Chain of Custody
and
Miscellaneous Documents

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 90803

Client: ATC Group Services
Address: 7499 Parkland Rd Ste 112
City: Columbia State: SC Zip Code: 29223
Project Name: Arale R 8720888e
Project No.:
P.O. No.:
Report to Contact: Fred Lyke
Sampler's Signature: X
Printed Name:
Telephone No. / E-mail: fred.lyke@atcgs.com
Quote No.:
Analysis (Attach list if more space is needed)
Page 1 of 5
TL01003
KMN2

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab G / Composite C	Matrix: Aqueous	Soil	Air	Waste	No. of Containers by Preservative Type: Unpres.	HCl	HNO3	H2SO4	NaOH	ZnAc/NaOH	8260B	PAH	Remarks / Cooler I.D.
01589 MW-1	11/28/18	1431	G	✓				1			3			3	1	*BTEX, Naph, MTBE, 1,2 DCA, *Oxy 8260B
MW-2	11/28/18	1205														
MW-3	11/28/18	1134														
MW-4	11/28/18	1335														
MW-5	11/28/18	1100														
MW-7	11/29/18	0940														
MW-8	11/29/18	0905														
MW-9	11/29/18	0835														
MW-10	11/29/18	0755														
MW-11	11/29/18	0710														

Turn Around Time Required (Prior lab approval required for expedited TAT): ✓ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☐ Disposal by Lab
Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	11-30-18	1943	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: Erin Brown	11-30-18	1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack Receipt Temp. 1.9 °C 1.2°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-139 Effective Date: 08-01-2014

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Number 90802

Client: ATC Group Services	Report to Contact: Fred Lyke	Telephone No. / E-mail: fred.lyke@atcgs.com	Quote No.
Address: 7499 Parklane Rd Ste 112	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 2 of 5
City: Columbia State: SC Zip Code: 29223	Printed Name:		
Project Name: Circle K 2720880			TL01003
Project No.	P.O. No.		KMN2

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Collection Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8260B*	PAH	Remarks / Cooler I.D.
01589 MW-12	11/28/18	1235	G	✓			1			3			3	1	*BTEX, Naph,
MW-13	11/28/18	13													MTBE, 1,2,
MW-14	11/29/18	1025													+DXY 8260B
MW-15	11/29/18	1055													
MW-16	11/29/18	1125													
MW-17	11/29/18	1155													
MW-18	11/29/18	1301													
MW-19	11/ /18														
MW-20	11/29/18	1325													
MW-21	11/29/18	1206													

Turn Around Time Required (Prior lab approval required for expedited TAT.) ☑ Standard ☐ Rush (Specify)

Sample Disposal ☐ Return to Client ☐ Disposal by Lab

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: [signature]	11-30-18	1943	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: Eric Brown	11-30-18	1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack Receipt Temp 1.9 °C 1.2°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s): PINK-Field/Client Copy

Document Number: F-AD-183 Effective Date: 08-01-2014

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SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
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Number 90801

Client: ATC Group Services
Address: 7499 Parklane Rd Ste 112
City: Columbia State: SC Zip Code: 29223
Project Name: Circle K ~~8860~~ 2720880
Project No.: P.O. No.:

Report to Contact: Fred Lyke
Sampler's Signature: X
Printed Name:

Telephone No. / E-mail: fred.lyke@atcgs.com
Analysis (Attach list if more space is needed): 8260B* PAH

Quote No.:
Page 3 of 5

TL01003

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Matrix: Aqueous	Matrix: Soils	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	NaOH	HNO3	HCl	NaOH	NaOH NH	8260B*	PAH	Remarks / Cooler I.D.
01589 MW-22	11/29/18		G	✓			1								*BTEX, Naph,
MW-23	11/29/18	1128													MTBE, 1,2DCA
MW-24	11/28/18	~~1551~~ 1542													+oxy 8260B
MW-25	11/28/18	1626													
MW-26	11/28/18	1418													
MW-27	11/28/18	1330													
MW-28	11/28/18	1458													
MW-29	11/29/18	1027													
MW-30	11/29/18	1128													
MW-31	11/28/18	1446													

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☐ Disposal by Lab
Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	11-30-18	1943	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: [signature]	11-30-18	1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 2.0 °C 1.9°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY **Chain of Custody Record**

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106 Vantage Point Drive • West Columbia, SC 29172
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Number 90804

Client: ATC Group Services
Address: 7499 Parklane RD Ste 112
City: Columbia State: SC Zip Code: 29223
Project Name: Circle K 2720886
Project No.:
Report to Contact: Fred Lyke
Sampler's Signature: X
Printed Name:
Telephone No. / E-mail: fred.lyke@atcgs.com
Analysis (Attach list if more space is needed)
Quote No.:
Page 4 of 5

TL01003

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	HCl	8260B	PAH	Remarks / Cooler I.D.
01589 DMW-1	11/28/18	1300	G	✓			1	2	2	1	* BTEX,
DMW-2	11/28/18	1615	↓	↓			↓	3	3	↓	Naph, MTBE,
DMW-3	11/29/18	1156	↓	↓			↓	↓	↓	↓	1,2 DCA+Hg
RW-1	11/28/18	1244	↓	↓			↓	↓	↓	↓	
RW-2	11/28/18	1322	↓	↓			↓	2	2	↓	
RW-3	11/28/18	1429	↓	↓			↓	2	2	↓	
RW-4	11/28/18	1480	↓	↓			↓	3	3	↓	
Dup1	11/28/18	1210	↓	↓			↓	↓	↓	↓	
Dup2	11/28/18	1240	↓	↓			↓	↓	↓	↓	
Dup3	11/28/18	1340	↓	↓			↓	↓	↓	↓	

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☐ Disposal by Lab
Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	11-30-18	1943	1. Received by:		
2. Relinquished by:			2. Received by:		
3. Relinquished by:			3. Received by:		
4. Relinquished by:			4. Laboratory received by: Erin Brown	11-30-18	1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack
Receipt Temp. 2.0 °C 1.5°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY **Chain of Custody Record**

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106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 90805

Client: ATC Group Services	Report to Contact:	Telephone No. / E-mail:	Quote No.:
Address: 7499 Parkland Rd Ste 112	Sampler's Signature: X	Analysis (Attach list if more space is needed):	Page 5 of 5
City: Columbia State: SC Zip Code: 29223	Printed Name:		TL01003
Project Name:			
Project No.:	P.O. No.:		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab	Matrix: Aqueous	Matrix: Solid	Matrix: Non-aqueous	No of Containers by Preservative Type: Liquid	NaOH	HNO3	HCl	NaOH	HNO3	8260B	PAH	Remarks / Cooler I.D.
01589 ~~Dup4~~	~~11/28/18~~	~~1120~~	~~G~~	~~A~~			~~1~~			~~3~~			~~3~~	~~1~~	
FB1	11/28/18	1050	G	A			1			3			3	1	
FB2	11/29/18	1530													
FB3	11/30/18	1115													
SW1	11/29/18														
SW2	11/29/18														
SW3	11/29/18														
SW4	11/30/18	1220													
SW5		1245													
SW6		1258													

Turn Around Time Required (Prior lab approval required for expedited TAT.)	Sample Disposal	Possible Hazard Identification	QC Requirements (Specify)
☑ Standard ☐ Rush (Specify)	☐ Return to Client ☐ Disposal by Lab	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown	

	Date	Time		Date	Time
1. Relinquished by: [signature]	11-30-18	1943	1. Received by:		
2. Relinquished by:			2. Received by:		
3. Relinquished by:			3. Received by:		
4. Relinquished by:			4. Laboratory received by: [signature]	11-30-18	1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle) Yes No Ice Pack
Receipt Temp. 1.5 °C 2.0°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 90337

Client: ATC Group Services	Report to Contact: FRED Lyle	Telephone No. / E-mail:	Quote No.
Address: 7499 Parklane Rd #112	Sampler's Signature: x [signature]	Analysis (Attach list if more space is needed)	Page ___ of ___
City: Columbia State: SC Zip Code: 29223	Printed Name: J. Gray		TL01003
Project Name: Circlek 886			
Project No.	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	Unpres.	HNO3	HCl	NaOH	NaOH	Total	PAH							Remarks / Cooler I.D.
01589 SW 7	11/30/18	1318	G	X			1			3			3	1							
SW 8	↓	1326	↓	↓			↓			↓			↓	↓							
SW 9	↓	1349	↓	↓			↓			↓			↓	↓							

Turn Around Time Required (Prior lab approval required for expedited TAT.) ☐ Standard ☐ Rush (Specify)	Sample Disposal ☐ Return to Client ☐ Disposal by Lab		Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown	QC Requirements (Specify)	
1. Relinquished by [signature]	Date 11-30-18	Time 1943	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by [signature]	Date 11-30-18	Time 1943

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack Receipt Temp. 2.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

Shealy Environmental Services, Inc.
Document Number: MP9018C-14

Effective Date: 8/2/2018

Sample Receipt Checklist (SRC)

Client: ATC

Cooler Inspected by/date: LKH / 11/30/18 Lot #: TL01003

Means of receipt: ☐ SESI ☑ Client ☐ UPS ☐ FedEx ☐ Other: _____

☐ Yes	☑ No		1. Were custody seals present on the cooler?
☐ Yes	☐ No	☑ NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: _____ Chlorine Strip ID: _____ Tested by: _____

Original temperature upon receipt / Derived (Corrected) temperature upon receipt: %Solid Snap-Cup ID: _____

1.9 / 1.9 °C 1.2 / 1.2 °C 2.0 / 2.0 °C 1.5 / 1.5 °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Ice Packs ☐ Dry Ice ☐ None

☐ Yes	☐ No	☑ NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
☐ Yes	☐ No	☑ NA	4. Is the commercial courier's packing slip attached to this form?
☑ Yes	☐ No		5. Were proper custody procedures (relinquished/received) followed?
☑ Yes	☐ No		6. Were sample IDs listed on the COC?
☑ Yes	☐ No		7. Were sample IDs listed on all sample containers?
☑ Yes	☐ No		8. Was collection date & time listed on the COC?
☑ Yes	☐ No		9. Was collection date & time listed on all sample containers?
☑ Yes	☐ No		10. Did all container label information (ID, date, time) agree with the COC?
☑ Yes	☐ No		11. Were tests to be performed listed on the COC?
☑ Yes	☐ No		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? _____
☑ Yes	☐ No		13. Was adequate sample volume available?
☑ Yes	☐ No		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☐ Yes	☑ No		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
☑ Yes	☐ No	☐ NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (½"or 6mm in diameter) in any of the VOA vials?
☐ Yes	☐ No	☑ NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
☐ Yes	☐ No	☑ NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
☐ Yes	☐ No	☑ NA	19. Were all applicable NH_3/TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
☐ Yes	☐ No	☑ NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
☐ Yes	☑ No		21. Was the quote number listed on the container label? If yes, Quote # _____

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # _____.
Time of preservation _____. If more than one preservative is needed, please note in the comments below.

Sample(s) 15 (1) _____ were received with bubbles >6 mm in diameter.

Samples(s) _____ were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.

SR barcode labels applied by: LKH Date: 12/01/18

Comments:

APPENDIX J

Water Supply Well Laboratory Analytical Report

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ATC Group Services LLC
7499 Parklane Road
Suite 112
Columbia, SC 29203
Attention: Fred Lyke

Project Name: Circle K 2720886

Project Number: DHEC088602

Lot Number:**TK02004**

Date Completed:11/14/2018

11/15/2018 12:04 PM
Approved and released by:
Project Manager: Kelly M. Nance

The electronic signature above is the equivalent of a handwritten signature.
This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc

Shealy Environmental Services, Inc
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www shealylab com

Case Narrative
ATC Group Services LLC
Lot Number: TK02004

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Analysis for sample -021 "WSW-29" was canceled, as per the client's request.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
ATC Group Services LLC
Lot Number: TK02004

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	01519 WSW1	Aqueous	10/31/2018 1243	11/01/2018
002	01519 WSW2	Aqueous	10/31/2018 1314	11/01/2018
003	01519 WSW2D	Aqueous	10/31/2018 1304	11/01/2018
004	01519 WSW3	Aqueous	10/31/2018 1254	11/01/2018
005	01519 WSW4	Aqueous	10/31/2018 1329	11/01/2018
006	01519 WSW5	Aqueous	10/31/2018 1401	11/01/2018
007	01519 WSW6	Aqueous	10/31/2018 1417	11/01/2018
008	01519 WSW7	Aqueous	10/31/2018 1435	11/01/2018
009	01519 WSW8	Aqueous	10/31/2018 1454	11/01/2018
010	01519 WSW9	Aqueous	10/31/2018 1515	11/01/2018
011	01519 WSW10	Aqueous	10/31/2018 1530	11/01/2018
012	01519 WSW11	Aqueous	10/31/2018 1545	11/01/2018
013	01519 WSW14	Aqueous	10/31/2018 1213	11/01/2018
014	01519 WSW17	Aqueous	10/31/2018 1110	11/01/2018
015	01519 WSW18	Aqueous	10/31/2018 1042	11/01/2018
016	01519 WSW19	Aqueous	10/31/2018 1009	11/01/2018
017	01519 WSW22	Aqueous	10/31/2018 1020	11/01/2018
018	01519 WSW23	Aqueous	11/01/2018 1030	11/01/2018
019	01519 WSW25	Aqueous	11/01/2018 1045	11/01/2018
020	01519 WSW26	Aqueous	10/31/2018 1120	11/01/2018
021	01519 WSW29	Aqueous	10/31/2018 1201	11/01/2018
022	01519 Dup2	Aqueous	10/31/2018 1532	11/01/2018
023	01519 FB1	Aqueous	10/31/2018 1600	11/01/2018
024	01519 FB2	Aqueous	11/01/2018 1247	11/01/2018
025	01519 TB	Aqueous	10/31/2018	11/01/2018

(25 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Detection Summary
ATC Group Services LLC
Lot Number: TK02004

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
017	01519 WSW22	Aqueous	Xylenes (total)	524.2	0.27	J	ug/L	21

(1 detection)

Client. **ATC Group Services LLC**	Laboratory ID: **TK02004-001**
Description: **01519 WSW1**	Matrix. **Aqueous**
Date Sampled: **10/31/2018 1243**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0257	MNS		88831

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524 2	1	11/12/2018 1256	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0 50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0 20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichlorobenzene-d4		99	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Shealy Environmental Services, Inc
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Client **ATC Group Services LLC**	Laboratory ID **TK02004-002**
Description: **01519 WSW2**	Matrix: **Aqueous**
Date Sampled.**10/31/2018 1314**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/06/2018 2340	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/12/2018 2211	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0 50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichlorobenzene-d4		97	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-003**
Description: **01519 WSW2D**	Matrix. **Aqueous**
Date Sampled: **10/31/2018 1304**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0006	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 1346	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichlorobenzene-d4		93	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client. **ATC Group Services LLC**	Laboratory ID: **TK02004-004**
Description. **01519 WSW3**	Matrix **Aqueous**
Date Sampled **10/31/2018 1254**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0032	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524 2	1	11/12/2018 2146	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0 50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichlorobenzene-d4		92	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID: **TK02004-005**
Description **01519 WSW4**	Matrix **Aqueous**
Date Sampled **10/31/2018 1329**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0058	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 2236	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichlorobenzene-d4		107	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID. **TK02004-006**
Description: **01519 WSW5**	Matrix: **Aqueous**
Date Sampled: **10/31/2018 1401**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0123	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 2301	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0 50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0 50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichlorobenzene-d4		98	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID. **TK02004-007**
Description **01519 WSW6**	Matrix. **Aqueous**
Date Sampled **10/31/2018 1417**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0149	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524 2	1	11/12/2018 2326	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0.50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0 50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichlorobenzene-d4		101	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**
Description. **01519 WSW7**
Date Sampled.**10/31/2018 1435**
Date Received **11/01/2018**

Laboratory ID: **TK02004-008**
Matrix· **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0215	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 2351	STM		89349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0 50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0.50	0 20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0 20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichlorobenzene-d4		101	70-130

LOQ = Limit of Quantitation
ND = Not detected at or above the DL
H = Out of holding time
B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
DL = Detection Limit
J = Estimated result < LOQ and ≥ DL

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-009**
Description: **01519 WSW8**	Matrix: **Aqueous**
Date Sampled: **10/31/2018 1454**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0242	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/13/2018 1219	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0.50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichlorobenzene-d4		106	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-010**
Description: **01519 WSW9**	Matrix. **Aqueous**
Date Sampled **10/31/2018 1515**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0308	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/13/2018 1244	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0.50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichlorobenzene-d4		90	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**
Description: **01519 WSW10**
Date Sampled: **10/31/2018 1530**
Date Received **11/01/2018**

Laboratory ID: **TK02004-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0334	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524 2	1	11/13/2018 1309	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0 50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichlorobenzene-d4		96	70-130

LOQ = Limit of Quantitation
ND = Not detected at or above the DL
H = Out of holding time
B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
DL = Detection Limit
J = Estimated result < LOQ and ≥ DL

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Client **ATC Group Services LLC**	Laboratory ID: **TK02004-012**
Description **01519 WSW11**	Matrix **Aqueous**
Date Sampled **10/31/2018 1545**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0400	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/13/2018 1334	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0 50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichlorobenzene-d4		99	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client. **ATC Group Services LLC**	Laboratory ID **TK02004-013**
Description **01519 WSW14**	Matrix. **Aqueous**
Date Sampled. **10/31/2018 1213**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0426	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 1321	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0 50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichlorobenzene-d4		95	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID. **TK02004-014**
Description **01519 WSW17**	Matrix. **Aqueous**
Date Sampled **10/31/2018 1110**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0452	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 1232	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichlorobenzene-d4		85	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-015**
Description: **01519 WSW18**	Matrix: **Aqueous**
Date Sampled: **10/31/2018 1042**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0518	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/12/2018 1207	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichlorobenzene-d4		97	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID: **TK02004-016**
Description **01519 WSW19**	Matrix **Aqueous**
Date Sampled **10/31/2018 1009**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0544	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524 2	1	11/12/2018 1118	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichlorobenzene-d4		95	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-017**
Description. **01519 WSW22**	Matrix **Aqueous**
Date Sampled **10/31/2018 1020**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0610	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/12/2018 1142	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0 50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0 50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0.20	ug/L	1
Xylenes (total)	**1330-20-7**	**524.2**	**0.27**	**J**	**0.50**	**0.20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichlorobenzene-d4		91	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID: **TK02004-018**
Description: **01519 WSW23**	Matrix **Aqueous**
Date Sampled: **11/01/2018 1030**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0636	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524.2	1	11/13/2018 1359	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0 50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0.50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0 20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichlorobenzene-d4		98	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID **TK02004-019**
Description: **01519 WSW25**	Matrix **Aqueous**
Date Sampled: **11/01/2018 1045**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0701	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524 2	1	11/13/2018 1424	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0.50	0 20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524 2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichlorobenzene-d4		101	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client **ATC Group Services LLC**	Laboratory ID **TK02004-020**
Description: **01519 WSW26**	Matrix **Aqueous**
Date Sampled: **10/31/2018 1120**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 0727	MNS		88834

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1 0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524.2	1	11/13/2018 1448	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0.50	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0 20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0.50	0.20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichlorobenzene-d4		101	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**	Laboratory ID: **TK02004-022**
Description: **01519 Dup2**	Matrix **Aqueous**
Date Sampled: **10/31/2018 1532**	
Date Received: **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 1302	BWS		88882

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524 2	1	11/13/2018 1513	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0.50	0.20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0.20	ug/L	1
Toluene	108-88-3	524.2	ND		0.50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0.50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		89	70-130
1,2-Dichlorobenzene-d4		94	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client: **ATC Group Services LLC**
Description: **01519 FB1**
Date Sampled **10/31/2018 1600**
Date Received: **11/01/2018**

Laboratory ID **TK02004-023**
Matrix. **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 1328	BWS		88882

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524 2	1	11/13/2018 1538	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0 50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0.50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0.50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524.2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0.50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichlorobenzene-d4		99	70-130

LOQ = Limit of Quantitation
ND = Not detected at or above the DL
H = Out of holding time
B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
DL = Detection Limit
J = Estimated result < LOQ and ≥ DL

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Client: **ATC Group Services LLC**	Laboratory ID. **TK02004-024**
Description: **01519 FB2**	Matrix: **Aqueous**
Date Sampled: **11/01/2018 1247**	
Date Received **11/01/2018**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 1354	BWS		88882

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1 0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5 0	2 0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524 2	524 2	1	11/13/2018 1603	STM		89415

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524 2	ND		0.50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524 2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524 2	ND		0 50	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524 2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524 2	ND		0 50	0.20	ug/L	1
Xylenes (total)	1330-20-7	524 2	ND		0 50	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichlorobenzene-d4		105	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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Client ATC Group Services LLC	Laboratory ID: TK02004-025
Description 01519 TB	Matrix Aqueous
Date Sampled 10/31/2018	
Date Received. 11/01/2018	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/07/2018 1420	BWS		88882

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0 40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8 0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0 40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8 0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 42	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8 0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	524.2	524 2	1	11/12/2018 1053	STM		89293

