hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

Via E-Mail

January 9, 2018

NC DEQ - DWR
1636 Mail Service Center
Raleigh, NC 27699-1636

Attention: Ms. Shristi Rajbhandari Shrestha

Re: UIC Permit Injection Event Record and Status Update – WI0500883
Former ATL Site No. 48
Pittsboro, North Carolina
H&H Job No. DOT-515

Dear Shristi:

On behalf of the North Carolina Dept. of Transportation (NCDOT), Hart and Hickman, PC (H&H) is submitting the attached injection event record for the injection of Pepsi Bottling Ventures' (PBV) Beverage Remediation Product (BRP) on December 11 through 13, 2017 at the former Asphalt Testing Laboratory No. 48 in Pittsboro, North Carolina. Per the approved Underground Injection Control (UIC) permit application, 4,905 gallons of dilute BRP was injected into seven injection wells (BR-IW1 through BR-IW6 and RW-1) to enhance the biodegradation of trichloroethene, 1,1,1-trichlorethane, and their degradation products.

To prepare for injection, two approximately 2,500-gallon batches of BRP were prepared in an onsite mixing tank. The batches were prepared from three 300-gallon totes of concentrated syrup. The BRP was diluted to the total volume using an onsite potable water supply well (48PW-2). Approximately 1,100 pounds of sodium bicarbonate and 100 pounds sodium hexametaphosphate were mixed with the BRP in each batch to add buffering capacity and support the growth of biomass within the aquifer, respectively.

Prior to the addition of sodium bicarbonate and sodium hexametaphosphate, a sample was collected from each batch of the BRP and analyzed for total organic carbon (TOC) and density. The analytical laboratory report is attached. The first batch of BRP contained 48.2 g/L of TOC at a density of 1.042 g/mL and the second batch of BRP contained 43.0 g/L of TOC at a density of 1.058 g/mL. To extrapolate the approximate concentration of high fructose corn syrup (HFCS) from the TOC concentration, the average TOC concentration was multiplied by the molecular weight of fructose (180 g/mole) divided by the molecular weight of carbon in fructose (72 g/mole). As a result, the average HFCS concentration was determined to be approximately 114 g/L.

According to the monitoring plan in the approved UIC permit application, performance monitoring was completed one month following the first injection event followed by four quarterly monitoring events. This was the second bedrock injection under the permit. The first injection occurred in October 2017, and the first monitoring event occurred November 2017. The next monitoring event is scheduled to occur in January 2018.

If you have any questions or need further information, please do not hesitate to contact us at 704-586-0007.

Sincerely,

Hart & Hickman, PC

Greg Kanellis, PE
Senior Project Engineer

Matt Bramblett, PE
Principal

Attachment:
Injection Event Record
Laboratory Analytical Reports

Enclosure

cc: Ms. Stephanie Grubbs, NC DEQ (via email)
Mr. Jason Prosser, NCDOT (via email)
Mr. Brian Gurganus, S.T. Wooten Corp. (via email)
Mr. Layton Long, Chatham County Health Dept. (via email)
Ms. Anne Lowry, Chatham County Health Dept. (via email)

North Carolina Department of Environmental Quality – Division of Water Resources

INJECTION EVENT RECORD (IER)

Permit Number WI0500883

1. **Permit Information**
   North Carolina Department of Transportation
   Attn: Jason Prosser, PG
   Permittee
   S.T. Wooten Asphalt Plant
   Former ATL Site 048
   Facility Name
   240 Sugar Lake Road
   Pittsboro, Chatham County NC 27312
   Facility Address (include County)

2. **Injection Contractor Information**

   Hart & Hickman, P.C.
   Injection Contractor / Company Name

   Street Address 2923 South Tryon Street, Suite 100

   Charlotte, NC 28203
   City State Zip Code

   (704) 586-0007
   Area code – Phone number

3. **Well Information**

   Number of wells used for injection 7 injection wells

   Well IDs BR-IW1 through BR-IW6 and RW-1

   Were any new wells installed during this injection event?
   ☐ Yes ☒ No

   If yes, please provide the following information:

   Number of Monitoring Wells _____

   Number of Injection Wells_____

   Type of Well Installed (Check applicable type):
   ☐ Bored ☐ Drilled ☐ Direct-Push
   ☐ Hand-Augured ☐ Other (specify) _____

Please include a copy of the GW-1 form for each well installed.

   Were any wells abandoned during this injection event?
   ☐ Yes ☒ No

   If yes, please provide the following information:

   Number of Monitoring Wells _____

   Number of Injection Wells_____

Please include a copy of the GW-30 for each well abandoned.

