.0	88.20	0.85	N/A	N/A	N/A	87.35	
MW-18B	3/6/2013	35.0	25.0 - 35.0	88.30	1.05	N/A	N/A	N/A	87.25	
MW-19A	3/6/2013	15.0	5.0 - 15.0	91.63	7.95	N/A	N/A	N/A	83.68	
MW-19B	3/6/2013	34.0	24.0 - 34.0	91.69	8.35	N/A	N/A	N/A	83.34	
MW-20A	3/6/2013	15.0	5.0 - 15.0	88.67	5.05	N/A	N/A	N/A	83.62	
MW-20B	3/6/2013	35.0	25.0 - 35.0	88.61	4.11	N/A	N/A	N/A	84.50	
MW-21A	3/6/2013	12.0	2.0 - 12.0	87.16	0.85	N/A	N/A	N/A	86.31	
MW-21B	3/6/2013	35.0	25.0 - 35.0	87.23	1.35	N/A	N/A	N/A	85.88	
MW-22B	3/6/2013	35.0	25.0 - 35.0	87.40	2.10	N/A	N/A	N/A	85.30	
RW-1	3/6/2013	40.0	20.0 - 40.0	101.21	17.26	17.11	0.15	17.15	84.06	
RW-2	3/6/2013	40.0	20.0 - 40.0	100.96	16.96	N/A	N/A	N/A	84.00	
RW-3	3/6/2013	41.0	21.0 - 41.0	101.44	17.41	17.36	0.05	17.37	84.07	
RW-4	3/6/2013	40.5	20.5 - 40.5	100.83	16.73	N/A	N/A	N/A	84.10	
RW-5	3/6/2013	38.5	18.5 - 38.5	101.62	17.64	17.58	0.06	17.6	84.02	
DMW-1	3/6/2013	65.0	60.0 - 65.0	101.16	18.21	N/A	N/A	N/A	82.95	
DMW-2	3/6/2013	65.0	60.0 - 65.0	92.63	9.40	N/A	N/A	N/A	83.23	
DMW-3	3/6/2013	65.0	60.0 - 65.0	87.41	2.10	N/A	N/A	N/A	85.31	

** -Corrected WL = Static WL - (Product Thickness x Product Gravity)

N/A - Not Applicable NM - Not Measured NL - Not Located

Table 7 – Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
MW-1	3/8/2013	2,480	12,800	1,550	5,650	623	70.8 J	ND (11.6)	ND (0.0039)	14 J
MW-2	3/6/2013				1.3	34' Free Proc	luct			
MW-3	3/8/2013	0.417 J	1.05	0.408 J	1.72 J	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-4	3/6/2013				2.3	31' Free Proc	luct		***************************************	
MW-5	3/6/2013				2.8	33' Free Proc	luct		oli Transla Misseria	
MW-6A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	13 J
MW-6B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	19
MW-7A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-8A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	6.8 J
MW-8B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-9A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.62	0.642 J	ND (0.0039)	ND (3.8)
MW-9B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.79	0.675 J	ND (0.0039)	ND (3.8)
MW-10A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-10B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-11A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.00	ND (0.116)	ND (0.0039)	11 J
MW-11B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.12	ND (0.116)	ND (0.0039)	ND (3.8)
MW-12A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-12B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-13A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)		ND (0.0039)	7.8 J
MW-13B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-14A	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)			ND (3.8)
MW-14B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	THE RESERVE OF THE PARTY OF THE		ND (3.8)

All units expressed in µg/L (PPB)

MCL = Maximum Contaminant Level

ND() - Not Detected Above Practical Quantitation Limit (limit in µg/l)
NA - Not Analyzed J - Estimated result < PQL and > Method Detection Limit

Table 7 - Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
MW-15A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	5.3 J
MW-15B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-16A	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	35
MW-16B	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-17B	3/6/2013	6.58	2.47	1.1 J	3.87 J	ND (0.352	244	ND (0.232)	ND (0.0039)	ND (3.8)
MW-18A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.42	ND (0.116)	ND (0.0039)	590
MW-18B	3/6/2013	ND (0.111)	0.459 J	ND (0.109)	2.03 J	ND (0.176)	0.841 J	ND (0.116)	ND (0.0039)	ND (3.8)
MW-19A	3/6/2013	0.566 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-19B	3/6/2013	0.253 J	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	ND (3.8)
MW-20A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.15	ND (0.116)	ND (0.0039)	ND (3.8)
MW-20B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.25	ND (0.116)	ND (0.0039)	8.7 J
MW-21A	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	ND (0.0039)	12 J
MW-21B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.34		ND (0.0039)	6.8 J
MW-22B	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	1.83	THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAME	ND (0.0039)	ND (3.8)
RW-1	3/6/2013	,			0.1	5' Free Proc	luct			
RW-2	3/8/2013	9,420	12,800	2,030	11,000	565 J	9100	224 J	1.65	ND (3.8)
RW-3	3/6/2013					5' Free Proc	luct			
RW-4	3/8/2013	3,390	1,730	977	4,900	210 J	4,460	ND (5.81)	ND (0.0039)	12 J
RW-5	3/6/2013					6' Free Proc				
DMW-1	3/8/2013	507	ND (1.22)	ND (1.09	ND (0.179)	ND (1.76)	131	14.2 J	ND (0.0039)	ND (3.8)
DMW-2	3/6/2013	4.12	0.548 J	ND (0.109)	0.805 J	ND (0.176)	153		ND (0.0039)	ND (3.8)
DMW-3	3/6/2013	0.281 J	0.497 J	ND (0.109)	ND (0.179	ND (0.176)	1.76		ND (0.0039)	120

All units expressed in $\mu g/L$ (PPB) MCL = Maximum Contaminant Level ND() - Not Detected Above Practical Quantitation Limit (limit in $\mu g/l$) NA - Not Analyzed J - Estimated result < PQL and > Method Detection Limit

Table 7- Current Groundwater Analytical Data March 6 through March 8, 2013

Monitor Well	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Naph- thalene	MTBE	1,2-DCA	EDB	Total Lead
RBSLs	N/A	5	1,000	700	10,000	25	40	5 (MCL)	0.05	15 (Action Level)
Duplicate 1 (MW-20B)	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	2.4	ND (0.116)	ND (0.0039)	4.5 J
Duplicate 2 (DMW-2)	3/6/2013	4.62	0.748 J	ND (0.218)	1.05 J	ND (0.352	169	ND (0.232)	ND (0.0039)	ND (3.8)
Field Blank 1	3/6/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 2	3/7/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Field Blank 4	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 1	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 2	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 3	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 4	3/8/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA
Trip Blank 5	3/25/2013	ND (0.111)	ND (0.122)	ND (0.109)	ND (0.179)	ND (0.176)	ND (0.078)	ND (0.116)	NA	NA

All units expressed in $\mu g/L$ (PPB) MCL = Maximum Contaminant Level ND() - Not Detected Above Practical Quantitation Limit (limit in $\mu g/l$) NA - Not Analyzed J - Estimated result < PQL and > Method Detection Limit