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	524.2	ND		0 50	0 20	ug/L	1
1,2-Dichloroethane	107-06-2	524.2	ND		0 50	0.20	ug/L	1
Ethylbenzene	100-41-4	524.2	ND		0 50	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	524 2	ND		0 50	0 20	ug/L	1
Naphthalene	91-20-3	524.2	ND		0 50	0 20	ug/L	1
Toluene	108-88-3	524.2	ND		0 50	0 20	ug/L	1
Xylenes (total)	1330-20-7	524.2	ND		0 50	0 20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichlorobenzene-d4		97	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

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QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ88831-001
Batch: 88831
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Diisopropyl ether (IPE)	ND		1	1 0	0 40	ug/L	11/06/2018 2042
Ethanol	ND		1	100	40	ug/L	11/06/2018 2042
3,3-Dimethyl-1-butanol	ND		1	20	8 0	ug/L	11/06/2018 2042
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0 40	ug/L	11/06/2018 2042
tert-Amyl alcohol (TAA)	ND		1	20	8 0	ug/L	11/06/2018 2042
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	11/06/2018 2042
tert-butyl alcohol (TBA)	ND		1	20	8 0	ug/L	11/06/2018 2042
tert-Butyl formate (TBF)	ND		1	5 0	2.0	ug/L	11/06/2018 2042

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ88831-002
Batch: 88831
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Diisopropyl ether (IPE)	50	54		1	107	70-130	11/06/2018 1958
Ethanol	5000	5300		1	107	70-130	11/06/2018 1958
3,3-Dimethyl-1-butanol	1000	980		1	98	70-130	11/06/2018 1958
Ethyl-tert-butyl ether (ETBE)	50	50		1	100	70-130	11/06/2018 1958
tert-Amyl alcohol (TAA)	1000	1000		1	104	70-130	11/06/2018 1958
tert-Amyl methyl ether (TAME)	50	51		1	102	70-130	11/06/2018 1958
tert-butyl alcohol (TBA)	1000	1100		1	111	70-130	11/06/2018 1958
tert-Butyl formate (TBF)	250	260		1	103	70-130	11/06/2018 1958

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		97	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ88834-001
Batch: 88834
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Diisopropyl ether (IPE)	ND		1	1 0	0.40	ug/L	11/06/2018 2301
Ethanol	ND		1	100	40	ug/L	11/06/2018 2301
3,3-Dimethyl-1-butanol	ND		1	20	8 0	ug/L	11/06/2018 2301
Ethyl-tert-butyl ether (ETBE)	ND		1	1 0	0 40	ug/L	11/06/2018 2301
tert-Amyl alcohol (TAA)	ND		1	20	8 0	ug/L	11/06/2018 2301
tert-Amyl methyl ether (TAME)	ND		1	10	0 42	ug/L	11/06/2018 2301
tert-butyl alcohol (TBA)	ND		1	20	8 0	ug/L	11/06/2018 2301
tert-Butyl formate (TBF)	ND		1	5.0	2 0	ug/L	11/06/2018 2301

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ88834-002
Batch: 88834
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Diisopropyl ether (IPE)	50	53		1	107	70-130	11/06/2018 2153
Ethanol	5000	5300		1	107	70-130	11/06/2018 2153
3,3-Dimethyl-1-butanol	1000	890		1	89	70-130	11/06/2018 2153
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	70-130	11/06/2018 2153
tert-Amyl alcohol (TAA)	1000	900		1	90	70-130	11/06/2018 2153
tert-Amyl methyl ether (TAME)	50	53		1	105	70-130	11/06/2018 2153
tert-butyl alcohol (TBA)	1000	1000		1	104	70-130	11/06/2018 2153
tert-Butyl formate (TBF)	250	280		1	111	70-130	11/06/2018 2153

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ88882-001
Batch: 88882
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	11/07/2018 1106
Ethanol	ND		1	100	40	ug/L	11/07/2018 1106
3,3-Dimethyl-1-butanol	ND		1	20	8 0	ug/L	11/07/2018 1106
Ethyl-tert-butyl ether (ETBE)	ND		1	1 0	0.40	ug/L	11/07/2018 1106
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	11/07/2018 1106
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	11/07/2018 1106
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	11/07/2018 1106
tert-Butyl formate (TBF)	ND		1	5 0	2 0	ug/L	11/07/2018 1106

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ88882-002
Batch: 88882
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Diisopropyl ether (IPE)	50	53		1	107	70-130	11/07/2018 1004
Ethanol	5000	5300		1	106	70-130	11/07/2018 1004
3,3-Dimethyl-1-butanol	1000	910		1	91	70-130	11/07/2018 1004
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	70-130	11/07/2018 1004
tert-Amyl alcohol (TAA)	1000	940		1	94	70-130	11/07/2018 1004
tert-Amyl methyl ether (TAME)	50	53		1	105	70-130	11/07/2018 1004
tert-butyl alcohol (TBA)	1000	1100		1	105	70-130	11/07/2018 1004
tert-Butyl formate (TBF)	250	280		1	110	70-130	11/07/2018 1004

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ89293-001
Batch: 89293
Analytical Method: 524 2

Matrix: Aqueous
Prep Method: 524 2

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Benzene	ND		1	0.50	0.20	ug/L	11/12/2018 1001
1,2-Dichloroethane	ND		1	0.50	0 20	ug/L	11/12/2018 1001
Ethylbenzene	ND		1	0.50	0 20	ug/L	11/12/2018 1001
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0 20	ug/L	11/12/2018 1001
Naphthalene	ND		1	0.50	0 20	ug/L	11/12/2018 1001
Toluene	ND		1	0.50	0 20	ug/L	11/12/2018 1001
Xylenes (total)	ND		1	0 50	0 20	ug/L	11/12/2018 1001

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichlorobenzene-d4		101	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ89293-002
Batch: 89293
Analytical Method: 524.2

Matrix: Aqueous
Prep Method: 524 2

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	5 0	4.9		1	99	70-130	11/12/2018 0925
1,2-Dichloroethane	5 0	5.0		1	101	70-130	11/12/2018 0925
Ethylbenzene	5.0	4.8		1	95	70-130	11/12/2018 0925
Methyl tertiary butyl ether (MTBE)	5.0	4 9		1	98	70-130	11/12/2018 0925
Naphthalene	5.0	3 9		1	78	70-130	11/12/2018 0925
Toluene	5 0	4.9		1	97	70-130	11/12/2018 0925
Xylenes (total)	10	9.1		1	91	70-130	11/12/2018 0925

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichlorobenzene-d4		98	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ89349-001
Batch: 89349
Analytical Method: 524 2

Matrix: Aqueous
Prep Method: 524.2

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Benzene	ND		1	0.50	0 20	ug/L	11/12/2018 2121
1,2-Dichloroethane	ND		1	0.50	0.20	ug/L	11/12/2018 2121
Ethylbenzene	ND		1	0.50	0.20	ug/L	11/12/2018 2121
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0 20	ug/L	11/12/2018 2121
Naphthalene	ND		1	0 50	0 20	ug/L	11/12/2018 2121
Toluene	ND		1	0.50	0 20	ug/L	11/12/2018 2121
Xylenes (total)	ND		1	0.50	0 20	ug/L	11/12/2018 2121

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichlorobenzene-d4		99	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ89349-002
Batch: 89349
Analytical Method: 524.2

Matrix: Aqueous
Prep Method: 524.2

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	5.0	5 0		1	100	70-130	11/12/2018 2031
1,2-Dichloroethane	5.0	4 2		1	84	70-130	11/12/2018 2031
Ethylbenzene	5 0	4 7		1	93	70-130	11/12/2018 2031
Methyl tertiary butyl ether (MTBE)	5 0	4 6		1	93	70-130	11/12/2018 2031
Naphthalene	5.0	4 7		1	94	70-130	11/12/2018 2031
Toluene	5 0	4 5		1	89	70-130	11/12/2018 2031
Xylenes (total)	10	9 3		1	93	70-130	11/12/2018 2031

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichlorobenzene-d4		102	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: TQ89415-001
Batch: 89415
Analytical Method: 524.2

Matrix: Aqueous
Prep Method: 524.2

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Benzene	ND		1	0.50	0.20	ug/L	11/13/2018 1134
1,2-Dichloroethane	ND		1	0.50	0 20	ug/L	11/13/2018 1134
Ethylbenzene	ND		1	0.50	0 20	ug/L	11/13/2018 1134
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.20	ug/L	11/13/2018 1134
Naphthalene	ND		1	0 50	0.20	ug/L	11/13/2018 1134
Toluene	ND		1	0.50	0.20	ug/L	11/13/2018 1134
Xylenes (total)	ND		1	0 50	0.20	ug/L	11/13/2018 1134

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichlorobenzene-d4		95	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: TQ89415-002
Batch: 89415
Analytical Method: 524 2

Matrix: Aqueous
Prep Method: 524 2

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	5.0	4.9		1	99	70-130	11/13/2018 1059
1,2-Dichloroethane	5 0	4.5		1	90	70-130	11/13/2018 1059
Ethylbenzene	5 0	5 1		1	101	70-130	11/13/2018 1059
Methyl tertiary butyl ether (MTBE)	5.0	5.6		1	112	70-130	11/13/2018 1059
Naphthalene	5.0	5.2		1	104	70-130	11/13/2018 1059
Toluene	5.0	4.7		1	95	70-130	11/13/2018 1059
Xylenes (total)	10	9.2		1	92	70-130	11/13/2018 1059

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichlorobenzene-d4		102	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

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

Chain of Custody
and
Miscellaneous Documents

SHEALY ENVIRONMENTAL SERVICES, INC.

Chain of Custody Record

106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 89374

Client	ATL Group Services
Address	7499 Parklane Rd Ste 112
City / State / Zip Code	Columbia / SC / 29223
Project Name	
Project No.	
P.O. No.	
Report to Contact	Fred Lyke
Sampler's Signature	x Corine Lally
Printed Name	Corinne Lally
Telephone No. / E-mail	fred.lyke@atlgs.com
Analysis (Attach list if more space is needed)	
Quote No.	
Page	1 of 3
TK02004	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab	Composite	Matrix: Aqueous	Solid	Non-Aqueous	No of Containers by Preservative Type: Organic	HCl	HNO3	NaOH	H2SO4	NaOH/ZnAc	Other	BTEX, Naph, MTBE, 1,2 DCA	524.2	Remarks / Cooler I.D.
01519 WSW1	10/31	1243	C		✓					6					3	3	BTEX, Naph. MTBE, 1,2 DCA 524.2
WSW2	10/31	1314															
WSW2D	10/31	1304															
WSW3	10/31	1254															
WSW4	10/31	1329															
WSW5	10/31	1401															
WSW6	10/31	1417															
WSW7	10/31	1435															
WSW8	10/31	1454															
WSW9	10/31	1515															

Turn Around Time Required (Prior lab approval required for expedited TAT.) ☑ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Corine Lally	11/1/18	1519	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: L Hill	11/01/18	1519

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack Receipt Temp. 1.5 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-File/Client Copy

Document Number: F-AD-135 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Chain of Custody Record

Number 89373

Client: ATC Group Services
Address: 7499 Parklane Rd Ste 112
City: Columbia State: SC Zip Code: 29223
Project Name:
Project No.:
P.O. No.:
Report to Contact: Fred Lyke
Sampler's Signature: x
Printed Name: Corinne Lally
Telephone No. / E-mail: fred.lyke@atcgs.com
Analysis (Attach list if more space is needed): 8260 only
Quote No.:
Page 2 of 3
TK02004

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Composite	Matrix: Aqueous	Solid	Non-Aqueous	No of Containers by Preservative Type: Unpres.	HCl	HNO3	NaOH	H2SO4	NaS2O3	HCl	NaOH	NaS2O3	Remarks / Cooler I.D.
01519 WSW10	10/31	1530	G	✓							6		3	3		*BTEX, Naph, MTBE, 1,2DCA 8261.2
~~WSW11~~ WSW11	10/31	1545														
~~WSW12~~ CE 11/1																
~~WSW13~~ CE 11/1																
~~WSW15~~																
WSW14	10/31	1213														
WSW17	10/31	1110														
WSW18	10/31	1042														
WSW19	10/31	1009														
WSW22	10/31	1020														
WSW23	11/1	1030														

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☐ Disposal by Lab
Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	11/1/18	1519	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: L Hill	11/01/18	1519

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack Receipt Temp. 1.5 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-File/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Chain of Custody Record

Number 89372

Client	ATC Group Services
Address	7499 Parkshore Rd Suite
City / State / Zip Code	Columbia / SC / 29223
Project Name	
Project No.	
P.O. No.	
Report to Contact	Fred Lyke
Sampler's Signature	x Corinne Lally
Printed Name	Corinne Lally
Telephone No. / E-mail	fred-lyke@atcgs.com
Analysis (Attach list if more space is needed)	
Quote No.	
Page	3 of 3
Shipment	TK02004
Ship	
Remarks / Cooler no.	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Composite (C) / Grab (G)	Aqueous	Solid	Oil	Other	Volatile	Semi-Volatile	Metals	HCl	NaOH	HNO3	Other	BTEX, Naph, 1,2,4,5,6	8260B	Remarks / Cooler no.
01519 ~~WSW24~~			G	✓							12				3	3	*BTEX, Naph, MTBE, 1,2 DCA 624.2
WSW25	11/1	1045															
WSW26	10/31	1120															
WSW29	10/31	1201															
~~Dup1~~ CA 11/1	~~10/31~~	~~1959~~															
Dup2	10/31	1532															
FB1	10/31	1600															
FB2	11/1	1247															
TB											2					2	

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ☐ Dispose of by Lab

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Corinne Lally	11/1/18	1519	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: L Hale	11/01/18	1519

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle) Yes No ice Pack Receipt Temp. 1.5 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: MI2001BC-14

Page 1 of 1
Effective Date: 8/2/2018

Sample Receipt Checklist (SRC)

Client: ATC Group Cooler Inspected by/date: MEC/11/01/18 Lot #: TK 02004

Means of receipt: ☐ SESI ☑ Client ☐ UPS ☐ FedEx ☐ Other: _____

☐ Yes	☑ No		1. Were custody seals present on the cooler?
☐ Yes	☐ No	☑ NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: _____ Chlorine Strip ID: _____ Tested by: _____

Original temperature upon receipt / Derived (Corrected) temperature upon receipt: %Solid Snap-Cup ID: _____

1.5 / 1.5 °C ___ / ___ °C ___ / ___ °C ___ / ___ °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Ice Packs ☐ Dry Ice ☐ None

☐ Yes	☐ No	☑ NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
☐ Yes	☐ No	☑ NA	4. Is the commercial courier's packing slip attached to this form?
☑ Yes	☐ No		5. Were proper custody procedures (relinquished/received) followed?
☑ Yes	☐ No		6. Were sample IDs listed on the COC?
☑ Yes	☐ No		7. Were sample IDs listed on all sample containers?
☑ Yes	☐ No		8. Was collection date & time listed on the COC?
☑ Yes	☐ No		9. Was collection date & time listed on all sample containers?
☑ Yes	☐ No		10. Did all container label information (ID, date, time) agree with the COC?
☑ Yes	☐ No		11. Were tests to be performed listed on the COC?
☑ Yes	☐ No		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? _____
☑ Yes	☐ No		13. Was adequate sample volume available?
☑ Yes	☐ No		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☐ Yes	☑ No		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
☑ Yes	☐ No	☐ NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼"or 6mm in diameter) in any of the VOA vials?
☐ Yes	☐ No	☑ NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
☐ Yes	☐ No	☑ NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
☐ Yes	☐ No	☑ NA	19. Were all applicable NH_3/TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
☐ Yes	☐ No	☑ NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
☑ Yes	☐ No		21. Was the quote number listed on the container label? If yes, Quote # 19289

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # _____.
Time of preservation _____. If more than one preservative is needed, please note in the comments below.

Sample(s) 04(2) were received with bubbles >6 mm in diameter.

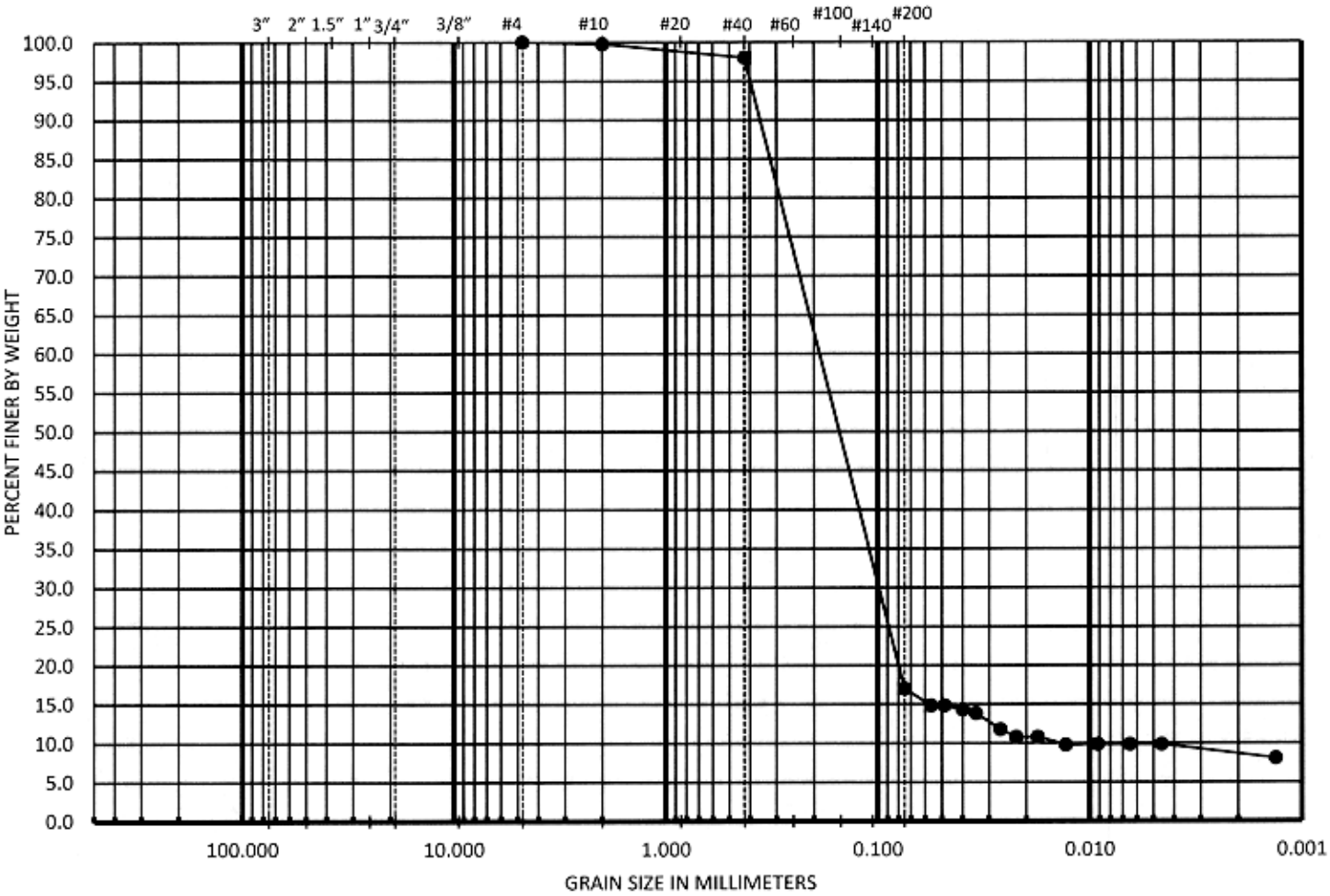
Samples(s) _____ were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.