4. **Injectant Information**

   Beverage Remediation Product (BRP)
   Injectant(s) Type
   114 g/L of high fructose corn syrup
   54 g/L of Na-bicarbonate
   Concentration 4.9 g/L of Na-hexametaphosphate

   If the injectant is diluted please indicate the source dilution fluid. Potable well onsite (analyses attached)

   Total Volume Injected (gal) 4,905 gal

   Volume Injected per well (gal) 714 gallons (BR-IW1 through BR-IW5, RW-1), 621 gallons (BR-IW6)

5. **Injection History**

   Injection date(s) 12/11-13/2017

   Injection number (e.g. 3 of 5) 2nd bedrock injection

   Is this the last injection at this site?
   ☐ Yes ☒ No

I DO HEREBY CERTIFY THAT ALL THE INFORMATION ON THIS FORM IS CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT THE INJECTION WAS PERFORMED WITHIN THE STANDARDS LAID OUT IN THE PERMIT.

Gregory Kanellis

1/9/2018
SIGNATURE OF INJECTION CONTRACTOR DATE

Greg Kanellis
PRINT NAME OF PERSON PERFORMING THE INJECTION

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: DOT PITTSBORO 34613.3.13
Pace Project No.: 92342907

Sample: 48 PW-2 **Lab ID: 92342907019** Collected: 06/02/17 10:25 Received: 06/02/17 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		06/06/17 06:07	67-64-1	
Benzene	ND	ug/L	1.0	1		06/06/17 06:07	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		06/06/17 06:07	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		06/06/17 06:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/06/17 06:07	75-25-2	
Bromomethane	ND	ug/L	2.0	1		06/06/17 06:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		06/06/17 06:07	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		06/06/17 06:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		06/06/17 06:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/06/17 06:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		06/06/17 06:07	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		06/06/17 06:07	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		06/06/17 06:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		06/06/17 06:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		06/06/17 06:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/06/17 06:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		06/06/17 06:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		06/06/17 06:07	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		06/06/17 06:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		06/06/17 06:07	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		06/06/17 06:07	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		06/06/17 06:07	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		06/06/17 06:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		06/06/17 06:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/06/17 06:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		06/06/17 06:07	91-20-3	
Styrene	ND	ug/L	1.0	1		06/06/17 06:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		06/06/17 06:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/06/17 06:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		06/06/17 06:07	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: DOT PITTSBORO 34613.3.13
Pace Project No.: 92342907

Sample: 48 PW-2 **Lab ID: 92342907019** Collected: 06/02/17 10:25 Received: 06/02/17 15:50 Matrix: Water

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Benzene	ND	ug/L	1.0	1		06/06/17 06:07	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		06/06/17 06:07	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		06/06/17 06:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/06/17 06:07	75-25-2	
Bromomethane	ND	ug/L	2.0	1		06/06/17 06:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		06/06/17 06:07	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		06/06/17 06:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		06/06/17 06:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/06/17 06:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		06/06/17 06:07	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		06/06/17 06:07	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		06/06/17 06:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		06/06/17 06:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		06/06/17 06:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/06/17 06:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		06/06/17 06:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		06/06/17 06:07	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		06/06/17 06:07	108-20-3	
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Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		06/06/17 06:07	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		06/06/17 06:07	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		06/06/17 06:07	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		06/06/17 06:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		06/06/17 06:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/06/17 06:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		06/06/17 06:07	91-20-3	
Styrene	ND	ug/L	1.0	1		06/06/17 06:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		06/06/17 06:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/06/17 06:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		06/06/17 06:07	127-18-4	

REPORT OF LABORATORY ANALYSIS

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
NC Drinking Water Cert No. 37735
SC Certification No. 99012

Case Narrative

12/28/2017

Hart & Hickman (Raleigh)
Greg Kanellis
3334 Hillsborough St.
Raleigh, NC 27607

Project: DOT.515 Pittsboro
Project No.: WBS34613.313
Lab Submittal Date: 12/14/2017
Prism Work Order: 7120271

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Narrative Notes:

TOC analysis was subcontracted to GCAL. Laboratory report is attached.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

Robbi A. Jones

President/Project Manager

Reviewed By Robbi A. Jones

President/Project Manager

Data Qualifiers Key Reference:

A	Density determined at 21 Degrees C.
BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

Sample Receipt Summary

12/28/2017

Prism Work Order: 7120271

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
BRP-Batch3	7120271-01	Water	12/11/17	12/14/17
BRP-Batch4	7120271-02	Water	12/11/17	12/14/17

Samples were received in good condition at 2.0 degrees C unless otherwise noted.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Greg Kanellis
3334 Hillsborough St.
Raleigh, NC 27607

Project: DOT.515 Pittsboro

Project No.: WBS34613.313
Sample Matrix: Water

Client Sample ID: BRP-Batch3
Prism Sample ID: 7120271-01
Prism Work Order: 7120271
Time Collected: 12/11/17 15:50
Time Submitted: 12/14/17 08:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
Density	**1.042 A**	**g/mL**	**0.001000**		**1**	***In-house**	**12/27/17 14:53**	**HMBJ**	**P7L0427**