SR barcode labels applied by: MEC Date: 11/02/18

Comments:

APPENDIX K

Grain Size Analysis Report



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE		SAMPLE DESCRIPTION					
K886 Tier II	MW-1 @ 10'		Clayey Silty Sand (SC-SM), bluish-grey & tan					
TEST METHOD	**D100**	**D60**	**D30**	**D10**	**%Gravel**	**%Sand**	**%Silt**	**%Clay**
ASTM D422	4.75	0.185	0.100	0.014	0.0	83.0	7.2	9.8

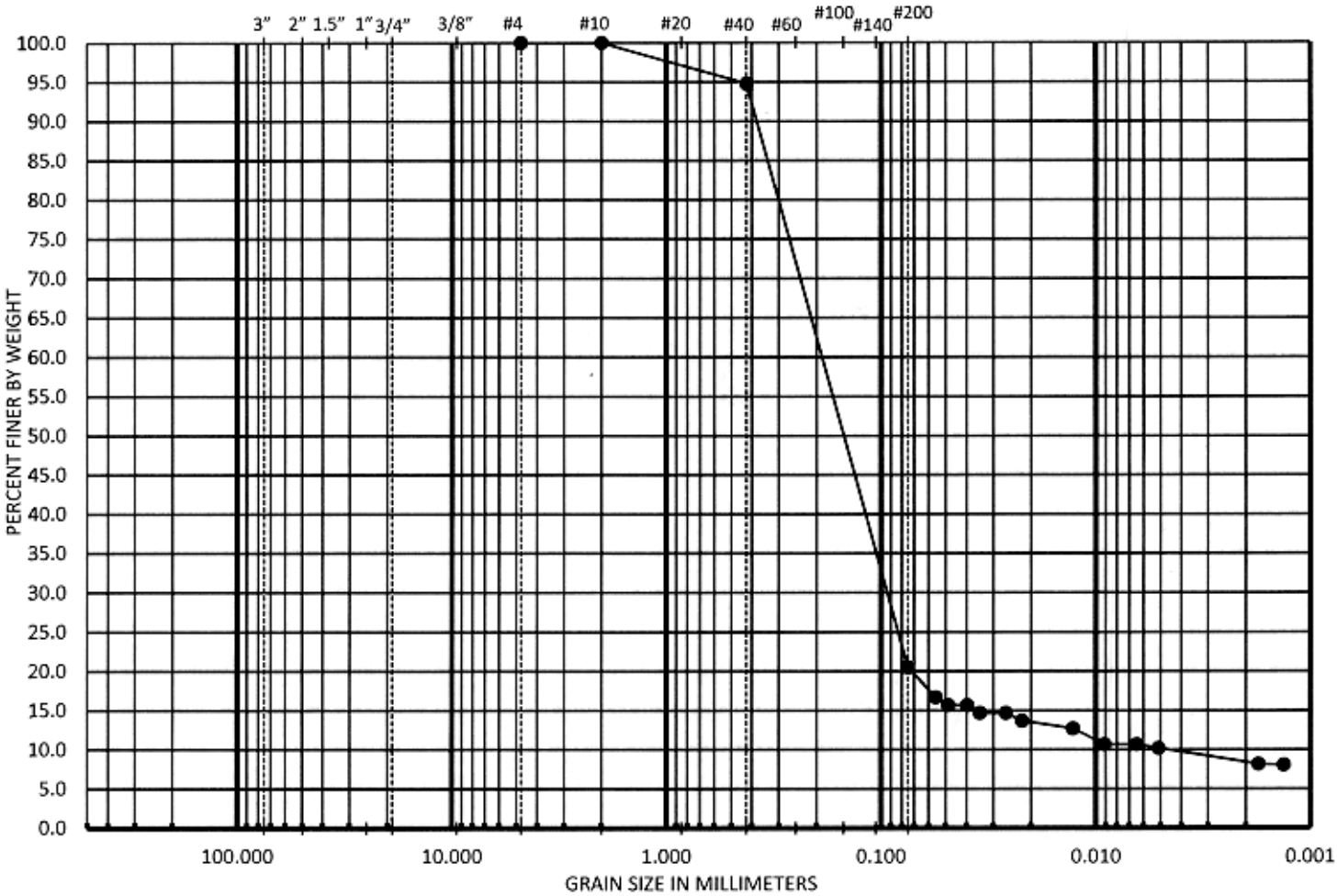
PERCENT FINER

SIEVE SIZE	No. 200	No. 40	No. 10	No. 4
Percent Finer	17.0	98.0	99.8	100.0

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE		SAMPLE DESCRIPTION					
K886 Tier II	MW-22 @ 10'		Clayey Silty Sand (SC-SM), grey-tan					
TEST METHOD	**D100**	**D60**	**D30**	**D10**	**%Gravel**	**%Sand**	**%Silt**	**%Clay**
ASTM D422	2.00	0.193	0.096	0.005	0.0	79.5	10.3	10.2

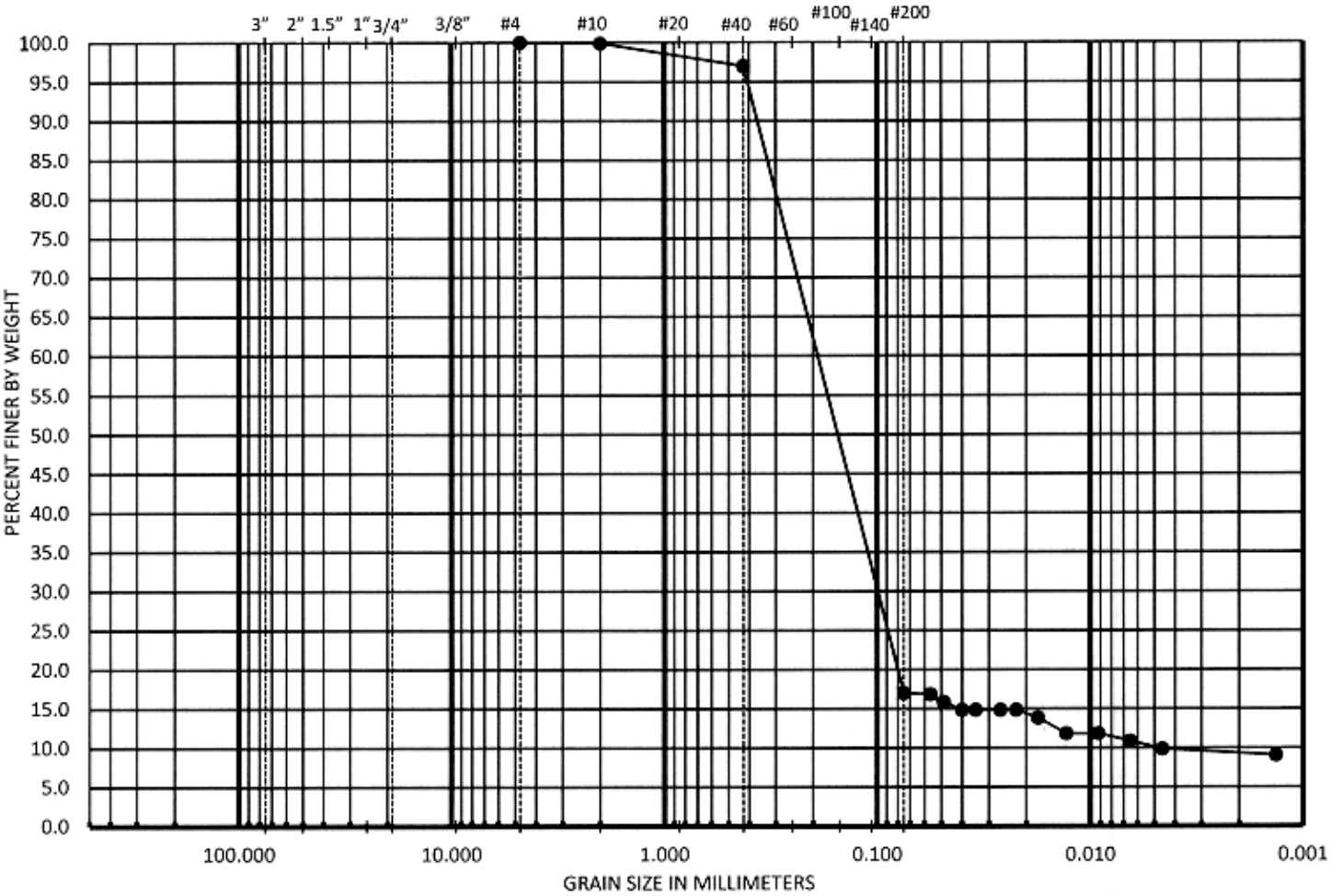
PERCENT FINER

SIEVE SIZE	No. 200	No. 40	No. 10	No. 4
Percent Finer	20.5	94.8	99.96	100.0

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE	SAMPLE DESCRIPTION
K886 Tier II	MW-24 @ 10'	Clayey Silty Sand (SC-SM), grey-tan to brownish yellow

TEST METHOD	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
ASTM D422	4.75	0.187	0.100	0.005	0.0	81.1	9.1	9.8

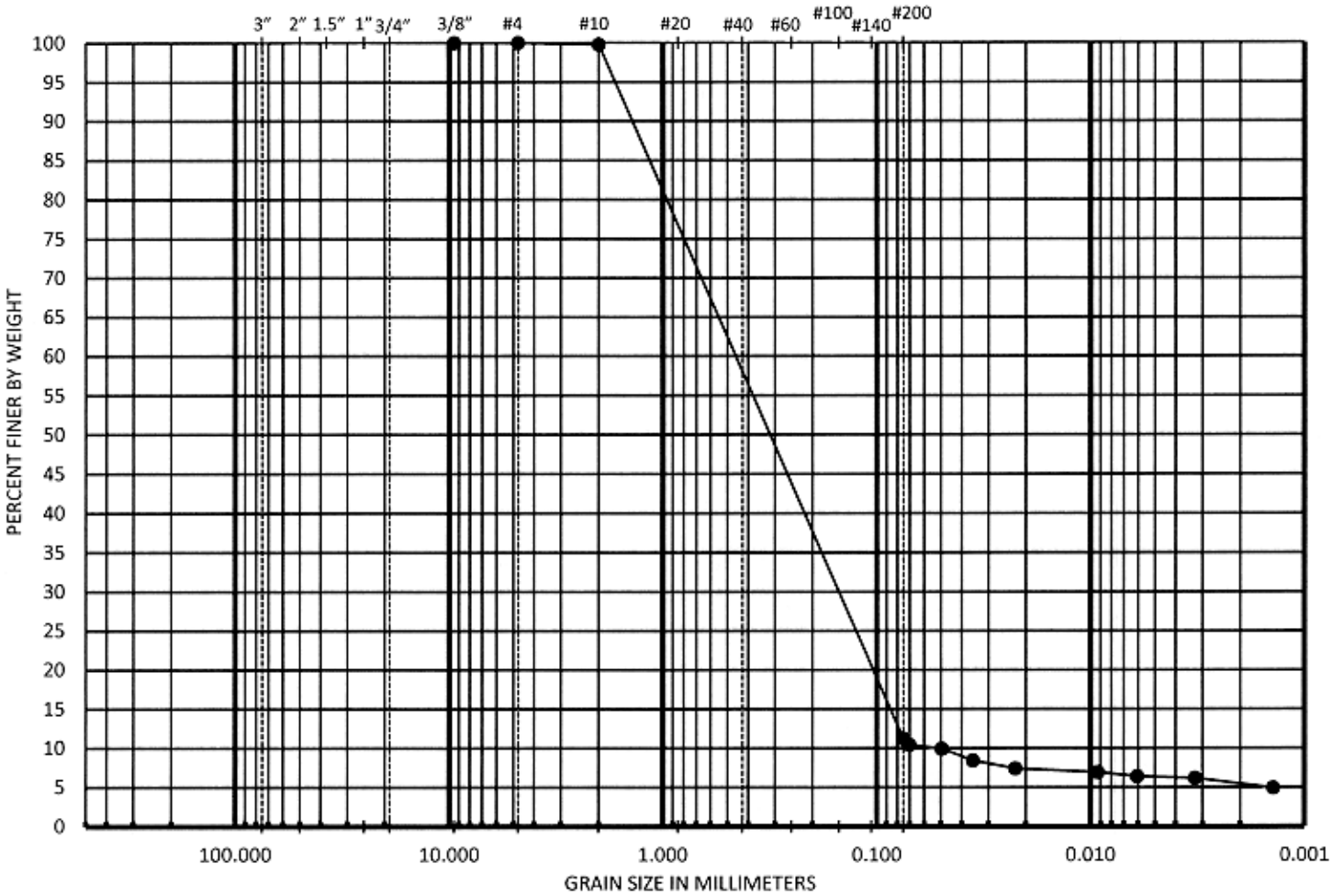
PERCENT FINER

SIEVE SIZE	No. 200	No. 40	No. 10	No. 4
Percent Finer	18.9	97.0	99.9	100.0

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE	SAMPLE DESCRIPTION
K886 Tier II	DMW-1 @ 35'	Clayey Silty Sand (SC-SM), tan

TEST METHOD	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
ASTM D422	4.75	0.45	0.150	0.075	0.0	88.8	4.9	6.3

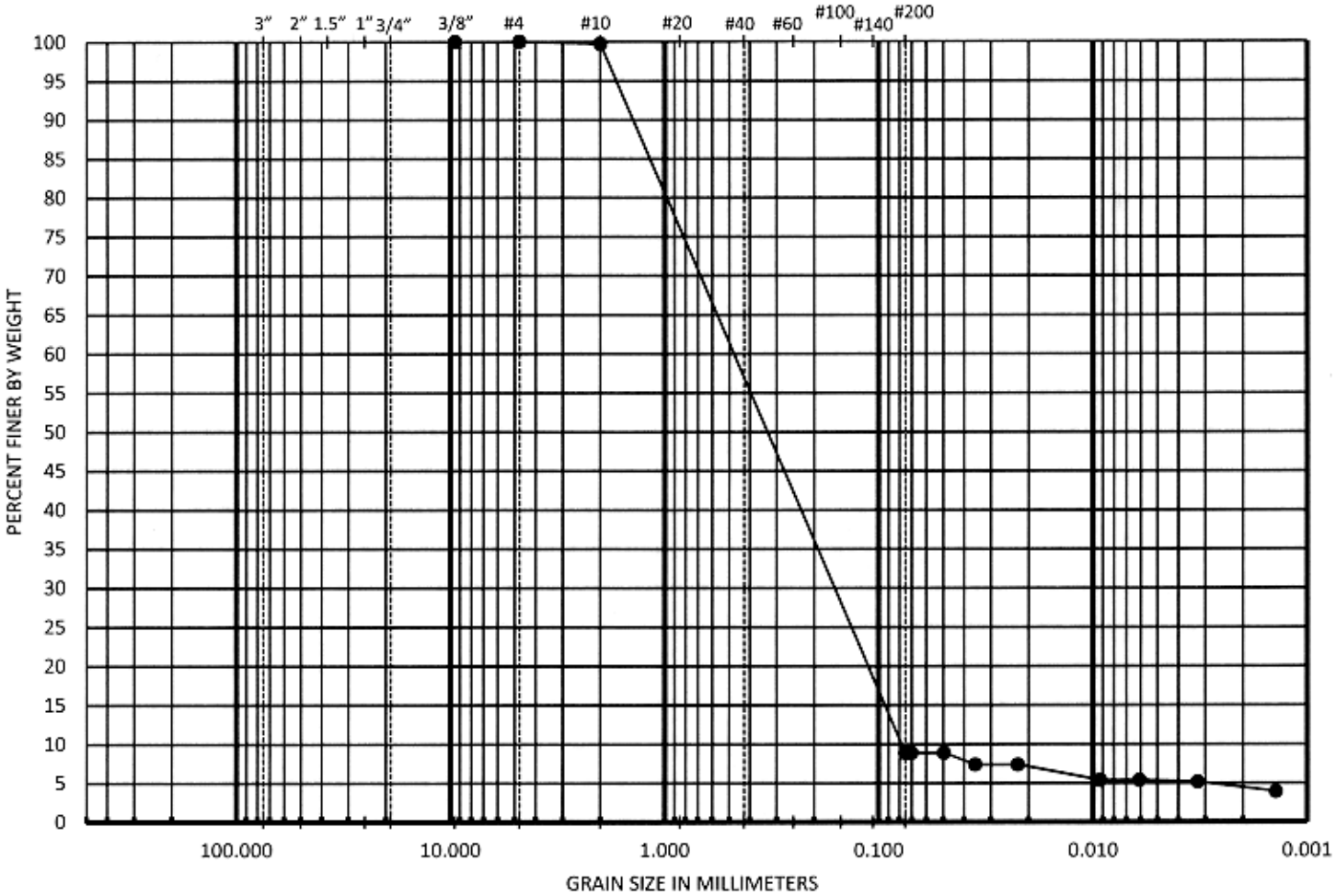
PERCENT FINER

SIEVE SIZE	No. 200	No. 10	No. 4	3/8"
Percent Finer	11.2	99.8	100	

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE	SAMPLE DESCRIPTION
K886 Tier II	DMW-2 @ 35'	Clayey Silty Sand (SC-SM), yellowish-brown

TEST METHOD	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
ASTM D422	4.75	0.48	0.017	0.078	0.0	91.1	3.6	5.3

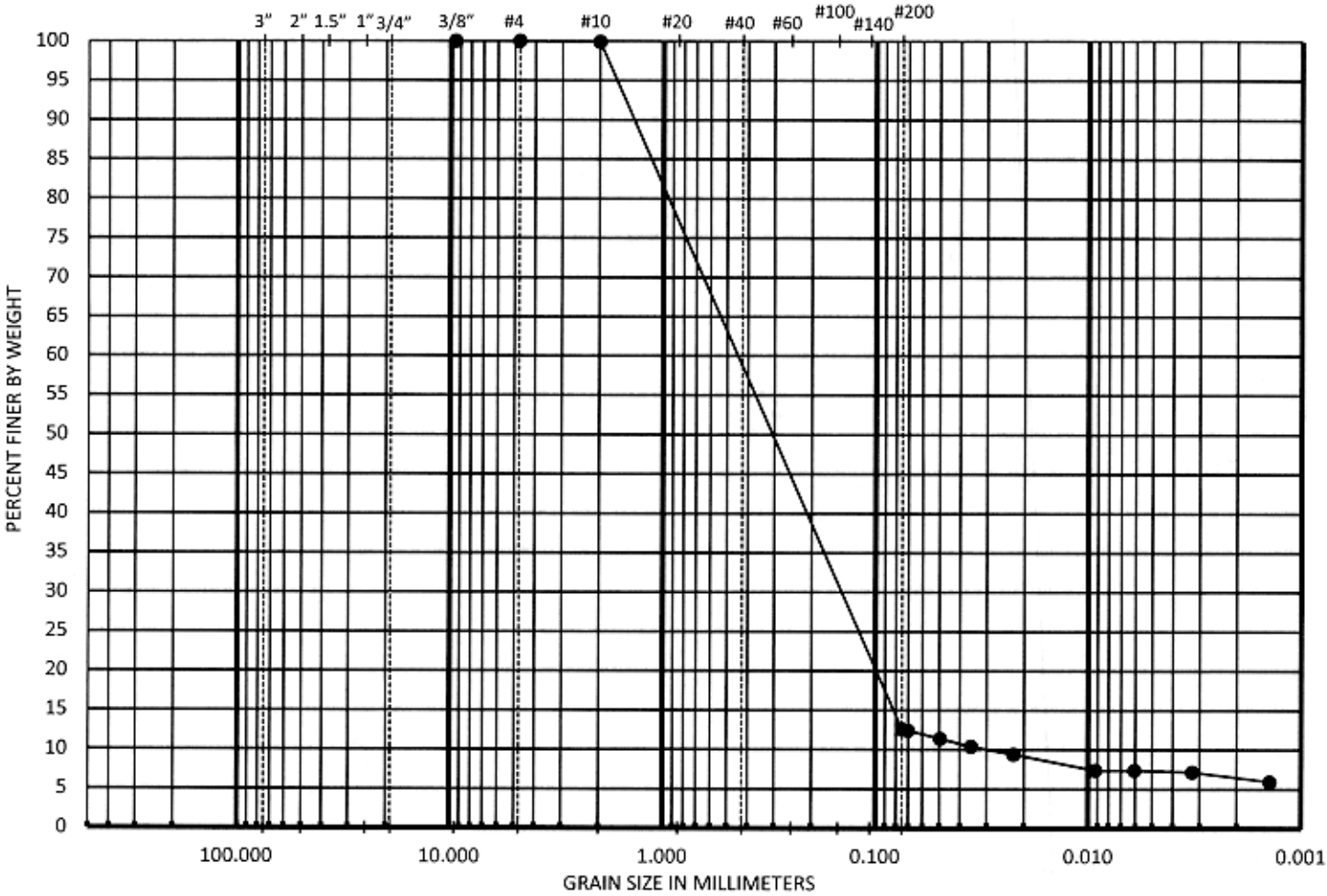
PERCENT FINER

SIEVE SIZE	No. 200	No. 10	No. 4	3/8"
Percent Finer	8.9	99.8	100	

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

PROJECT	SAMPLE	SAMPLE DESCRIPTION
K886 Tier II	DMW-3 @ 35'	Clayey Silty Sand (SC-SM), tan

TEST METHOD	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
ASTM D422	4.75	0.450	0.150	0.030	0.0	87.4	5.3	7.3

PERCENT FINER

SIEVE SIZE	No. 200	No. 10	No. 4	3/8"
Percent Finer	12.6	99.9	100	

Tested By:	TCM	Reviewed By:	TCM	Calculations By:	TCM
Date:	12.20.2018	Date:	12.20.2018	Date:	12.20.2018

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Project Name:	ATC GROUP SERVICES LLC
Lab Address:	7499 PARKLANE ROAD, SUITE 112 COLUMBIA, SC 29223
Project No.:	257.HYDRO.001

APPENDIX L

Waste Disposal Manifests

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: Phone ( )

P O #:

Circle K # 2720886

3. Agent of Generator and Mailing Address: Phone ( )

P O #:

4. Transporter Company Name: KLM Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water				287 gal

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: MARK KELLER Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name: P.J. WARNOWITCH Signature: Date: 12/4/18

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials

Printed/Typed Name: Signature: Date 12-4-18

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20852

Berkeley County Landfill
Solid Waste Billing Dept
PO Box 6122
Moncks Corner, SC 29461

******** Reprinted Ticket ********

Customer: CASH
Cash Only

, SC -

Site: 3
Ticket: 10000177873
Date: 12/6/2018
Time In: 12:26:36
Time Out: 12:54:15

Weighmaster: Dan Davis at the landfill

Origin: Goose Creek

Grid: CD

Description

Scale 1	Gross:	22960 lb	In	Vehicle: WHITE GMC DT
Scale 2	Tare:	16460 lb	Out	
	Net:	6500 lb		Tons: 3.25

Materials & Services	Quantity	Unit	Rate/Unit	Amount
100% of CD2/Construction Debri	3.25	ton	$36.00/Ton	$117.00
			Total Amount:	$117.00
			MasterCard: xxxx-:	$117.00
			Change:	$0.00

Comment: KLM Enviromental

County: Berkeley

I hereby certify the above ticket information to be correct to the best of my knowledge.

Signature: _____

Circle K # 2720886 ≈ 2.75 tons
LiL Crick# 3850 ≈ 0.5 tons

Berkeley County Landfill
Solid Waste Billing Dept
PO Box 6122
Moncks Corner, SC 29461

******** Reprinted Ticket ********

Customer: CASH
Cash Only

, SC -

Site: 3
Ticket: 10000174633
Date: 11/8/2018
Time In: 14:08:39
Time Out: 14:34:46

Weighmaster: Jennifer Tanner

Origin: Goose Creek

Grid: CD

Description

Scale 1	Gross:	21220 lb	In	Vehicle: WHT GMC UTIL DT
Scale 2	Tare:	18520 lb	Out	
	Net:	2700 lb		Tons: 1.35

Materials & Services	Quantity	Unit	Rate/Unit	Amount
100% of CD2/Construction Debri	1.35	ton	$36.00/Ton	$48.60
			Total Amount:	$48.60
			MasterCard: xxxx-:	$48.60
			Change:	$0.00

Comment: LS

Load testing due this load

County: Berkeley
Driver Info: for KLM Environmental

I hereby certify the above ticket information to be correct to the best of my knowledge.

Signature: _____

≈ 1.1 tons Pantry/CK 886

≈ 0.25 tons L.C. 3865

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address
Circle K Stores Inc
2440 Whitehall Park Dr Ste 800
Charlotte NC
Generator's Phone:

Generator's Site Address (if different than mailing address)
Circle K 2720886
4815 Savannah Hwy
Ravenel SC

6. Transporter 1 Company Name: VERIO
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Regulatory Solutions
40 Pascoe Ct
Goose Creek SC
U.S. EPA ID Number:
Facility's Phone:

	9. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non Haz Non Regulated Purge Water	4	D	176.5	gal	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: William Hays
Signature: William R Hays
Month 12 Day 4 Year 18

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Elvin Noe Favado
Signature:
Month 12 Day 4 Year 18

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: John Thomas
Signature:
Month 12 Day 4 Year 18

6-NHM-C-SO-1158

2-DESIGNATED FACILITY TO GENERATOR

APPENDIX M

Slug Test Summary Sheets and Groundwater Flow Velocity Calculations

Summary of Surficial Aquifer Groundwater Flow Characteristics

(Upper Extent)

Site: Circle K 2720886, 4315 Savannah Highway, Ravenel, SC

UST Permit Number: 01589

Horizontal Groundwater Flow Gradient:

$$\frac{\text{higher groundwater elevation} - \text{lower groundwater elevation}}{\text{separation distance between wells (in feet)}}$$

01589 MW-4 and 01589 MW-28

$\frac{18.10 - 13.16}{320.625} = 0.0154$ ft/ft

01589 MW-17 and 01589 MW-30

$\frac{16.92 - 14.79}{225} = 0.0095$ ft/ft

Average gradient = 0.012 ft/ft

Seepage Velocity (V = Ki/n)

V = Seepage Velocity in ft/year

K = Hydraulic Conductivity in ft/year

i = Horizontal Gradient

n = porosity (value selected in relation to grain size analysis of soil samples collected from the screened intervals of groundwater monitoring wells 01589 MW-1, 01589 MW-22 and 01589 MW-24 installed during this assessment and table C1 of the South Carolina Risk-Based Corrective Action for Petroleum Releases document dated May 15, 2001)

139.978 ft/year in 00317 MW-1;

81.76 ft/year in 00317 MW-22

74.533 ft/year (adjusted) in 00317 MW-24;

98.757 ft/year average

V (shallow) = $\frac{(98.757)(0.012)}{0.43}$ = **2.76 feet per year groundwater flow velocity to the northwest**

SUMMARY of SLUG TEST

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 01589 **COUNTY** Charleston

FACILITY NAME **Circle K 2720886**

Slug Data

See Appendix K Table _____ Figure _____ for a list of all data measurements
(Water levels logs, etc.) (Complete as appropriate)
Water Level Recovery Data was measured by **Water level indicator.**
(Hermit Data Logger, Manually with Water Level Indicator, etc.) (List Method).
Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in well(s) number	MW-1	MW-22	MW-24
Initial Rise/Drawdown in well (feet)	5.05	2.61	4.63
Radius of well casing (feet)	0.083	0.083	0.083
Effective Radius of well (feet)	0.354	0.354	0.354
Static Saturated Aquifer Thickness (feet)	35	35	35
Length of Well Screen (feet)	10.0	10.0	10.0
Static Height of Water Column in Well (ft)	7.18	8.04	8.04

Calculations

See Appendix K Table _____ Figure _____ for calculations. (Complete as appropriate).
The method for aquifer calculations was **Bouwer-Rice** (i.e. Bouwer-Rice, Cooper, etc.)
Calculated values by well were as follow:

Slug Test Conducted in well(s) number	MW-1	MW-22	MW-24
Hydraulic Conductivity (feet/year)	139.978	81.76	74.533

Thickness of aquifer used to calculate hydraulic conductivity was **35 feet**
The aquifer is _____ confined _____ semi-confined **x** water table (check as appropriate).

The estimated seepage velocity (V) is **2.76** feet per year based on
A hydraulic conductivity (K) of **98.757 ft/year**, a hydraulic gradient (i) of **0.012 ft./ft.**, and a porosity (n) of **0.43** percent for **silty sand** soil (list type i.e. silty sand, clay, etc).

MW-1 slug test data compilation

Site Name:	Circle K 2720886
Location.	4315 Savannah Highway, Ravenel, SC
Test Date.	11-28-2018
Client:	Circle K Stores, inc.
Project Number:	PAN088603

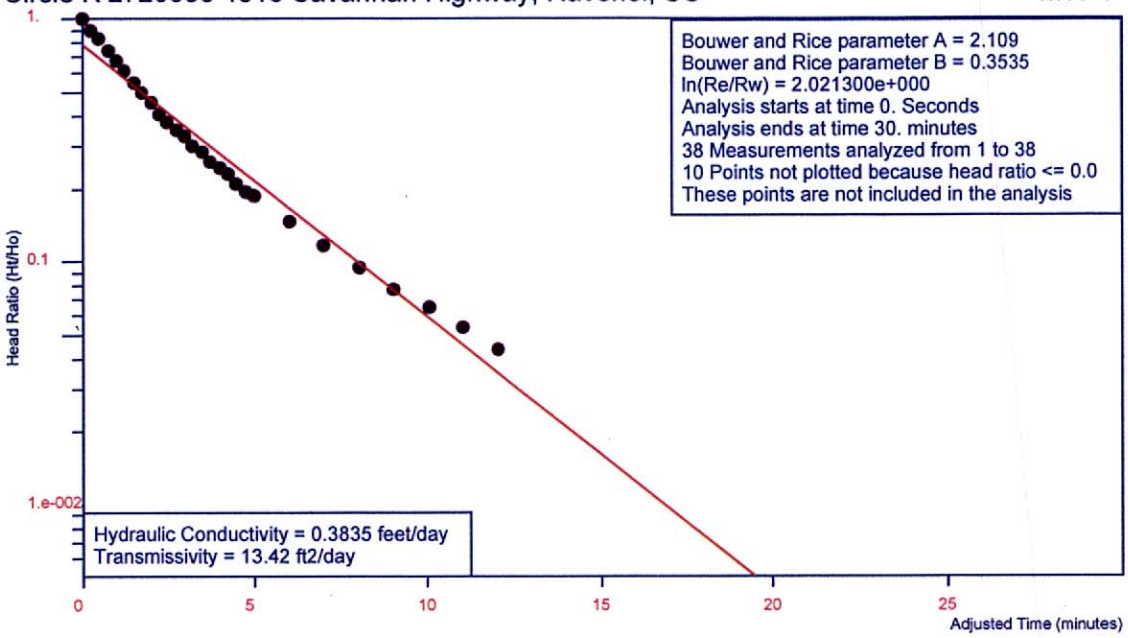
Well Label·	MW-1
Aquifer Thickness:	35 feet
Screen Length:	10. feet
Casing Radius:	8 3e-002 feet
Effective Radius:	0.354 feet
Static Water Level:	4.82 feet
Water Table to Screen Bottom:	7.18 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 38 time and drawdown measurements
Maximum head is 5.05 feet
Minimum head is -4.82 feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	9.87	5 05	1.
2	0.25	0.25	9.41	4 59	0.9089
3	0.5	0.5	9.03	4.21	0.8337
4	0 75	0 75	8.6	3.78	0.7485
5	1	1.	8.25	3.43	0.6792
6	1 25	1.25	7.91	3.09	0.6119
7	1 5	1 5	7.62	2.8	0.5545
8	1.75	1.75	7 35	2.53	0.501
9	2.	2.	7.11	2.29	0.4535
10	2.25	2.25	6.88	2.06	0.4079
11	2 5	2.5	6.71	1.89	0.3743
12	2.75	2.75	6.6	1.78	0.3525
13	3.	3.	6.49	1.67	0 3307
14	3.25	3 25	6.35	1.53	0.303
15	3.5	3.5	6 25	1.43	0.2832
16	3.75	3.75	6.13	1.31	0.2594
17	4.	4	6.05	1.23	0.2436
18	4.25	4.25	5.98	1.16	0.2297
19	4.5	4 5	5.89	1.07	0.2119
20	4.75	4.75	5 81	0.99	0.196
21	5.	5.	5.76	0.94	0.1861
22	6.	6.	5 56	0 74	0 1465
23	7.	7.	5.41	0.59	0.1168
24	8.	8.	5.3	0 48	9.505e-002
25	9.	9.	5.21	0.39	7.723e-002
26	10.	10.	5.15	0.33	6.535e-002
27	11.	11.	5.09	0.27	5.347e-002
28	12.	12.	5 04	0 22	4.356e-002
29	13.	13.	0.	-4 82	-0.9545
30	14.	14.	0.	-4.82	-0.9545
31	15.	15.	0.	-4.82	-0.9545
32	16.	16.	0.	-4.82	-0.9545
33	17.	17.	0.	-4.82	-0.9545
34	18.	18.	0.	-4.82	-0 9545
35	19.	19.	0.	-4.82	-0.9545
36	20.	20.	0.	-4.82	-0.9545
37	25.	25.	0.	-4.82	-0.9545
38	30.	30.	0.	-4.82	-0.9545

MW-1 slug test data compilation 11-28-2018 **Bouwer and Rice Graph**

Circle K 2720886 4315 Savannah Highway, Ravenel, SC MW-1



Ho is 5.05 feet at 0. Seconds

Project Number: PAN088603 for Circle K Stores, inc.

Analysis by Starpoint Software

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project:
Address:
Date:

Well Id: MW-1 **Static Depth to Water (feet):** 4.82 **Total Well Depth:** 12

Volume Bailed/Pumped (gallons): 5.0

Greatest Drawdown Depth (feet): 9.87

Elapsed Time/DTW BTOC (feet):

start	9.87				
15 sec	9.41	4 m/30 s	5.89	20 min	
30 sec	9.03	4 m/45 s	5.81		
45 sec	8.60	5 ~~min~~ 25	5.76		
1 min	8.25	6 min	5.56		
1 m/15 s	7.91	7 min	5.41		
1 m/30 s	7.62	8 min	5.30	25 min	
1 m/45 s	7.35	9 min	5.21		
2 min	7.11	10 min	5.15		
2 m/15 s	6.88	11 min	5.09		
2 m/30 s	6.71	12 min	5.04		
2 m/45 s	6.60	13 min		30 min	
3 min	6.49	14 min			
3 m/15 s	6.36	15 min			
3 m/30 s	6.25	16 min			
3 m/45 s	6.13	17 min			
4 min	6.05	18 min			
4 m/15 s	5.98	19 min			

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

MW-22 slug test data compilation

Site Name:	Circle K 2720886
Location:	4315 Savannah Highway, Ravenel, SC
Test Date:	11-28-2018
Client:	Circle K Stores, inc.
Project Number:	PAN088603

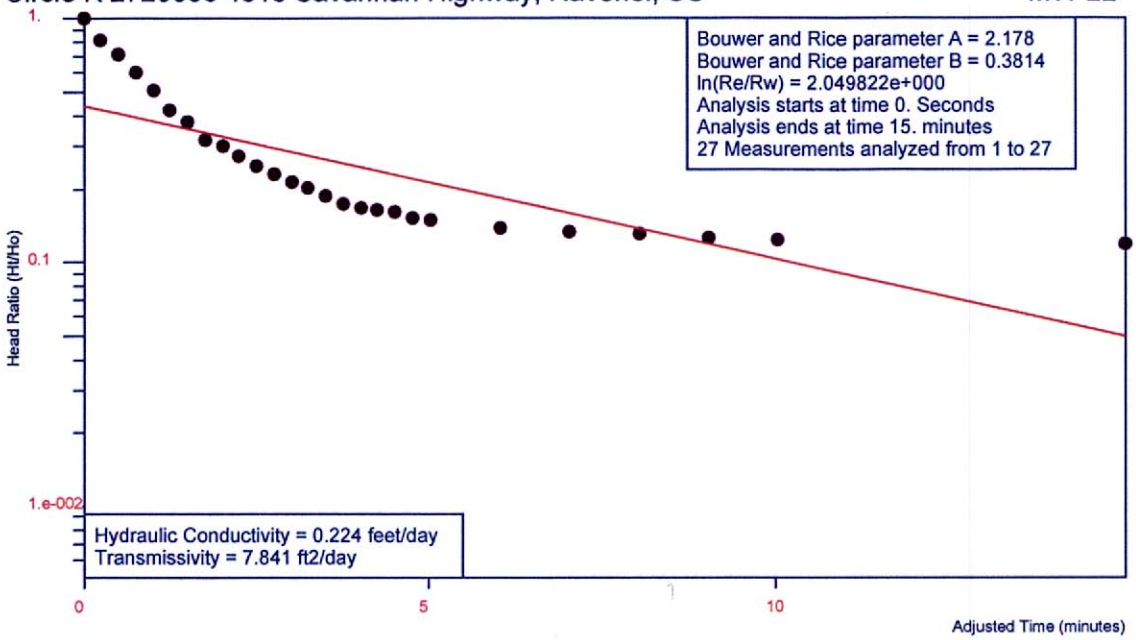
Well Label:	MW-22
Aquifer Thickness:	35. feet
Screen Length:	10. feet
Casing Radius:	8.3e-002 feet
Effective Radius:	0.354 feet
Static Water Level:	3.96 feet
Water Table to Screen Bottom:	8.04 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 27 time and drawdown measurements
Maximum head is 2.61 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	6.57	2.61	1.
2	0.25	0.25	6.12	2.16	0.8276
3	0.5	0.5	5.84	1.88	0.7203
4	0.75	0.75	5.55	1.59	0.6092
5	1.	1.	5.3	1.34	0.5134
6	1.25	1.25	5.06	1.1	0.4215
7	1.5	1.5	4.95	0.99	0.3793
8	1.75	1.75	4.79	0.83	0.318
9	2.	2.	4.75	0.79	0.3027
10	2.25	2.25	4.68	0.72	0.2759
11	2.5	2.5	4.61	0.65	0.249
12	2.75	2.75	4.56	0.6	0.2299
13	3.	3.	4.52	0.56	0.2146
14	3.25	3.25	4.49	0.53	0.2031
15	3.5	3.5	4.45	0.49	0.1877
16	3.75	3.75	4.41	0.45	0.1724
17	4.	4.	4.4	0.44	0.1686
18	4.25	4.25	4.39	0.43	0.1648
19	4.5	4.5	4.38	0.42	0.1609
20	4.75	4.75	4.36	0.4	0.1533
21	5.	5.	4.35	0.39	0.1494
22	6.	6.	4.32	0.36	0.1379
23	7.	7.	4.31	0.35	0.1341
24	8.	8.	4.3	0.34	0.1303
25	9.	9.	4.29	0.33	0.1264
26	10.	10.	4.28	0.32	0.1226
27	15.	15.	4.27	0.31	0.1188

MW-22 slug test data compilation 11-28-2018 **Bouwer and Rice Graph**

Circle K 2720886 4315 Savannah Highway, Ravenel, SC MW-22



Ho is 2.61 feet at 0. Seconds

Project Number: PAN088603 for Circle K Stores, inc.

Analysis by Starpoint Software

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project:
Address:
Date:

Well Id: MW22 **Static Depth to Water (feet):** 3.96 **Total Well Depth:** 12

Volume Bailed/Pumped (gallons): 13

Greatest Drawdown Depth (feet): 6.57

Elapsed Time/DTW BTOC (feet):

start	6.57				
15 sec	6.12	4 m/30 s	4.38	20 min	4.27
30 sec	5.84	4 m/45 s	4.36		
45 sec	5.55	5 min	4.35		
1 min	5.30	6 min	4.32		
1 m/15 s	5.06	7 min	4.31		
1 m/30 s	4.95	8 min	4.30	25 min	4.26
1 m/45 s	4.79	9 min	4.29		
2 min	4.75	10 min	4.28		
2 m/15 s	4.68	11 min	4.28		
2 m/30 s	4.61	12 min	4.28		
2 m/45 s	4.56	13 min	4.28	30 min	
3 min	4.52	14 min	4.28		
3 m/15 s	4.49	15 min	4.27		
3 m/30 s	4.45	16 min	4.27		
3 m/45 s	4.41	17 min	4.27		
4 min	4.40	18 min	4.27		
4 m/15 s	4.39	19 min	4.27		

3.96
+ .3
4.26

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

MW-24 slug test data compilation

Site Name:	Circle K 2720886
Location:	4315 Savannah Highway, Ravenel, SC
Test Date:	11-28-2018
Client:	Circle K Stores, inc.
Project Number:	PAN088603

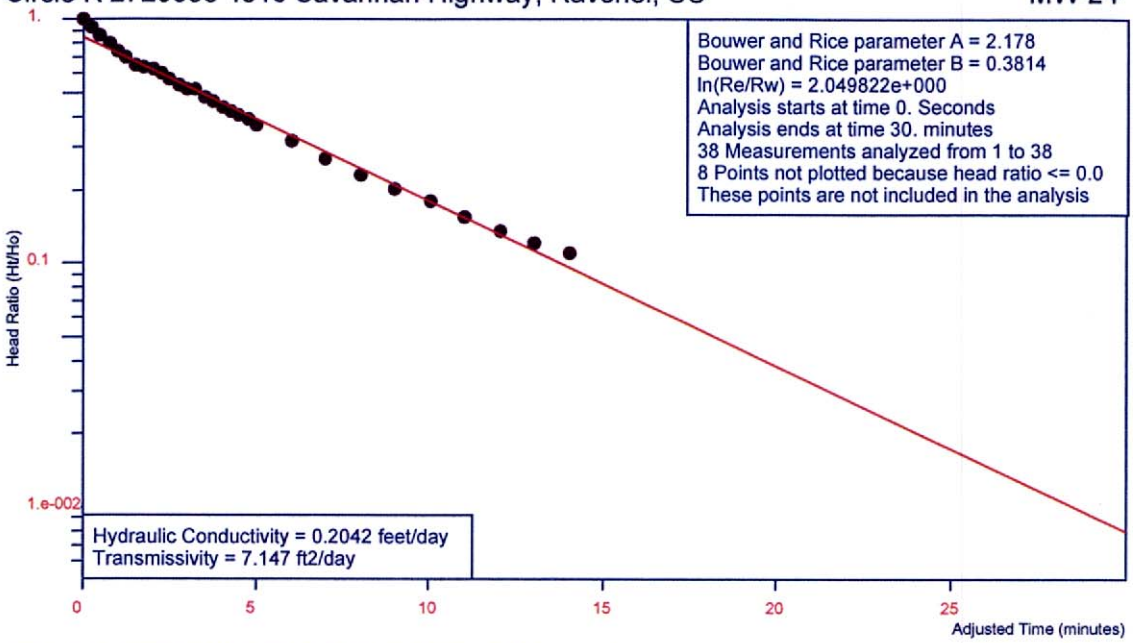
Well Label:	MW-24
Aquifer Thickness:	35 feet
Screen Length:	10. feet
Casing Radius:	8.3e-002 feet
Effective Radius:	0 354 feet
Static Water Level:	6.96 feet
Water Table to Screen Bottom:	8.04 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 38 time and drawdown measurements
Maximum head is 4 63 feet
Minimum head is -6.96 feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0	11 59	4.63	1.
2	0 25	0.25	11.26	4.3	0.9287
3	0.5	0.5	10.96	4.	0.8639
4	0.75	0 75	10.71	3.75	0.8099
5	1	1.	10.41	3.45	0.7451
6	1.25	1.25	10.25	3 29	0.7106
7	1.5	1 5	10.	3.04	0.6566
8	1.75	1.75	9.91	2.95	0 6371
9	2	2.	9.88	2.92	0.6307
10	2.25	2.25	9.74	2.78	0.6004
11	2.5	2.5	9.59	2 63	0.568
12	2.75	2.75	9.45	2.49	0.5378
13	3	3.	9.39	2.43	0.5248
14	3.25	3.25	9.39	2.43	0.5248
15	3.5	3 5	9.18	2.22	0 4795
16	3.75	3.75	9.1	2.14	0 4622
17	4.	4.	9.	2 04	0.4406
18	4.25	4.25	8.9	1.94	0.419
19	4 5	4 5	8.84	1.88	0.406
20	4.75	4.75	8.76	1.8	0 3888
21	5.	5.	8.69	1.73	0.3737
22	6.	6.	8.43	1.47	0.3175
23	7.	7.	8.21	1.25	0 27
24	8.	8	8 02	1.06	0.2289
25	9.	9.	7.9	0.94	0.203
26	10.	10.	7.79	0.83	0 1793
27	11.	11	7.68	0.72	0.1555
28	12.	12.	7.59	0.63	0.1361
29	13.	13.	7.52	0.56	0.121
30	14.	14	7.47	0.51	0.1102
31	15.	15.	0.	-6.96	-1.503
32	16.	16.	0.	-6.96	-1.503
33	17.	17.	0.	-6 96	-1.503
34	18	18.	0.	-6.96	-1 503
35	19.	19.	0.	-6.96	-1.503
36	20.	20.	0.	-6 96	-1 503
37	25	25.	0	-6 96	-1.503
38	30.	30.	0.	-6 96	-1.503

MW-24 slug test data compilation 11-28-2018 **Bouwer and Rice Graph**

Circle K 2720886 4315 Savannah Highway, Ravenel, SC MW-24



Ho is 4.63 feet at 0. Seconds

Project Number: PAN088603 for Circle K Stores, inc.