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Greg Kanellis
3334 Hillsborough St.
Raleigh, NC 27607

Project: DOT.515 Pittsboro

Project No.: WBS34613.313
Sample Matrix: Water

Client Sample ID: BRP-Batch4
Prism Sample ID: 7120271-02
Prism Work Order: 7120271
Time Collected: 12/11/17 14:50
Time Submitted: 12/14/17 08:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
Density	**1.058 A**	**g/mL**	**0.001000**		**1**	***In-house**	**12/27/17 14:45**	**HMBJ**	**P7L0427**

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Greg Kanellis
3334 Hillsborough St.
Raleigh, NC 27607

Project: DOT.515 Pittsboro

Project No: WBS34613.313

Prism Work Order: 7120271
Time Submitted: 12/14/2017 8:10:00AM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7L0427 - NO PREP										
Duplicate (P7L0427-DUP1)		**Source: 7120271-01**		Prepared & Analyzed: 12/27/17						
Density	1.042	0.001000	g/mL		1.042			0.04	20	

Subcontracted Analyses

The following analyses were subcontracted to Gulf Coast Analytical Labs , Inc.

Lab Number	Analysis
7120271-01	TOC (Sub)
7120271-02	TOC (Sub)

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: DOT.515 Pittsborough 34613.3.13
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: accountspayable@harthickman.com
Address: 2923 S. Tryon Street, Ste-100
Charlotte, NC 28203
Purchase Order No./Billing Reference WBS. 34613.3.13

Client Company Name: Hart & Hickman
Report To/Contact Name: Greg Kanellis
Reporting Address: 3334 Hillsborough St.
Raleigh, NC 27607
Phone: 919-586-4241 Fax (Yes) (No): _____
Email Address: GKanellis@harthickman.com
EDD Type: PDF ✓ Excel ✓ Other _____
Site Location Name: Pittsboro DOT.515
Site Location Physical Address: Pittsborough, NC

Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☑ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?	✓		
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: IAT-7 Observed: 2.5 °C / Corr: 2.0°C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC____ DoD____ FL____ NC ✓
SC____ OTHER_____ N/A_____
Water Chlorinated: YES ✓ NO___
Sample Iced Upon Collection: YES ✓ NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	ANALYSIS REQUESTED TOC	Density					REMARKS	PRISM LAB ID NO.
BRP-Batch3	12/11/17	1550	water	VOA, P	4		HCL, none	X	X						01
BRP-Batch4	12/12/17	1450	water	VOA, P	4		HCL, none	X	X						02

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature Jeffrey Ollison | Sampled By (Print Name) Jeffrey Ollison | Affiliation H+H

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	12/13/17	15:00
Relinquished By: (Signature)	Received By: (Signature)	12/14/17	0750
Relinquished By: (Signature)	Received For Prism Laboratories By:	12/14/17	0900

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

Fed.Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☑ Other Courier

COC Group No. 710271

Additional Comments:

PRISM USE ONLY

Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

DES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____

CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

ACCESS
ANALYTICAL, INC.

ANALYTICAL REPORT

CLIENT
Prism Laboratories
PO Box 240543
Charlotte, NC 28224

ATTENTION
Robbi Jones

PROJECT ID
7120271

LABORATORY REPORT NUMBER
217121527

DATE
12/22/2017

Primary Data Review By

Authorized Signature

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 Innovation Park Dr., 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

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 12/22/2017

GCAL Report 217121527

Project 7120271

Deliver To	*Additional Recipients*
Robbi Jones Prism Laboratories PO Box 240543 Charlotte, NC 28224 800-529-6364	NONE

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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 that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
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
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

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 Institute (TNI) Standard 2009 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.

Authorized Signature
GCAL Report 217121527

Certifications

Certification	Certification Number
DOD ELAP	L14-243
Alabama	01955
Arkansas	12-060-0
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
USDA Soil Permit	P330-10-00117

Case Narrative

Client: Access Analytical **Report:** 217121527

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary 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.