Analysis by Starpoint Software

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project: Circle K 3816
Address:
Date: 11/28/18

Well Id: MW24 Static Depth to Water (feet): 6.96 Total Well Depth: 15

Volume Bailed/Pumped (gallons): ~~2.5~~ 3.5

Greatest Drawdown Depth (feet): 11.59

Elapsed Time/DTW BTOC (feet):

start	11.59				
15 sec	11.26	4 m/30 s	8.84	20 min	
30 sec	10.96	4 m/45 s	8.76		
45 sec	10.71	5 min	8.69		
1 min	10.41	6 min	8.43		
1 m/15 s	10.25	7 min	8.21		
1 m/30 s	10.00	8 min	8.02	25 min	
1 m/45 s	9.91	9 min	7.90		
2 min	9.88	10 min	7.79		
2 m/15 s	9.74	11 min	7.68		
2 m/30 s	9.59	12 min	7.59		
2 m/45 s	9.45	13 min	7.52	30 min	
3 min	9.39	14 min	7.47		
3 m/15 s	9.39	15 min			
3 m/30 s	9.18	16 min			
3 m/45 s	9.10	17 min			
4 min	9.00	18 min			
4 m/15 s	8.90	19 min			

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

6.96
.69
.65

Summary of Secondary Aquifer Groundwater Flow Characteristics

(Lower Extent)

Site: Circle K 2720886, 4315 Savannah Highway, Ravenel, SC

UST Permit Number: 01589

Horizontal Groundwater Flow Gradient:

$$\frac{\text{higher groundwater elevation} - \text{lower groundwater elevation}}{\text{separation distance between wells (in feet)}}$$

01589 DMW-3 and 01589 DMW-2

$$\frac{19.68 - 10.56}{298.125} = 0.031 \text{ ft/ft}$$

Seepage Velocity (V = Ki/n)

V = Seepage Velocity in ft/year

K = Hydraulic Conductivity in ft/year

i = Horizontal Gradient

n = porosity (value selected in relation to grain size analysis of soil samples collected from the screened intervals of groundwater monitoring wells 01589 DMW-1, 01589 DMW-2 and 01589 DMW-3 and table C1 of the South Carolina Risk-Based Corrective Action for Petroleum Releases document dated May 15, 2001)

36.314 ft/year in 00317 DMW-1;

48.654 ft/year in 00317 DMW-2;

41.464 ft/year in 00317 DMW-3;

42.144 ft/year average

$$V \text{ (deep)} = \frac{(42.144)(0.031)}{0.43} =$$ **3.04 feet per year groundwater flow velocity to the northeast**

SUMMARY of SLUG TEST

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 01589 **COUNTY** Charleston

FACILITY NAME **Circle K 2720886**

Slug Data

See Appendix K Table _____ Figure _____ for a list of all data measurements
(Water levels logs, etc.) (Complete as appropriate)
Water Level Recovery Data was measured by **Water level indicator.**
(Hermit Data Logger, Manually with Water Level Indicator, etc.) (List Method).
Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in well(s) number	DMW-1	DMW-2	DMW-3	
Initial Rise/Drawdown in well (feet)	31.24	31.45	31.63	
Radius of well casing (feet)	0.083	0.083	0.083	
Effective Radius of well (feet)	0.167	0.167	0.167	
Static Saturated Aquifer Thickness (feet)	35	35	35	
Length of Well Screen (feet)	5.0	5.0	5.0	
Static Height of Water Column in Well (ft)	33.89	30.75	39.35	

Calculations

See Appendix K Table _____ Figure _____ for calculations. (Complete as appropriate).
The method for aquifer calculations was **Bouwer-Rice** (i.e. Bouwer-Rice, Cooper, etc.)
Calculated values by well were as follow:

Slug Test Conducted in well(s) number	DMW-1	DMW-2	DMW-3	
Hydraulic Conductivity (feet/year)	36.314	48.654	41.464	

Thickness of aquifer used to calculate hydraulic conductivity was **35 feet**
The aquifer is _____ confined _____ semi-confined **x** water table (check as appropriate).

The estimated seepage velocity (V) is **3.04** feet per year based on
A hydraulic conductivity (K) of **42.144 ft/year**, a hydraulic gradient (i) of **0.031 ft./ft.**, and a porosity (n) of **0.43** percent for **sand** soil (list type i.e. silty sand, clay, etc).

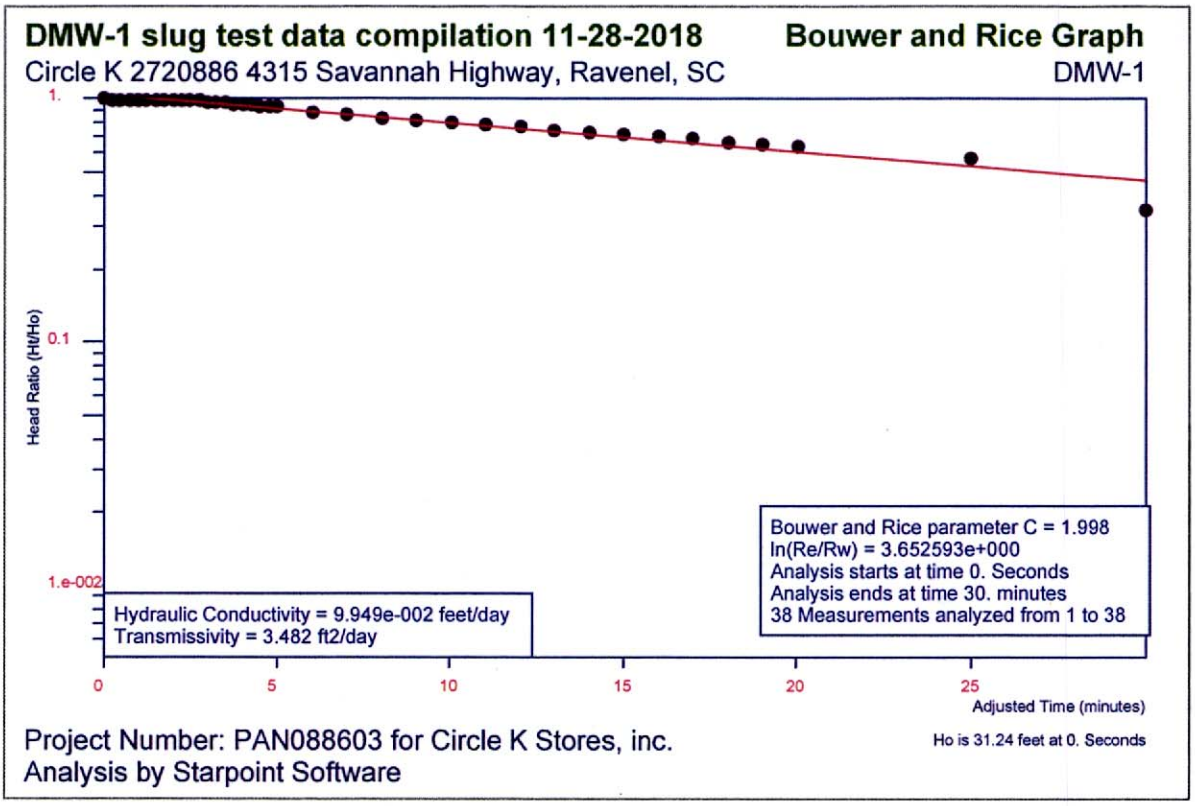
DMW-1 slug test data compilation

Site Name:	Circle K 2720886
Location:	4315 Savannah Highway, Ravenel, SC
Test Date:	11-28-2018
Client:	Circle K Stores, inc.
Project Number:	PAN088603

Well Label:	DMW-1
Aquifer Thickness:	35 feet
Screen Length:	5. feet
Casing Radius:	8 3e-002 feet
Effective Radius:	0.167 feet
Static Water Level	5 11 feet
Water Table to Screen Bottom:	33.89 feet
Anisotropy Ratio:	1
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 38 time and drawdown measurements
Maximum head is 31.24 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	36 35	31.24	1.
2	0.25	0.25	36 34	31.23	0.9997
3	0.5	0.5	36 29	31.18	0.9981
4	0.75	0.75	36 26	31.15	0.9971
5	1.	1.	36 2	31.09	0 9952
6	1.25	1.25	36 18	31.07	0.9946
7	1.5	1 5	36.14	31.03	0.9933
8	1.75	1.75	36.1	30.99	0 992
9	2.	2.	36.07	30.96	0.991
10	2 25	2.25	36.03	30.92	0.9898
11	2 5	2.5	35.95	30.84	0.9872
12	2.75	2 75	35.77	30.66	0.9814
13	3.	3.	35.69	30.58	0.9789
14	3 25	3.25	35.45	30.34	0.9712
15	3.5	3.5	35.29	30.18	0.9661
16	3 75	3.75	35.12	30.01	0.9606
17	4	4.	34.95	29.84	0.9552
18	4 25	4.25	34.76	29.65	0.9491
19	4 5	4.5	34.61	29.5	0.9443
20	4 75	4.75	34.45	29.34	0.9392
21	5.	5.	34.29	29.18	0.9341
22	6.	6.	32.63	27.52	0.8809
23	7.	7.	32.01	26 9	0 8611
24	8.	8.	31.41	26 3	0.8419
25	9.	9.	30.8	25.69	0.8223
26	10.	10.	30.27	25.16	0.8054
27	11.	11.	29 67	24.56	0.7862
28	12.	12	29.21	24.1	0.7714
29	13.	13.	28.59	23.48	0 7516
30	14.	14.	28.06	22.95	0 7346
31	15.	15.	27.57	22.46	0.719
32	16.	16	27.06	21.95	0 7026
33	17.	17.	26.58	21.47	0.6873
34	18.	18.	26.05	20.94	0.6703
35	19.	19.	25.58	20 47	0 6552
36	20.	20.	25.12	20.01	0.6405
37	25	25.	23.02	17.91	0.5733
38	30	30.	15.99	10 88	0 3483


DMW-1 slug test data compilation 11-28-2018
Bouwer and Rice Graph
Circle K 2720886 4315 Savannah Highway, Ravenel, SC
DMW-1
Head Ratio (Ht/Ho)
1.
0.1
1.e-002
Bouwer and Rice parameter C = 1.998
ln(Re/Rw) = 3.652593e+000
Analysis starts at time 0. Seconds
Analysis ends at time 30. minutes
38 Measurements analyzed from 1 to 38
Hydraulic Conductivity = 9.949e-002 feet/day
Transmissivity = 3.482 ft2/day
0
5
10
15
20
25
Adjusted Time (minutes)
Project Number: PAN088603 for Circle K Stores, inc.
Analysis by Starpoint Software
Ho is 31.24 feet at 0. Seconds

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project: Circle K 3886
Address:
Date: 11/28/18

Well Id: DMW-1 **Static Depth to Water (feet):** 5.11 **Total Well Depth:** 40

Volume Bailed/Pumped (gallons): 16

Greatest Drawdown Depth (feet): 35.35

Elapsed Time/DTW BTOC (feet):

start	36.35				
15 sec	36.34	4 m/30 s	34.61	20 min (1:26)	25.12
30 sec	36.29	4 m/45 s	34.45		
45 sec	36.26	5 min (5:11)	34.29		
1 min	36.20	6 min	32.63		
1 m/15 s	36.18	7 min	32.01		
1 m/30 s	36.14	8 min	31.41	25 min	23.02
1 m/45 s	36.10	9 min	30.80		
2 min	36.07	10 min	30.27		
2 m/15 s	36.03	11 min	29.67		
2 m/30 s	35.95	12 min	29.21		
2 m/45 s	35.77	13 min	28.59	30 min	21.10
3 min	35.69	14 min	28.06		
3 m/15 s	35.45	15 min	27.57		
3 m/30 s	35.29	16 min	27.06		
3 m/45 s	35.12	17 min	26.58		
4 min	34.95	18 min	26.05		
4 m/15 s	34.76	19 min	25.58		

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

DMW-2 slug test data compilation

Site Name:	Circle K 2720886
Location:	4315 Savannah Highway, Ravenel, SC
Test Date:	11-28-2018
Client.	Circle K Stores, inc.
Project Number:	PAN088603

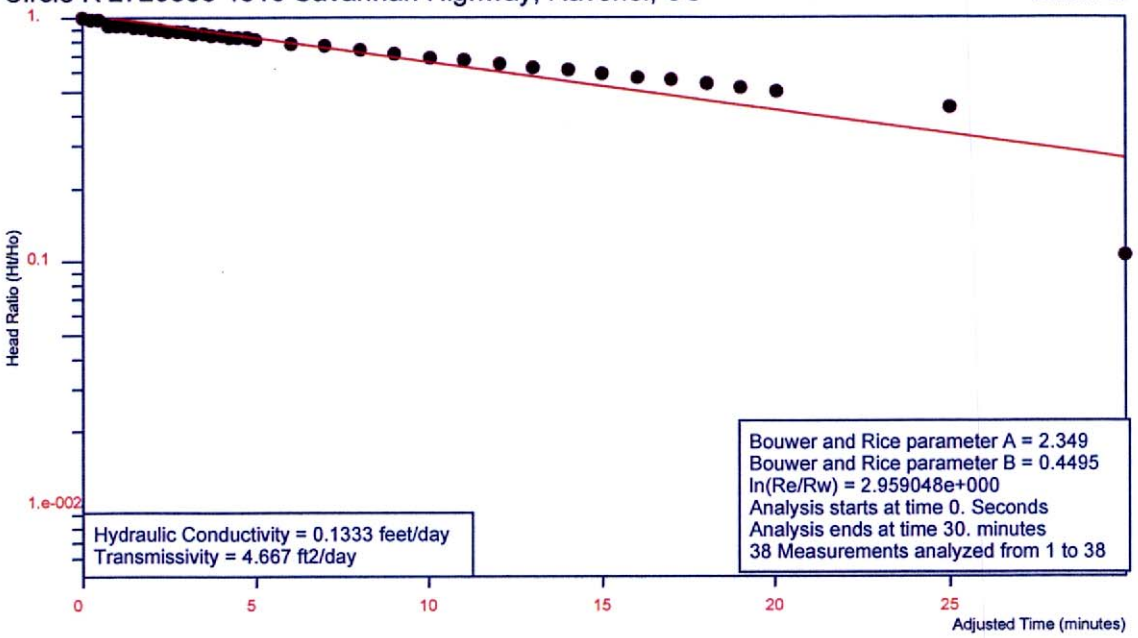
Well Label:	DMW-2
Aquifer Thickness:	35. feet
Screen Length:	5. feet
Casing Radius:	8 3e-002 feet
Effective Radius:	0.167 feet
Static Water Level:	8.25 feet
Water Table to Screen Bottom:	30.75 feet
Anisotropy Ratio:	1.
Time Adjustment.	0. Seconds

Test starts with trial 0
There are 38 time and drawdown measurements
Maximum head is 31.45 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	39.7	31.45	1.
2	0.25	0.25	39 39	31.14	0.9901
3	0.5	0.5	39.17	30 92	0.9831
4	0.75	0.75	37.82	29.57	0.9402
5	1.	1.	37.72	29.47	0.937
6	1.25	1.25	37.51	29.26	0 9304
7	1.5	1.5	37.18	28.93	0.9199
8	1.75	1.75	37.04	28.79	0.9154
9	2	2.	36.81	28 56	0.9081
10	2 25	2 25	36.54	28 29	0.8995
11	2.5	2 5	36.31	28.06	0.8922
12	2.75	2.75	36.12	27.87	0.8862
13	3.	3.	35.89	27.64	0.8789
14	3.25	3.25	35.66	27 41	0.8715
15	3.5	3.5	35 4	27.15	0.8633
16	3.75	3.75	35.14	26.89	0.855
17	4.	4	35.	26.75	0.8506
18	4.25	4.25	34.76	26.51	0.8429
19	4.5	4.5	34.53	26.28	0.8356
20	4.75	4.75	34.33	26.08	0.8293
21	5.	5.	34.1	25.85	0.8219
22	6.	6.	33.27	25.02	0.7955
23	7	7	32.49	24.24	0.7707
24	8	8.	31.7	23.45	0.7456
25	9.	9.	30.94	22.69	0.7215
26	10.	10.	30 2	21.95	0.6979
27	11.	11.	29.52	21.27	0.6763
28	12	12.	28.81	20 56	0.6537
29	13.	13.	28.17	19.92	0.6334
30	14.	14.	27.54	19.29	0.6134
31	15.	15.	26.92	18.67	0.5936
32	16.	16.	26.32	18 07	0.5746
33	17.	17.	25.76	17 51	0.5568
34	18.	18.	25.2	16.95	0.539
35	19.	19.	24.67	16.42	0.5221
36	20.	20.	24.12	15.87	0 5046
37	25.	25.	21.77	13.52	0.4299
38	30.	30.	11.56	3.31	0.1052

DMW-2 slug test data compilation 11-28-2018 **Bouwer and Rice Graph**

Circle K 2720886 4315 Savannah Highway, Ravenel, SC DMW-2



Project Number: PAN088603 for Circle K Stores, inc.

Analysis by Starpoint Software

Ho is 31.45 feet at 0. Seconds

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project: Circle K 8816
Address:
Date: 11/28/18

Well Id: DMW-2 **Static Depth to Water (feet):** 8.25 **Total Well Depth:** 40

Volume Bailed/Pumped (gallons): 7.5

Greatest Drawdown Depth (feet): _____

Elapsed Time/DTW BTOC (feet):

start	39.70				
15 sec	39.39	4 m/30 s	34.53	20 min	24.12
30 sec	39.17	4 m/45 s	34.33		
45 sec	37.82	5 min	34.10		
1 min	37.72	6 min	33.27		
1 m/15 s	37~~39~~.51	7 min	32.49		
1 m/30 s	37.18	8 min	31.70	25 min	21.77
1 m/45 s	37.04	9 min	30.94		
2 min	36.81	10 min	30.20		
2 m/15 s	36.54	11 min	29.52		
2 m/30 s	36.31	12 min	28.81		
2 m/45 s	36.12	13 min	28.17	30 min	19.81
3 min	35.89	14 min	27.54		
3 m/15 s	35.66	15 min	26.92		
3 m/30 s	35.40	16 min	26.32		
3 m/45 s	35.14	17 min	25.76		
4 min	35.00	18 min	25.20		
4 m/15 s	34.76	19 min	24.67		

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

DMW-3 slug test data compilation

Site Name:	Circle K 2720886
Location.	4315 Savannah Highway, Ravenel, SC
Test Date:	11-28-2018
Client:	Circle K Stores, inc.
Project Number:	PAN088603

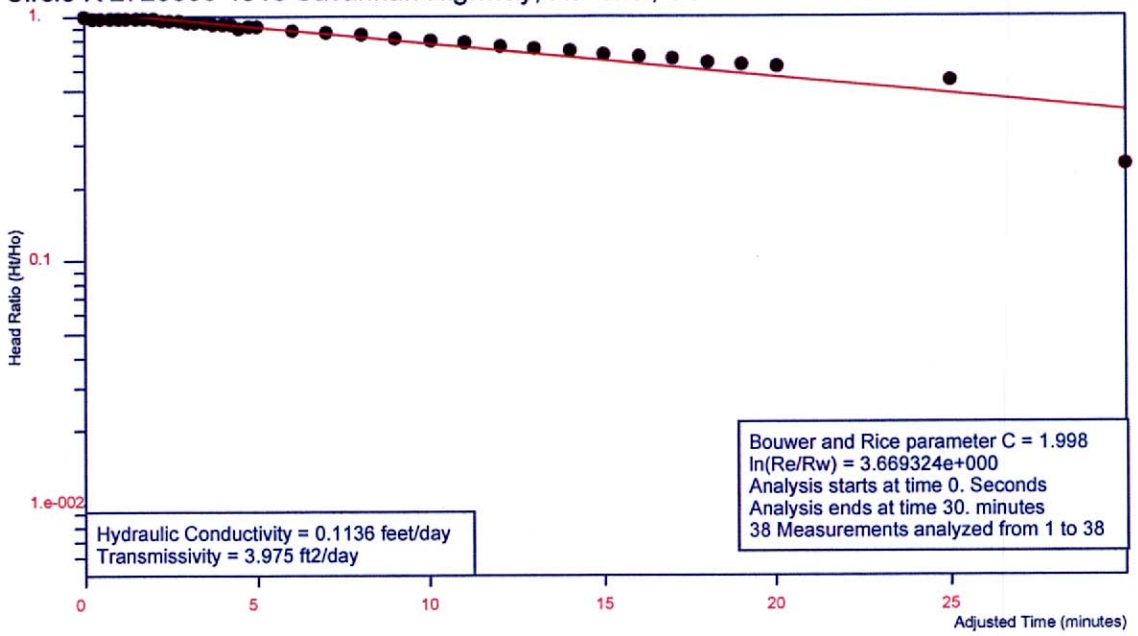
Well Label:	DMW-3
Aquifer Thickness:	35. feet
Screen Length:	5. feet
Casing Radius:	8 3e-002 feet
Effective Radius:	0.167 feet
Static Water Level:	3.65 feet
Water Table to Screen Bottom:	39.35 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 38 time and drawdown measurements
Maximum head is 31.63 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	35.28	31.63	1.
2	0.25	0.25	35 2	31.55	0.9975
3	0.5	0.5	35.19	31.54	0.9972
4	0.75	0 75	35.14	31.49	0.9956
5	1.	1.	35.09	31.44	0.994
6	1.25	1 25	35.04	31.39	0.9924
7	1.5	1 5	34.99	31.34	0.9908
8	1.75	1 75	34.95	31.3	0 9896
9	2.	2.	34.87	31 22	0.987
10	2.25	2.25	34.64	30 99	0.9798
11	2.5	2.5	34.49	30.84	0.975
12	2.75	2.75	34.29	30.64	0 9687
13	3.	3.	34.1	30.45	0 9627
14	3 25	3.25	33.9	30.25	0.9564
15	3.5	3 5	33 71	30.06	0.9504
16	3 75	3 75	33.51	29.86	0.944
17	4.	4.	33.33	29.68	0.9383
18	4.25	4.25	33.13	29.48	0.932
19	4.5	4.5	32.19	28.54	0.9023
20	4.75	4.75	32.76	29.11	0.9203
21	5.	5.	32.57	28.92	0.9143
22	6.	6.	31.85	28.2	0.8916
23	7.	7.	31.11	27.46	0.8682
24	8.	8.	30.45	26.8	0.8473
25	9.	9.	29.71	26.06	0.8239
26	10.	10.	29.11	25.46	0.8049
27	11.	11.	28.47	24 82	0 7847
28	12.	12.	27 81	24.16	0.7638
29	13.	13.	27.24	23.59	0.7458
30	14.	14.	26.65	23.	0.7272
31	15	15.	26.1	22.45	0.7098
32	16.	16.	25.51	21.86	0 6911
33	17	17.	24.98	21.33	0.6744
34	18.	18.	24.43	20.78	0.657
35	19.	19.	23.94	20.29	0.6415
36	20.	20	23.45	19.8	0 626
37	25.	25.	21.14	17.49	0.553
38	30.	30.	11.56	7.91	0.2501

DMW-3 slug test data compilation 11-28-2018 **Bouwer and Rice Graph**

Circle K 2720886 4315 Savannah Highway, Ravenel, SC DMW-3



Ho is 31.63 feet at 0. Seconds

Project Number: PAN088603 for Circle K Stores, inc.

Analysis by Starpoint Software

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

SLUG TEST FIELD DATA

Project:
Address:
Date:

Well Id: DMW-3 **Static Depth to Water (feet):** 3.65 **Total Well Depth:** 40

Volume Bailed/Pumped (gallons): 13

Greatest Drawdown Depth (feet): 35.28

Elapsed Time/DTW BTOC (feet):

start	35.28				
15 sec	35.20	4 m/30 s	32.94	20 min	23.45
30 sec	35.19	4 m/45 s	32.76		
45 sec	35.14	5 min	32.57		
1 min	35.09	6 min	31.85		
1 m/15 s	35.04	7 min	31.11		
1 m/30 s	34.99	8 min	~~30.95~~ 30.45	25 min	21.14
1 m/45 s	34.95	9 min	29.71		
2 min	34.87	10 min	29.11		
2 m/15 s	34.64	11 min	28.47		
2 m/30 s	34.49	12 min	27.81		
2 m/45 s	34.29	13 min	27.24	30 min	19.11
3 min	34.10	14 min	26.65		
3 m/15 s	33.90	15 min	26.10		
3 m/30 s	33.71	16 min	25.51		
3 m/45 s	33.51	17 min	24.98		
4 min	33.33	18 min	24.43		
4 m/15 s	33.13	19 min	23.94		

Significantly depress water table by rapidly bailing (>4 feet is ideal)
Gauge recharge at intervals listed above
Stop recording measurements at 90% recharge or 30 minutes

APPENDIX N

QAPP contractor Addendum Checklist

QAPP Appendix K - Contractor Verification Checklist

Item #	Item	Yes	No	N/A
1	Are Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Are name, address, & phone number of current property owner provided?	X		
4	Are the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Are the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	X		
6	Are the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
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?	X		
11	Has the site-specific geology and hydrogeology been described?	X		X
12	Has the primary soil type been described?	X		
13	Have field screening results been described?	X		X
14	Has a description of the soil sample collection and preservation been detailed?	X		X
15	Has the field screening methodology and procedure been detailed?	X		X
16	Has the monitoring well installation and development dates been provided?	X		
17	Has the method of well development been detailed?	X		
18	Has justification been provided for the locations of the monitoring wells?	X		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?	X		
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format? (Table 2)	X		
33	Has the potentiometric data for the site been provided in tabular format? (Table 3)	X		
34	Has the current laboratory data been provided in tabular format? (Appendices 4A,B and 5A,B)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form? (Appendix K)	X		
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 5)	X		
39	Have the CoC site maps been provided? (Figures 4 and 9 through 19)	X		
40	Has the site potentiometric map been provided? (Figures 7 and 8)	X		
41	Have the geologic cross-sections been provided? (Figures 21 and 22)	X		X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix G)	X		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendices C, E, H, I and J)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided? (Appendix D)	X		X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix F)	X		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix K)			X
50	Have the disposal manifests been provided? (Appendix L)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendices M and N)	X		

APPENDIX O

Project Status Update

South Carolina Department of Health and Environmental Control
Underground Storage Tank Program

Project Status Update

UST Permit #: 01589

Site Name: Circle K 2720886

Date	Deficiency	Current Status	Corrective Action Taken	Date Deficiency Resolved
12/10/2018	The RPD of 20% was equaled or exceeded in the ethanol, tert-Amyl alcohol and ethyl tert-Butyl ether analytical duplication	the laboratory was requested to review the analytical results and QA/QC parameters	Inquiry complete, no laboratory deficiencies were identified The discrepancy between the duplicated samples is likely due to Chemical of Concern concentration variability in the water column captured in the bailer and/or dissimilar dilution factors between duplicated samples.	12/17/2018
12/10/2018	mandatory dilution performed at the laboratory prior to analysis raised detection limits in groundwater samples collected from monitoring wells 01589 MW-1 (X500), 01589 MW-2 (X200), 01589 MW-7 (X200), 01589 MW-12 (X20), 01589 MW-13 (X20), 01589 MW-15 (X100), 01589 RW-1 (X500), 01589 RW-2 (X500), 01589 RW-3 (X500) and surface water SW-4 (X5)	the laboratory was requested to review the analytical results and QA/QC parameters	the analytical results for a majority of the chemicals of concern exceeded the elevated detection levels	12/17/2018
12/10/2018	The trip blanks associated with the samples collected on November 28, 29 and 30, 2018 were misplaced when coolers were consolidated and were not analyzed	Field blanks were collected on each of these days and analyzed for Volatile Organic Compounds, the SCDHEC-regulated gasoline oxygenates and SCDHEC-regulated Polynuclear Aromatic Hydrocarbons. These samples were prepared with deionized water provided by the laboratory which is identical to how trip blanks are generated.	Field blank analytical data replicates trip blank analytical data and no Chemicals of Concern were detected above analytical method reporting limits in the field blanks	12/17/2018

Comments:

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

RECEIVED
JAN 08 2019
SC Department of
Health & Environmental Control

7499 Parklane Road, Suite 112
Columbia, SC 29223
Telephone 803-735-0003
Fax 803-929-6065

January 8 , 2019

UST
50
DOCKETING

Mr. Ed Mendenhal
State of South Carolina
Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Management Division
2600 Bull Street
Columbia, South Carolina 29201

RE: AFVR Report, Addendum to Tier II
Circle K Store # 2720886
4315 Savannah Highway, Ravenel (Charleston Co.), SC
UST ID # 01589, Release 4, CA # 57812
ATC Project No. DHEC088602

Dear Mr. Mendenhal:

ATC Group Services, LLC is providing an AFVR Report summarizing results from an event conducted December 17 through December 21, 2018.

As a result of this release, SCDHEC issued a directive (and Cost Agreement 57812) to conduct a Tier II assessment. A 96 hour AFVR event was also authorized as an addendum and the results with the disposal manifests are attached. A total of 16,626 gallons of liquid were disposed of and a total of 266.52 gallons of Free Product were removed.

The following wells were gauged for Free Product on December 27, 2018 and the product thicknesses (reported in feet) are summarized below.

RW-1	0.28
RW-2	0
RW-3	0
RW-4	0
RW-5	2.27
RW-6	2.16
MW-2	0
MW-3	0
MW-6	0.06

MW-7	0
MW-12	0
MW-13	0
MW-29	0
MW-31	0

An increase in Free Product thickness was noted in RW-1, RW-5 and RW-6 from the gauging event conducted prior to sampling on November 17, 2018. A decrease in Free Product thickness was noted in MW-6.

ATC recommends that AFVR activities continue in the median of US Hwy 17 and on the store property until an active corrective contractor can be assigned.

If you have any questions or require additional information, please contact the ATC Group Services project manager for the site, Fred Lyke, at (803) 735-0003.

Sincerely,

ATC Group Services, LLC

H. Brad Hubbard, P.G.
Project Manager

Fred Lyke, P.G.
ATC Branch Manager

cc: Brent Puzak, Circle K

AFVR MONITORING DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATE: 12/17/18 - 12/21/18

Date	Time (hh:mm)	Extraction Well Head Vacuum (in. Hg)					Vacuum Truck Exhaust						
		RW-5	RW-6			Truck	Relative Humidity	Temp (°F)	Pretreatment Conc. (PPM)	Post Treatment Conc. (PPM)	Offgas Velocity Ft/Min	Water Vapor (%)	Flow Rate (DSCFM)
12/17/18	8:00												
	8:30	12.0	6.0			19.0	10.8	120	6179	12	2300	0.01	101.54
	9:00	12.0	6.0			19.0	10.6	120	6028	15	2300	0.01	101.54
	9:30	12.0	6.0			19.0	10.4	123	5863	16	2300	0.01	101.01
	10:00	12.0	6.0			19.0	9.6	143	4686	17	2300	0.01	97.66
	10:30	12.0	6.0			19.0	8.3	146	3793	19	2300	0.01	97.18
	11:00	12.0	6.0			19.0	8.0	151	2718	21	2300	0.02	95.41
	11:30	12.0	6.0			19.0	7.8	164	2594	27	2300	0.02	93.42
	12:00	12.0	6.0			19.0	7.6	175	2264	29	2300	0.02	91.81
	12:30	12.0	6.0			19.0	7.3	176	2035	33	2300	0.02	91.66
	13:00	12.0	6.0			19.0	6.0	180	1823	38	2300	0.02	91.09
	13:30	12.0	6.0			19.0	5.7	181	1769	41	2300	0.02	90.95
	14:00	12.0	6.0			19.0	5.9	183	1726	47	2300	0.02	90.66
	14:30	12.0	6.0			19.0	5.4	184	1682	55	2300	0.02	90.52
	15:00	12.0	6.0			19.0	5.6	184	1651	59	2300	0.02	90.52
	15:30	12.0	6.0			19.0	5.1	186	1621	64	2300	0.02	90.24
	16:00	12.0	6.0			19.0	5.3	185	1534	67	2300	0.02	90.38
	17:00	12.0	6.0			19.0	5.7	190	1462	71	2300	0.02	89.69
	18:00	12.0	6.0			19.0	5.8	191	1218	79	2300	0.02	89.55
	19:00	12.0	6.0			19.0	5.4	181	1195	83	2300	0.02	90.95
	20:00	12.0	6.0			19.0	5.8	183	1063	91	2300	0.02	90.66
	21:00	12.0	6.0			19.0	4.9	184	757	109	2300	0.02	90.52
	22:00	12.0	6.0			19.0	4.7	180	566	114	2300	0.02	91.09
	23:00	12.0	6.0			19.0	4.4	178	678	121	2300	0.02	91.37
12/18/18	0:00	12.0	6.0			19.0	4.5	173	856	146	2300	0.02	92.10
	8:00	12.0	6.0			19.0	7.2	160	2910	0	2000	0.02	81.78
	10:00	12.0	6.0			19.0	7.6	163	2834	8	2000	0.02	81.37
	12:00	12.0	6.0			19.0	7.3	164	2802	18	2000	0.02	81.24
	14:00	12.0	6.0			19.0	6.2	167	2621	32	2000	0.02	80.85
	16:00	12.0	6.0			19.0	5.6	173	2543	43	2000	0.02	80.08
	18:00	12.0	6.0			19.0	5.4	175	2511	57	2000	0.02	79.83
	20:00	12.0	6.0			19.0	4.3	178	2387	65	2000	0.02	79.46
	22:00	12.0	6.0			19.0	4.5	181	2256	77	2000	0.02	79.08
12/19/18	0:00	12.0	6.0			19.0	4.1	176	2156	92	2000	0.02	79.71
	8:00	12.0	6.0			19.0	8.9	158	3652	148	2200	0.02	90.23
	10:00	12.0	6.0			19.0	9.0	165	5025	188	2200	0.02	89.22
	12:00	12.0	6.0			19.0	8.1	193	2791	197	2200	0.04	83.65
	14:00	12.0	6.0			19.0	7.2	186	2064	221	2200	0.03	85.44
	16:00	12.0	6.0			19.0	6.5	190	2514	263	2200	0.03	84.91
	18:00	12.0	6.0			19.0	6.8	176	2323	289	2200	0.03	86.78
	20:00	12.0	6.0			19.0	6.7	174	2457	324	2200	0.02	87.95
	22:00	12.0	6.0			19.0	6.2	185	2620	341	2200	0.03	85.57
12/20/18	0:00	12.0	6.0			19.0	5.6	190	2524	385	2200	0.03	84.91
	8:00	12.0	6.0			19.0	9.3	183	2316	0	2100	0.02	82.78
	10:00	12.0	6.0			19.0	8.5	182	2284	13	2100	0.03	82.06
	12:00	12.0	6.0			19.0	8.3	185	2221	24	2100	0.03	81.68
	14:00	12.0	6.0			19.0	8.5	184	2189	39	2100	0.03	81.81
	16:00	12.0	6.0			19.0	8.4	186	2156	51	2100	0.03	81.55
	18:00	12.0	6.0			19.0	8.0	191	2145	67	2100	0.04	80.09
	20:00	12.0	6.0			19.0	7.3	190	2181	91	2100	0.03	81.05
	22:00	12.0	6.0			19.0	7.2	192	2219	103	2100	0.03	80.80
12/21/18	0:00	12.0	6.0			19.0	6.1	187	2254	116	2100	0.03	81.43
	8:00	12.0	6.0			19.0	6.3	185	2267	156	2200	0.03	85.57

Well No.	Diameter (in)	Total well depth (ft)	Target Stinger Depth (ft)	Before AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	After AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
RW-5	4.00	30.00	5.00	0.50	1.05	0.55	0.00	1.01	1.01
RW-6	4.00	30.00	5.00	0.40	0.50	0.10	0.05	0.22	0.17

AFVR Information	
Client	ATC
Equipment Operator	KU
Blower Discharge I.D	4 Inches

Notes: Pipe ID - The inside diameter of the blower discharge piping (from vacuum truck)
Velocity - The rate at which air flows is measured at the blower discharge piping
Temperature - The temperature of the air stream exiting the blower discharge piping
Relative humidity - The % relative humidity of the air stream exiting the blower discharge piping
Water Vapor in % - Pounds of water per pound of dry air (derived from a Psychrometric chart of temp. vs relative humidity)
Flow rate = (1 - water vapor)(velocity)(Pipe Diameter/24)^2(3.14)(528°R/Temp + 460)

Total Gallons Extracted
16,626

Site Name: Circle K
Site Location: 4315 Savannah Highway, Ravenel, SC
Date: 12/17/18 - 12/21/18
EMISSION CALCULATION

Elapsed Time (hr)	Flow Rate (DSCFM)	Concentration (ppm)	K (#C - gas)	PPMg (ppm)	Cg:m (mg/dsm^3)	Cg (lbs/dscf)	PMRg (lb/hr)	PMR (lb)
0.0								
0.5	101.54	6179	4	24716	131489.12	0.008208866	50.01008701	25.00504351
1.0	101.54	6028	4	24112	128275.84	0.008008261	48.78795995	24.39397997
1.5	101.01	5863	4	23452	124764.64	0.007789056	47.20834201	23.604171
2.0	97.66	4686	4	18744	99718.08	0.0062254	36.47979429	18.23989714
2.5	97.18	3793	4	15172	80715.04	0.00503904	29.38174783	14.69087391
3.0	95.41	2718	4	10872	57839.04	0.003610891	20.67124012	10.33562006
3.5	93.42	2594	4	10376	55200.32	0.003446156	19.31717756	9.658588778
4.0	91.81	2264	4	9056	48177.92	0.003007748	16.56765288	8.283826441
4.5	91.66	2035	4	8140	43304.8	0.002703519	14.86844626	7.434223131
5.0	91.09	1823	4	7292	38793.44	0.002421874	13.2362507	6.61812535
5.5	90.95	1769	4	7076	37644.32	0.002350135	12.82413535	6.412067674
6.0	90.66	1726	4	6904	36729.28	0.002293009	12.47349359	6.236746793
6.5	90.52	1682	4	6728	35792.96	0.002234554	12.13663843	6.068319214
7.0	90.52	1651	4	6604	35133.28	0.002193371	11.91295484	5.956477421
7.5	90.24	1621	4	6484	34494.88	0.002153515	11.66027482	5.830137411
8.0	90.38	1534	4	6136	32643.52	0.002037935	11.05156887	5.525784437
9.0	89.69	1462	4	5848	31111.36	0.001942282	10.45182924	10.45182924
10.0	89.55	1218	4	4872	25919.04	0.001618126	8.694099163	8.694099163
11.0	90.95	1195	4	4780	25429.6	0.00158757	8.662997027	8.662997027
12.0	90.66	1063	4	4252	22620.64	0.001412207	7.682111056	7.682111056
13.0	90.52	757	4	3026.4	16100.448	0.001005151	5.459322613	5.459322613
14.0	91.09	566	4	2262.4	12035.968	0.000751405	4.106650245	4.106650245
15.0	91.37	678	4	2713.2	14434.224	0.000901129	4.940369455	4.940369455
16.0	92.10	856	4	3425.6	18224.192	0.001137736	6.286823071	6.286823071
24.0	81.76	2910	4	11640	61924.8	0.003865965	18.96538873	151.7231098
26.0	81.37	2834	4	11336	60307.52	0.003764998	18.38113177	36.76226355
28.0	81.24	2802	4	11208	59626.56	0.003722486	18.14445761	36.28891523
30.0	80.85	2621	4	10484	55774.88	0.003482026	16.89117764	33.78235529
32.0	80.08	2543	4	10172	54115.04	0.003378402	16.23316113	32.46632226
34.0	79.83	2511	4	10044	53434.08	0.00333589	15.97840543	31.95681087
36.0	79.46	2387	4	9548	50795.36	0.003171154	15.11792511	30.23585021
38.0	79.08	2256	4	9024	48007.68	0.002997119	14.2213726	28.4427452
40.0	79.71	2156	4	8624	45879.68	0.002864268	13.69784003	27.39568007
48.0	90.23	3652	4	14608	77714.56	0.00485172	26.26609001	210.1287201
50.0	89.22	5025	4	20100	106932	0.006675765	35.73626691	71.47253382
52.0	83.65	2791	4	11164	59392.48	0.003707873	18.60993889	37.21987778
54.0	85.44	2064	4	8256	43921.92	0.002742045	14.05646022	28.11292044
56.0	84.91	2514	4	10056	53497.92	0.003339875	17.01573486	34.03146972
58.0	86.78	2323	4	9292	49433.44	0.00308613	16.06907535	32.13815069
60.0	87.95	2457	4	9828	52284.96	0.00326415	17.22538879	34.45077758
62.0	85.57	2620	4	10480	55753.6	0.003480697	17.87065084	35.74130169
64.0	84.91	2524	4	10096	53710.72	0.00335316	17.08341877	34.16683753
72.0	82.78	2316	4	9264	49284.48	0.00307683	15.28189919	122.2551935
74.0	82.06	2284	4	9136	48603.52	0.003034318	14.94020231	29.88040462
76.0	81.68	2221	4	8884	47262.88	0.002950622	14.46053133	28.92106267
78.0	81.81	2189	4	8756	46581.92	0.002908109	14.27431581	28.54863163
80.0	81.55	2156	4	8624	45879.68	0.002864268	14.01559842	28.03119684
82.0	80.09	2145	4	8580	45645.6	0.002849655	13.69434339	27.38868677
84.0	81.05	2181	4	8724	46411.68	0.002897481	14.090867	28.18173401
86.0	80.80	2213	4	8852	47092.64	0.002939994	14.25375288	28.50750576
88.0	81.43	2254	4	9016	47965.12	0.002994462	14.63002398	29.26004796
96.0	85.57	2267	4	9068	48241.76	0.003011733	15.46288758	123.7031007
					Total Emissions in pounds			1641.77229
					Equivalent Gallons (vapor)			266.5214757

DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
SITE NAME: Circle K
SITE LOCATION - 4315 Savannah Highway, Ravenel, SC
DATE: 12/17/18- 12/21/18

DIFFERENTIAL PRESSURE DATA

		Well Designation:				
		MW-1	MW-6			
Time	Elapsed Time					
12/17/18 - 8:00	0.0	0.0	0.0			
8:30	0.5	0.0	0.0			
9:00	1.0	0.0	0.0			
9:30	1.5	0.0	0.0			
10:00	2.0	0.0	0.0			
10:30	2.5	0.0	0.0			
11:00	3.0	0.0	0.0			
11:30	3.5	0.0	0.0			
12:00	4.0	0.0	0.0			
12:30	4.5	0.0	0.0			
13:00	5.0	0.0	0.0			
13:30	5.5	0.0	0.0			
14:00	6.0	0.0	0.0			
14:30	6.5	0.0	0.0			
15:00	7.0	0.0	0.0			
15:30	7.5	0.0	0.0			
16:00	8.0	0.0	0.0			
17:00	9.0	0.0	0.0			
18:00	10.0	0.0	0.0			
19:00	11.0	0.0	0.0			
20:00	12.0	0.0	0.0			
21:00	13.0	0.0	0.0			
22:00	14.0	0.0	0.0			
23:00	15.0	0.0	0.0			
12/18/18 - 0:00	16.0	0.0	0.0			
8:00	24.0	0.0	0.0			
10:00	26.0	0.0	0.0			
12:00	28.0	0.0	0.0			
14:00	30.0	0.0	0.0			
16:00	32.0	0.0	0.0			
18:00	34.0	0.0	0.0			
20:00	36.0	0.0	0.0			
22:00	38.0	0.0	0.0			
12/19/18 - 0:00	40.0	0.0	0.0			
8:00	48.0	0.0	0.0			
10:00	50.0	0.0	0.0			
12:00	52.0	0.0	0.0			
14:00	54.0	0.0	0.0			
16:00	56.0	0.0	0.0			
18:00	58.0	0.0	0.0			
20:00	60.0	0.0	0.0			
22:00	62.0	0.0	0.0			
12/20/18 - 0:00	64.0	0.0	0.0			
8:00	72.0	0.0	0.0			
10:00	74.0	0.0	0.0			
12:00	76.0	0.0	0.0			
14:00	78.0	0.0	0.0			
16:00	80.0	0.0	0.0			
18:00	82.0	0.0	0.0			
20:00	84.0	0.0	0.0			
22:00	86.0	0.0	0.0			
12/21/18 - 0:00	88.0	0.0	0.0			
8:00	96.0	0.0	0.0			
Maximum Change:		0.0	0.0			

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-6	MW-1			
Time	Elapsed Time	Depth to Product/Water (feet below of casing):				
Prior to AFVR	0 hours	P-1.9, W-2.09	P-2.16, W-2.21			
	24 hours	P-2.0, W-2.10	P-2.32, W-2.33			
	48 hours	P-2.8, W-3.01	P-2.45, W-2.46			
	72 hours	P-3.10, W-3.14	P-2.80, W-2.81			
	96 hours	P-3.15, W-3.16	P-2.80, W-2.81			
Maximum Change:		P-1.25, W-1.07	P-0.64, W-0.60			

STINGER DEPTH
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATE: 12/17/18 - 12/21/18

STINGER DEPTH

		RW-5	RW-6		
Time	Elapsed Time				
12/17/18 - 8:00	0.0	0.00	0.00		
8:30	0.5	0.00	0.00		
9:00	1.0	0.00	0.00		
9:30	1.5	0.00	0.00		
10:00	2.0	0.00	0.00		
10:30	2.5	0.00	0.00		
11:00	3.0	0.00	0.00		
11:30	3.5	1.00	1.00		
12:00	4.0	1.00	1.00		
12:30	4.5	1.00	1.00		
13:00	5.0	1.00	1.00		
13:30	5.5	1.00	1.00		
14:00	6.0	1.00	1.00		
14:30	6.5	1.00	1.00		
15:00	7.0	1.00	1.00		
15:30	7.5	1.00	1.00		
16:00	8.0	1.00	1.00		
17:00	9.0	1.00	1.00		
18:00	10.0	1.00	1.00		
19:00	11.0	1.00	1.00		
20:00	12.0	1.00	1.00		
21:00	13.0	1.00	1.00		
22:00	14.0	1.00	1.00		
23:00	15.0	1.00	1.00		
12/18/18 - 0:00	16.0	1.00	1.00		
8:00	24.0	1.00	1.00		
10:00	26.0	1.00	1.00		
12:00	28.0	1.00	1.00		
14:00	30.0	1.00	1.00		
16:00	32.0	1.00	1.00		
18:00	34.0	1.00	1.00		
20:00	36.0	1.00	1.00		
22:00	38.0	1.00	1.00		
12/19/18 - 0:00	40.0	1.00	1.00		
8:00	48.0	1.00	1.00		
10:00	50.0	1.00	1.00		
12:00	52.0	1.00	1.00		
14:00	54.0	1.00	1.00		
16:00	56.0	1.00	1.00		
18:00	58.0	1.00	1.00		
20:00	60.0	1.00	1.00		
22:00	62.0	1.00	1.00		
12/20/18 - 0:00	64.0	1.00	1.00		
8:00	72.0	1.00	1.00		
10:00	74.0	1.00	1.00		
12:00	76.0	1.00	1.00		
14:00	78.0	1.00	1.00		
16:00	80.0	1.00	1.00		
18:00	82.0	1.00	1.00		
20:00	84.0	1.00	1.00		
22:00	86.0	1.00	1.00		
12/21/18 - 0:00	88.0	1.00	1.00		
8:00	96.0	1.00	1.00		

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: ~~Goodsell's~~ ~~2798 Ferry Gully LN~~ ~~Johns Island, SC~~ KANGAROO EXPRESS 4315 SAVANNAH HWY Ravenel SC. Phone ( ) PO#:

3. Agent of Generator and Mailing Address: VERCO Phone ( ) PO#:

4. Transporter Company Name: Goodsell Transport 511 old mt Holly rd Goose Creek, SC Phone ( )
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address: US Water Recovery 511 Old Mt. Holly Rd. Goose Creek, SC 29445
Mailing Address: US Water Recovery 511 Old Mt. Holly Rd. Goose Creek, SC 29445
Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	101	VT	LAC	~~5,000~~ ~~5,859~~ ~~[illegible]~~ 6192 by weight

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Paul Goodsell Signature: AS AGENT Date: 12-18-18

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: P. Berry Signature: [signature] Date: 12-18-18

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: [signature] Signature: [signature] Date 12-18-18

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21228

9

NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER
6839

STOMER COPY

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 **WITH** the driver as an expert witness if we believe our scale was correct.

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **IMMEDIATELY** send a copy of the citation, CAT Scale Ticket, your name, company, address, and phone number to CAT Scale Company Attn: Guarantee Department.

FIND O... WEIGHMYTRUCK.COM

* 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: 12-17-18

SCALE: 1033

LOCATION: LOVES COUNTRY STORE
I-26 EXIT 154 A
ORANGEBURG SC

STEER AXLE	9920 lb
DRIVE AXLE	11780 lb
TRAILER AXLE	9020 lb
* GROSS WEIGHT	30720 lb

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: FREIGHT ALL KINDS 108 108

COMPANY

TRACTOR # TRAILER #

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE TARSHA DAVIS

TICKET # OF FULL $ WEIGH (IF REWEIGH)

EMPTY #108

DRIVER IN TRUCK UNLESS CHECKED HERE

© CAT Scale® Reg 3083 11/17

43884690
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 830
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:
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2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **IMMEDIATELY** send a copy of the citation, CAT Scale Ticket, your name, company, address, and phone number to CAT Scale Company Attn: Guarantee Department.

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DATE: 12-18-18

STEER AXLE 10040 lb
DRIVE AXLE 35760 lb
TRAILER AXLE 36560 lb
* GROSS WEIGHT 82360 lb

14:41
43884690

SCALE: 254
LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOOD SELL

TRACTOR # 06 TRAILER # 102

WEIGH NUMBER
690

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE TINA

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

DRIVER IN TRUCK UNLESS CHECKED HERE

© CAT Scale® Reg 3063 11/17

82360F
30720E
51640N / 8.34 = 6192 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
KANGAROO EXPRESS
4318 SAVANNAH HWY
RAVENEL, SC

Phone ( )
P O #:

3. Agent of Generator and Mailing Address:
VERCO

Phone ( )
P O #:

4. Transporter Company Name:
GOODSELL TRANSPORT

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	1	VT	GAL	~~[illegible]~~ 5875 5568 by weight

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Date: 12/20/18

11. Discrepancy/Condition Space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Date 12-20-18

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21327

9839
NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 690
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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:
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FIND OUT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 12-17-18

SCALE: 1033

LOCATION: LOVES COUNTRY STORE I-26 EXIT 154 A ORANGEBURG SC

STEER AXLE	9920 lb
DRIVE AXLE	11780 lb
TRAILER AXLE	9020 lb
*GROSS WEIGHT	30720 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER 9839

LIVESTOCK/PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS 108 108

COMPANY: PRODUCE

TRACTOR # ____ TRAILER # ____

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: TABSHA DAVIS

TICKET # OF FULL & WEIGH (IF REWEIGH)

CUSTOMER COPY

EMPTY #108

© CAT Scale® Reg 3063.11/17

36597990
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH WHAT WE SAY OR WE PAY®

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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DATE: 12-20-18

09:39
36597995

SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10560 lb
DRIVE AXLE	34160 lb
TRAILER AXLE	32440 lb
* GROSS WEIGHT	77160 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE:

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSALE TRANSPORT

TRACTOR #: 05 TRAILER #: 105

WEIGH NUMBER
7995

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: CHEYENNE STEWART

TICKET # OF FULL $ WEIGH (IF REWEIGH):

ISTOMER COPY

© CAT Scale® Rev 3063 11/17

77160 F
30720 E
46440 N / 8.34 = 5568 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
KANGAROO EXPRESS
4315 SAVANNAH HWY

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:
VERCO

Phone ( )

P O #:

4. Transporter Company Name:
GOODSELL TRANSPORT

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7. Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water 05	107	VT	GAL	~~4872~~
				4866 by Weight

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name: MOREY MOELLER Signature: [signature] Date: 12/21/18

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials

Printed/Typed Name: PAUL GOODSELL Signature: [signature] Date 12/21/18

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20601

NUMBER 9

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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3) **IMMEDIATELY** send a copy of the citation, CAT Scale Ticket, your name, company, address, and phone number to CAT Scale Company Attn: Guarantee Department.

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DATE: 12-17-18

SCALE: 1033

LOCATION: LOVES COUNTRY STORE I-26 EXIT 154 A ORANGEBURG SC

	9920 lb
STEER AXLE	11780 lb
DRIVE AXLE	9020 lb
TRAILER AXLE	30720 lb
* GROSS WEIGHT	

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.

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER 8839

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS 108 108

COMPANY

TRACTOR # TRAILER #

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: TARSHA DAVIS

TICKET # OF FULL & WEIGH (IF REWEIGH)

DRIVER IN TRUCK UNLESS CHECKED HERE:

STOMER COPY

EMPTY # 108

© CAT Scale® Reg 3083 11/17

36598057
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:
1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 12-21-18
10:40
36598057
SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10600 lb
DRIVE AXLE	30820 lb
TRAILER AXLE	29880 lb
*GROSS WEIGHT	71300 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE:

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 05 TRAILER # 107

WEIGH NUMBER 8057

FEE $11.50 WEIGHMASTER OR WEIGHER SIGNATURE Sheryl Jones SHERYL JONES

TICKET # OF FULL $ WEIGH (IF REWEIGH)

STOMER COPY

© CAT Scale® Reg 3063 11/17

71300 F
30720 E
40580 N / 8.34 = 4866 gallons

dhec

Healthy People. Healthy Communities.

UST DOCKETING 51

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT
SUITE 100
RALEIGH NC 27606

JAN 10 2019

Re: **Site-Specific Work Plan Request for Well Installation and Multiple AFVR events**
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589
Release reported August 2, 2018
Charleston County

Dear Ms. Carl:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) recognizes your commitment to continue work at this site using ATC Groups Services, LLC, as your contractor. The next appropriate scope of work at the site is the installation of seven (7) monitoring wells to further delineate the plume. In addition, up to six (6) recovery wells will be installed. These newly installed recovery wells, along with existing recovery wells, will be utilized to perform five (5) Aggressive Fluid and Vapor Recovery (AFVR) events.

The monitoring and recovery well installation event along with the multiple AFVR events should be conducted in accordance with your contractors Annual Contractor Quality Assurance Plan (ACQAP), and must be conducted in compliance with all applicable regulations. Your contractor can use Appendix F of the QAPP as a guideline to which samples should be collected. Please make sure to include duplicate samples, field blanks, and trip blanks. A copy of DHEC's QAPP for the UST Management Division is available at http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

Please have your contractor complete and submit an approvable Site-Specific Work Plan (SSWP) and Cost Proposal within thirty (15) days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from DHEC must be issued before work begins.**

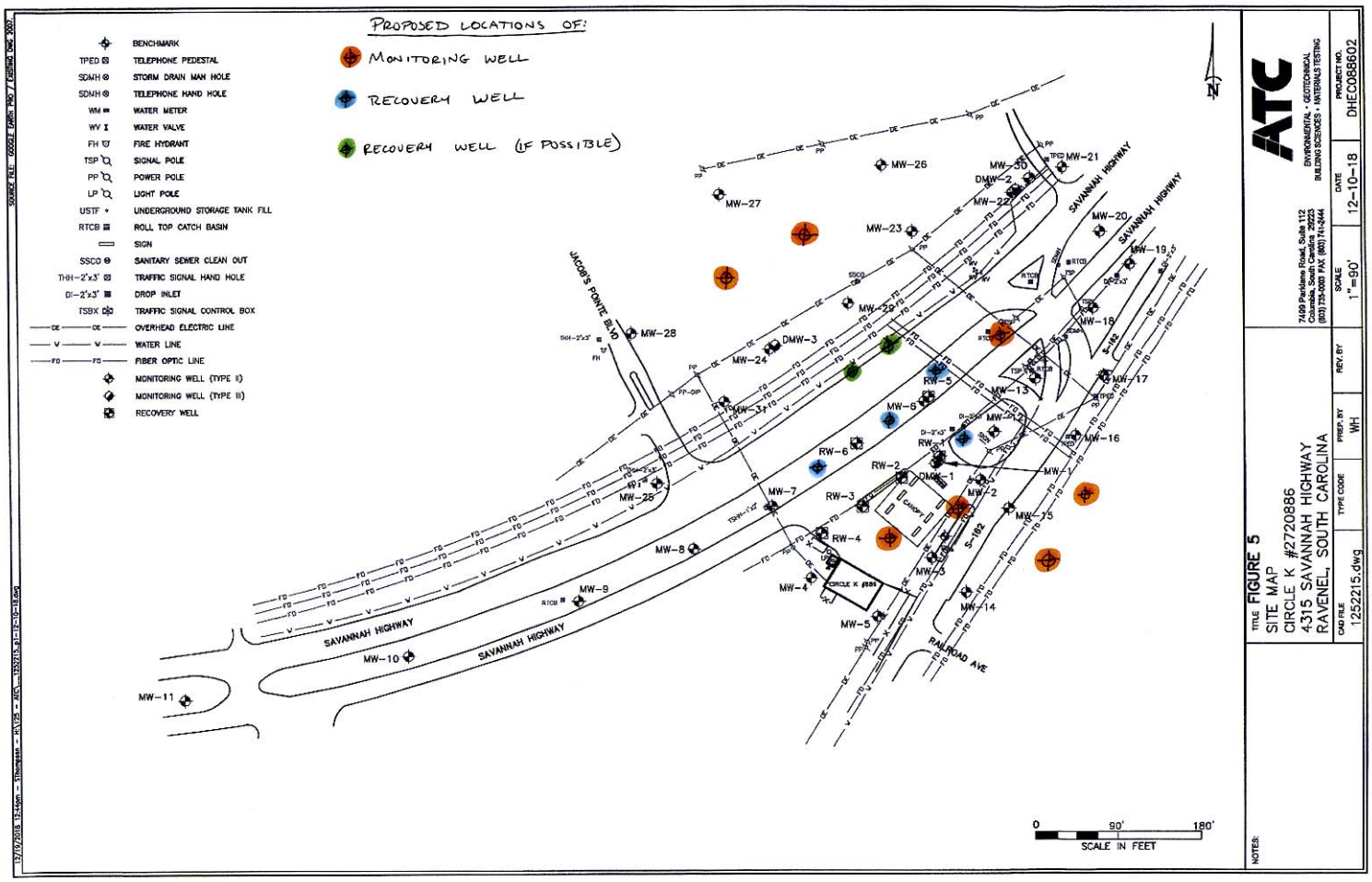
On all correspondence concerning this site, please reference **UST Permit #01589.** If there are any questions concerning this project, please contact me at (803) 898-0610 or by email at heinzecw@dhec.sc.gov.

Sincerely,

Cody Heinze, Hydrogeologist
Corrective Action & Field Support Section
UST Management Division
Bureau of Land and Waste Management

Enc: Site Map w/ proposed well locations

cc: ATC Group Services, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223 (w/ enc)
Technical File (w/ enc)



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7480 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0008 FAX: (803) 741-2444

SCALE	DATE	PROJECT NO.
1"=90'	12-10-18	DHEC0886602

REV. BY	PREP. BY	TYPE CODE	CAD FILE
	WH		1252215.dwg

TITLE FIGURE 5
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

NOTES:

SOURCE FILE: GOOGLE EARTH, MAP / Esri/Bing Data 2001

12/12/2018 12:14pm - Thompson - HXY25 - ATC\1252215.9-1-12-10-18.dwg

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January 11, 2019

7499 Parklane Road
Suite 112
Columbia, SC 29223

Phone **+1 803 735 0003**
Fax +1 803 741 2444

www.atcassociates.com

Mr. Cody Heinze, Hydrogeologist
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management –UST Program
Corrective Action Section
2600 Bull Street
Columbia, South Carolina 29201

UST DOCKETING
52 Tech
UST
JAN 11 2019
PROGRAM

Re: Site Specific Work Plan – recovery well and monitoring well installation, product skimming and AFVR events
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit No. 01589

Dear Mr. Heinze:

As requested in your email correspondence to Fred Lyke, dated January 9, 2019, please find attached the Site Specific Work Plan for the scope of work at the Circle K Store 2720886 facility located at 4315 Savannah Highway in Ravenel, South Carolina. This scope of work includes the installation of seven (7) monitoring wells, six (6) recovery wells, five (5) 96-hour AFVRs, and weekly product skimming from the trenches along Highway 17 (for 6 weeks). Also attached is the South Carolina Department of Health and Environmental Control (SCDHEC) fee schedule that details costs associated with the assessment activities along with a site topographic map and site map noting relative site features.

If you have any questions or require additional information, please contact me at 803-735-0003 or by email at jesse.keeffe@atcassociates.com.

Sincerely,
ATC Group Services, LLC

Jesse L. Keeffe, Jr.

Jesse L. Keeffe, Jr.
Project Manager

Attachments

cc: Mr. Brent Puzak, Environmental Director, Circle K Stores, Inc. 1100 Situs Road, Suite 100, Raleigh, NC 27606

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

To: Cody Heinze (SCDHEC Project Manager)
From: Fred Lyke (Contractor Project Manager)
Contractor: ATC Group Services UST Contractor Certification Number: 313

Facility Name: Circle K 2720886 UST Permit #: 01589
Facility Address: 4315 Savannah Highway, Ravenel, SC 29470
Responsible Party: Circle K Phone: 919-774-6700
RP Address: 1100 Situs Court, Suite 100, Raleigh, NC 27606
Property Owner (if different): _____
Property Owner Address: _____
Current Use of Property: Convenience store

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☐ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☑ Monitoring Well Installation
- ☑ Other AFVRs, product recovery in trenches

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☐ BTEXNMDCA (8260B)
- ☐ Oxygenates (8260B)
- ☐ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Drinking Water Supply Wells:

- ☐ BTEXNMDCA (524.2)
- ☐ Oxygenates & Ethanol (8260B)
- ☐ Mecury (200.8 245.1 or 245.2)
- ☐ RCRA Metals (200.8)
- ☐ EDB (504.1)

Soil:

- ☐ BTEXNM
- ☐ PAH
- ☐ Lead
- ☐ RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☑ Grain Size
- ☑ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil _____ Water Supply Wells _____ Air _____ Field Blank
_____ Monitoring Wells _____ Surface Water _____ Duplicate _____ Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: 7 Estimated Footage: 12 feet per point
# of deep wells: 0 Estimated Footage: _____ feet per point
# of recovery wells: 6 Estimated Footage: 12 feet per point
Comments, if warranted:

UST Permit #: 01589 Facility Name: Circle K 2720886

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: upon approval Field Work Completion: 30 days
Report Submittal: 60 # of Copies Provided to Property Owners: 1

Aquifer Characterization
Pump Test: ☐ Slug Test: ☑ (Check one and provide explanation below for choice)
ATC will conduct 3 slug tests outside of the tank basin.