GENERAL CHEMISTRY

In the SM 5310 B-2011 analysis, samples 21712152701 (BRP_Batch 3) and 21712152702 (BRP_Batch 4) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21712152701	BRP_Batch 3	Water	12/11/2017 15:50	12/15/2017 09:40
21712152702	BRP_Batch 4	Water	12/11/2017 14:50	12/15/2017 09:40

Summary of Compounds Detected

BRP_Batch 3				
	Collect Date	12/11/2017 15:50	GCAL ID	21712152701
	Receive Date	12/15/2017 09:40	Matrix	Water

SM 5310 B-2011

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	48200	300	2000	mg/L

BRP_Batch 4				
	Collect Date	12/11/2017 14:50	GCAL ID	21712152702
	Receive Date	12/15/2017 09:40	Matrix	Water

SM 5310 B-2011

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	43000	300	2000	mg/L

Sample Results

BRP_Batch 3

Collect Date	12/11/2017 15:50	GCAL ID	21712152701
Receive Date	12/15/2017 09:40	Matrix	Water

SM 5310 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1000	12/21/2017 13:15	JEM	625658

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	48200	300	2000	mg/L

BRP_Batch 4

Collect Date	12/11/2017 14:50	GCAL ID	21712152702
Receive Date	12/15/2017 09:40	Matrix	Water

SM 5310 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1000	12/21/2017 13:39	JEM	625658

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	43000	300	2000	mg/L

General Chemistry QC Summary

Analytical Batch 625658	Client ID	MB625658		LCS625658				LCSD625658				
	GCAL ID	1758227		1758228				1758229				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	12/21/2017 09:01		12/21/2017 08:01				12/21/2017 17:44				
	Matrix	Water		Water				Water				
SM 5310 B-2011		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.30U	0.30	50.0	49.5	99	90 - 110	50.0	47.2	94	5	20

Analytical Batch 625658	Client ID	Ave E (002) TOC		1757013MS				1757013MSD				
	GCAL ID	21712181701		1758230				1758231				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	12/21/2017 15:51		12/21/2017 16:24				12/21/2017 16:54				
	Matrix	Water		Water				Water				
SM 5310 B-2011		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	5.1	0.30	50.0	49.6	89	80 - 120	50.0	51.7	93	4	20

Sub to C

Client ID: 4565 - Access Analytical
SDG: 217121527
PM: AEC

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

SUBCONTRACT ORDER
Prism Laboratories, Inc.
7120271

Certification: NELAC___ USACE___
NC ✓ SC___ Other ______
N/A_____

SENDING LABORATORY:

Prism Laboratories, Inc.
P. O. Box 240543
Charlotte, NC 28224-0543
Phone: 800-529-6364
Fax: 704-525-0409
Project Manager: Robbi A. Jones

RECEIVING LABORATORY:

Gulf Coast Analytical Labs, Inc.
10781 Coursey Blvd
Baton Rouge, LA 70816
Phone :(225) 769-4900
Fax: (225) 767-5717

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 7120271-01	Water	Sampled:12/11/17 15:50	BRP_Batch3	-1
TOC (Sub)		01/08/18 15:50		
Containers Supplied: 2 HCL Amber				
Sample ID: 7120271-02	Water	Sampled:12/11/17 14:50	BRP - Batch 4	-2
TOC (Sub)		01/08/18 14:50		
Containers Supplied: 2 HCL Amber				

7710 0001 3528

Released By	Date	Received By	Date
[signature]	12-14-17	Fed Ex	12-14-17
Fed Ex	12-15-17	[signature] GCAL	12/15/17 9:40 0.6° 2.4°pm

Page 1 of 1

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

217121527

SAMPLE DELIVERY GROUP 217121527	
Client PM AEC 4565 - Access Analytical	**Transport Method** FEDEX
Profile Number 80251	**Received By** Savage, Tiffany R
Line Item(s) 1 - Water BTEX/Naph/MTBE	**Receive Date(s)** 12/15/17

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by GCAL?	☐	☑

COOLERS

Airbill	Thermometer ID: E29	Temp °C
7710-0001-3528		0.6

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

Page 1 of 1

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: DOT PITTSBORO 34613.3.13
Pace Project No.: 92342907

Sample: 48 PW-2 **Lab ID: 92342907019** Collected: 06/02/17 10:25 Received: 06/02/17 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		06/06/17 06:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		06/06/17 06:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		06/06/17 06:07	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		06/06/17 06:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		06/06/17 06:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		06/06/17 06:07	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		06/06/17 06:07	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		06/06/17 06:07	17060-07-0	
Toluene-d8 (S)	113	%	70-130	1		06/06/17 06:07	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: DOT PITTSBORO 34613.3.13
Pace Project No.: 92342907

Sample: 48 PW-2 **Lab ID: 92342907019** Collected: 06/02/17 10:25 Received: 06/02/17 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		06/06/17 06:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		06/06/17 06:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/06/17 06:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/06/17 06:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		06/06/17 06:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		06/06/17 06:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		06/06/17 06:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		06/06/17 06:07	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		06/06/17 06:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		06/06/17 06:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		06/06/17 06:07	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		06/06/17 06:07	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		06/06/17 06:07	17060-07-0	
Toluene-d8 (S)	113	%	70-130	1		06/06/17 06:07	2037-26-5	

REPORT OF LABORATORY ANALYSIS