Investigation Derived Waste Disposal
Soil: 6 Tons Purge Water: 200 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ 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.
Potable well and monitoring well sampling not included.
This scope of work includes installation of seven (7) monitoring wells, (6) recovery wells, three (3) 96-hour AFVR events, and product skimming from the trenches/ditches.
The product skimming will be put under miscellaneous costs as we had to get quote for this type of work.

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: _____

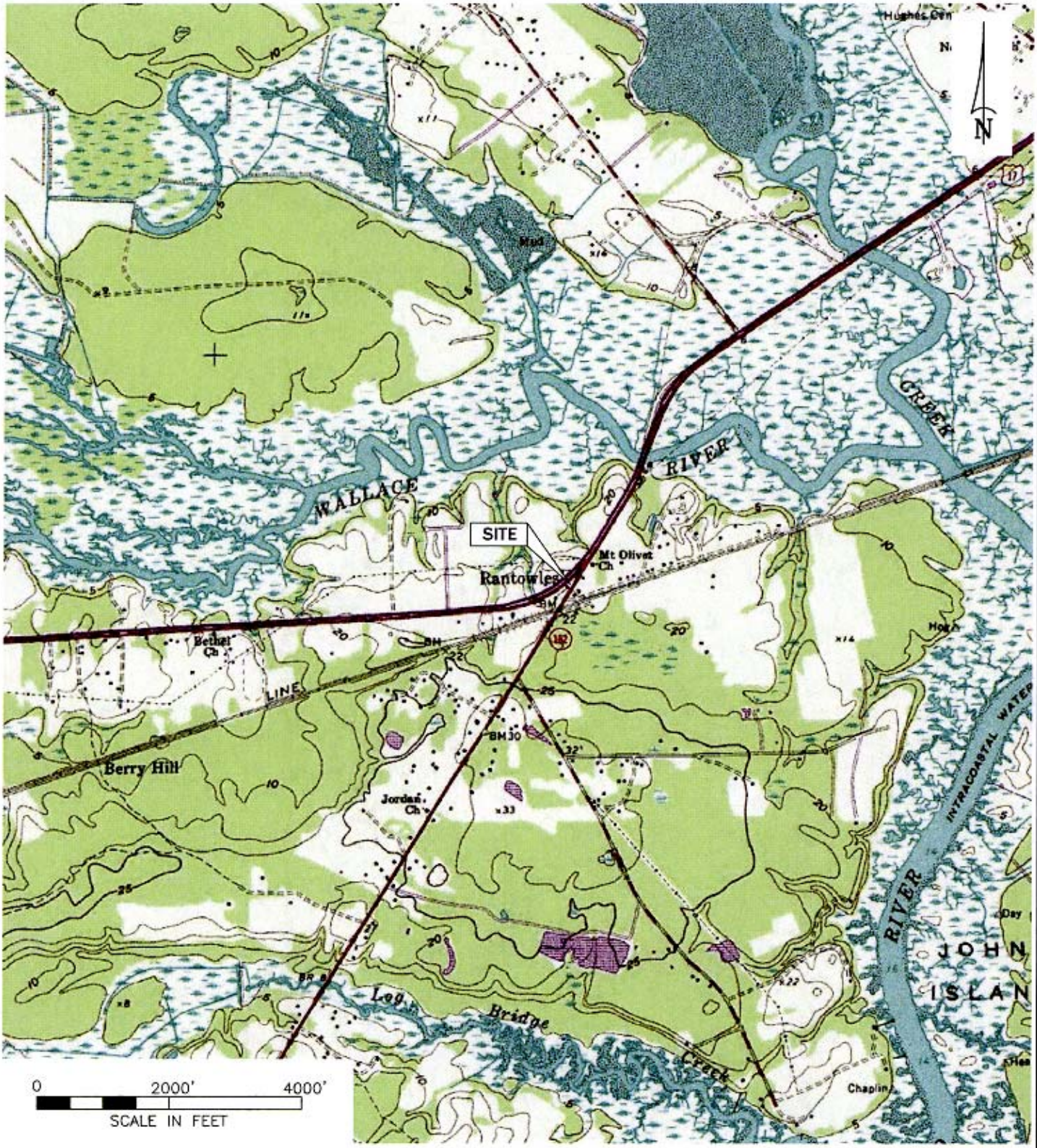
N___ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: KLM- Mark Keller
SCLLR Certification Number: 1554

Y___ Other variations from ACQAP. Please describe below.
We will use VERCO for drilling activities also, they are an approved vendor in our master QAPP.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. 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
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

12/10/2018 3:44pm - SThompson - H:\125 - ATC___1252215_a1-08-10-18.dwg

SOURCE FILE: USGS TOPOGRAPHIC MAP RAVENEL 1971



TITLE

TOPOGRAPHIC MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

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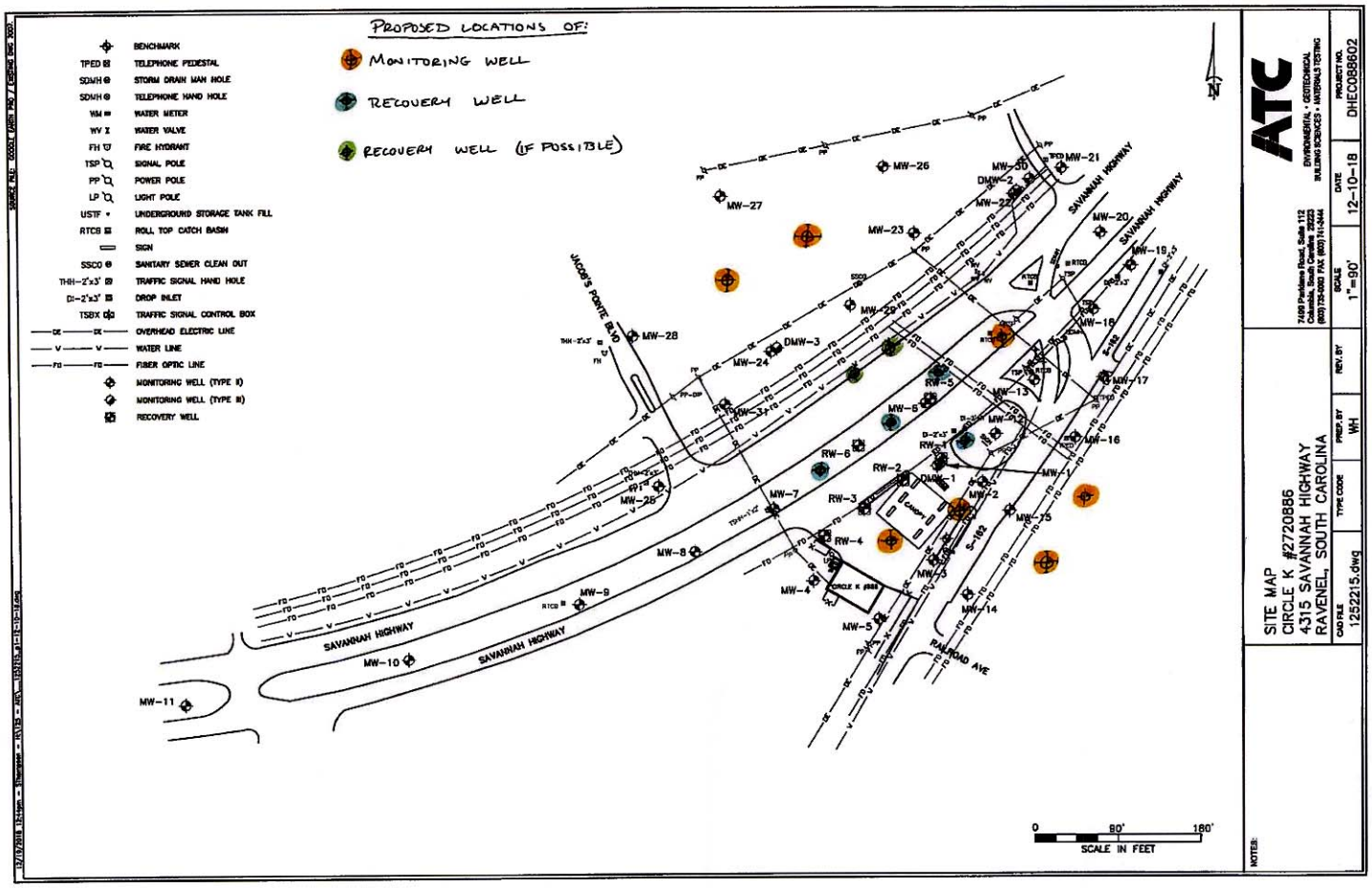
CAD FILE		PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		WH		1"=60'	12-10-18	CIRK088601


PROPOSED LOCATIONS OF:
MONITORING WELL
RECOVERY WELL
RECOVERY WELL (IF POSSIBLE)
BENCHMARK
TPED TELEPHONE PEDESTAL
SDMH STORM DRAIN MAN HOLE
SDMH TELEPHONE HAND HOLE
WM WATER METER
WV WATER VALVE
FH FIRE HYDRANT
TSP SIGNAL POLE
PP POWER POLE
LP LIGHT POLE
USTF UNDERGROUND STORAGE TANK FILL
RTCB ROLL TOP CATCH BASIN
SIGN
SSCO SANITARY SEWER CLEAN OUT
THH-2'x3' TRAFFIC SIGNAL HAND HOLE
DI-2'x3' DROP INLET
TSBX TRAFFIC SIGNAL CONTROL BOX
OVERHEAD ELECTRIC LINE
WATER LINE
FIBER OPTIC LINE
MONITORING WELL (TYPE II)
MONITORING WELL (TYPE III)
RECOVERY WELL
JACOB'S POINTE BLVD
SAVANNAH HIGHWAY
RAILROAD AVE
S-162
CANOPY
CIRCLE K #886
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-13
MW-14
MW-15
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MW-28
MW-29
MW-30
DMW-1
DMW-2
DMW-3
RW-2
RW-3
RW-4
RW-5
RW-6
0
90'
180'
SCALE IN FEET
N
ATC
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BUILDING SCIENCES • MATERIALS TESTING
7409 Parkview Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0002 FAX (803) 741-3444
SCALE 1"=90'
DATE 12-10-18
PROJECT NO. DHEC088602
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA
CAD FILE 1252215.dwg
TYPE CODE
PREP. BY WH
REV. BY
NOTES:

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

Healthy People. Healthy Communities.

Facility Name: **Circle K 2720886**

UST Permit #: 01589 **Cost Agreement #:** Pending

ITEM		QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation					
A1. Site-specific Work Plan		1	each	$150.00	$150.00
B1. Tax Map			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			each	$1,040.00	$0.00
B. Subsurface Geophysical Survey					
1B. < 10 meters below grade			each	$1,300.00	$0.00
2B. > 10 meters below grade			each	$2,310.00	$0.00
C1. Geophysical UST or Drum Survey			each	$910.00	$0.00
4. Mob/Demob					
A1. Equipment	6,9,9	3	each	$1,020.00	$3,060.00
B1. Personnel	6,9,9, 17, 18 (3x)	7	each	$423.00	$2,961.00
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 technology, etc)* or Field Screening (including water ssample, soil sample, soil gas sample, etc.)*					
AA. Standard			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			per foot	$3.10	$0.00
B1. Greater than 2" to 6" diameter			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)	includes 3 stickups	96	per foot	$38.00	$3,648.00
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			per foot	$33.40	$0.00
HH. Recovery Well (4" diameter)		72	per foot	$45.00	$3,240.00
II. Pushed Pre-packed screen (1.25" dia)			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 Product *					
A1. Groundwater Purge			per well/receptor	$60.00	$0.00
B1. Air or Vapors			per receptor	$12.00	$0.00
C1. Water Supply			per well/receptor	$22.00	$0.00
D1. Groundwater No Purge or Duplicate			per well/receptor	$28.00	$0.00
E1. Gauge Well only			per well	$7.00	$0.00
F1. Sample Below Product			per well	$12.00	$0.00

UST JAN 11 2019 PROGRAM

G1. Passive Diffusion Bag		each	$26.00	$0.00
H1. Field Blank		each	$24.60	$0.00
I. Groundwater (low flow purge)		per well/receptor	$91.00	$0.00
11. Laboratory Analyses-Groundwater				
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
F1. EDB by EPA 8011		per sample	$45.20	$0.00
FF1. EDB by EPA Method 8011 Rush		per sample	$68.20	$0.00
G1. 8 RCRA Metals		per sample	$63.40	$0.00
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**				
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**				
Y1. BTEX + Naphthalene		per sample	$216.00	$0.00
11. **Analyses-Free Phase Product**				
Z1. Hydrocarbon Fuel Identification		per sample	$357.00	$0.00
12. **Aquifer Characterization**				
A1. Pumping Test*		per hour	$23.00	$0.00
B1. Slug Test*		per test	$191.00	$0.00
C1. Fractured Rock		per test	$100.00	$0.00
13. A1. **Free Product Recovery Rate Test***		each	$38.00	$0.00
14. **Fate/Transport Modeling**				
A1. Mathematical Model		each	$100.00	$0.00
B1. Computer Model		each	$100.00	$0.00
15. **Risk Evaluation**				
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
17. **Disposal (gallons or tons)***				
AA. Wastewater	200	gallon	$0.56	$112.00
BB. Free Product		gallon	$0.50	$0.00
C1. Soil Treatment/Disposal	6	ton	$60.00	$360.00
D1. Drilling fluids		gallon	$0.42	$0.00
18. **Miscellaneous (attach receipts)**				
Product Skimming	1	each	$20,000.00	$20,000.00
10-weeks @$2K/wk		each	$0.00	$0.00
		each	$0.00	$0.00
20. **Tier I Assessment (Use DHEC 3665 form)**		standard		$0.00
21. **IGWA (Use DHEC 3666 form)**		standard		$0.00
22. **Corrective Action (Use DHEC 3667 form)**		PFP Bid		$0.00

UST
JAN 1 1 2019
PROGRAM

23. **Aggressive Fluid & Vapor Recovery (AFVR)**				
A1. 8-hour Event*		each	$1,375.00	$0.00
AA. 24-hour Event*		each	$3,825.00	$0.00
A3. 48-hour Event*		each	$6,265.00	$0.00
A4. 96-hour Event*	5	each	$12,567.50	$62,837.50
C1. Off-gas Treatment 8 hour		per event	$122.50	$0.00
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	5	per event	$780.00	$3,900.00
D. Site Reconnaissance		each	$203.25	$0.00
E1. Additional Hook-ups		each	$25.75	$0.00
F1. Effluent Disposal	80000	gallon	$0.44	$35,200.00
G. AFVR Mobilization/Demobilization	5	each	$391.50	$1,957.50
24. **Granulated Activated Carbon (GAC) filter system 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, & refurbishment*		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		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	$137,426.00	$16,491.12
TOTAL				$153,917.12

UST JAN 11 2019 PROGRAM

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

dhec

Healthy People. Healthy Communities.

UST 53 DOCKETING

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT
SUITE 100
RALEIGH NC 27606

JAN 22 2019

Re: **Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Directive**
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589; CA #58799; UMW-#27349
Release reported August 2, 2018
Site-Specific Work Plan received January 11, 2019
Charleston County

Dear Ms. Carl:

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 ATC Group Services, LLC. All work should be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), your contractors SSWP and 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 at http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

The AFVR events, product skimming, and recovery & monitoring well installation should begin immediately upon receipt of this letter. Cost agreement #58799 has been approved for the amount shown on the enclosed cost agreement form. **The Contractor must provide the UST Project Manager with a Project Status Report on a weekly basis via e-mail or notify the UST Project Manager 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.**

The AFVR, product skimming, and recovery & monitoring well installation report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the Division within ninety (90) days of the date of this correspondence. The report submitted at the completion of these activities should include the required information outlined in the UST QAPP.

The following revisions have been made to the approved cost agreement:

- Item4A1 Equipment Mob/Demob has been reduced from 3 to 2. No Soil Borings or Field Screening is required for the scope of work.
- Item4B1 Personnel Mob/Demob has been increased from 7 to 9. Personnel Mob/Demob for Soil Boring/Field Screening and Miscellaneous (3x) have been removed. 6 Personnel Mob/Demob have been added for weekly product skimming.
- Item9B1 Water Table Well Installation has been reduced from 96 to 84 for 7 monitoring wells to be installed to a depth of 12 feet.
- Item23F1 Effluent Disposal (AFVR) has been increased from 80000 to 100000 for disposal costs of product skimming.
- Item23G AFVR Mob/Demob has been increased from 5 to 11 for weekly product skimming. (6 weeks)

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 Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Division is obtained. 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 an 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. 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 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 #01589. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 898-0610, fax me at (803) 898-0673, or e-mail me at heinzecw@dhec.sc.gov.

Sincerely,

Cody Heinze, Hydrogeologist
Corrective Action & Field Support Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement (ACA)
Monitoring Well Approval (MWA)

cc: ATC Group Services, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223 (w/enc.)
Technical file (w/enc.)

Healthy People. Healthy Communities.

Monitoring Well Approval

Approval is hereby granted to: ATC Group Services, LLC
(on behalf of): Circle K Stores Inc
Facility: Circle K Store 2720886, 4315 Savannah Hwy, Ravenel, SC 29470
UST Permit Number: 01589
County: Charleston

This approval is for the installation of 7 groundwater monitoring wells and up to 6 recovery wells. The monitoring wells are to be installed in the approved locations. 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 Division shall be completed and submitted to the Division within 30 days after well completion or abandonment unless another schedule has been approved by the Division. 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 Division within 30 days of receipt of laboratory results unless another schedule has been approved by the Division as required by R.61-71.H.1.d.
5. If any of the information provided to the Division changes, notification to Cody Heinze the project manager (tel: (803) 898-0610 or e-mail: heinzecw@scdhec.sc.gov) shall be provided a minimum of twenty-four (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. Division 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 May 27, 2016. A copy of this approval should be on the site during well installation.

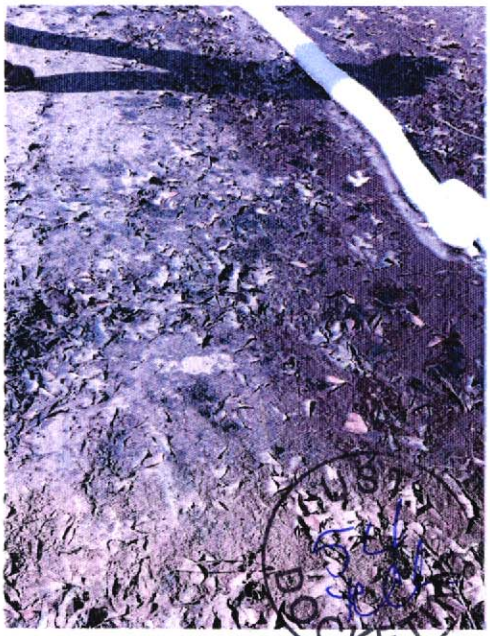
Date of Issuance: January 9, 2019 **Approval #: UMW - 27349**

Cody Heinze, Hydrogeologist
Corrective Action & Field Support Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

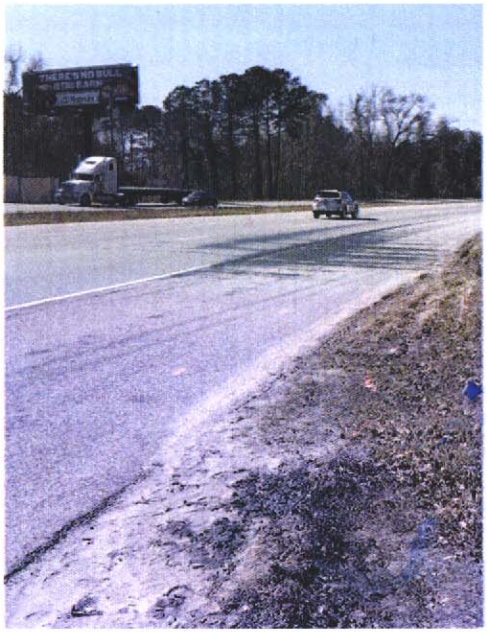
Approved Cost Agreement 58799

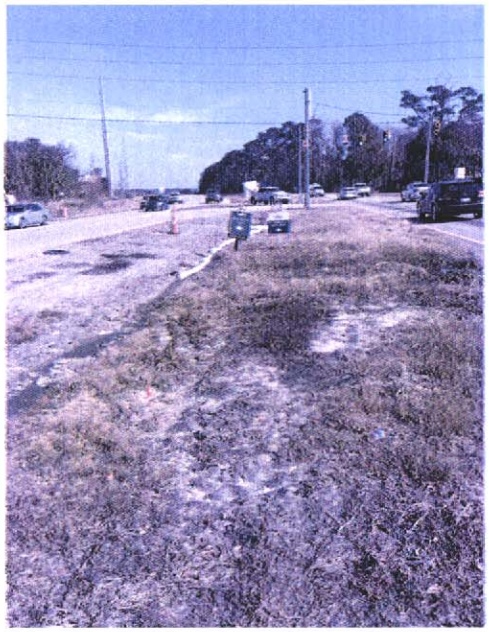
Facility: 01589 CIRCLE K 2720886
HEINZECW
PO Number:

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				
	A1 EQUIPMENT	2.0000	$1,020.000	2,040.00
	B1 PERSONNEL	9.0000	$423.000	3,807.00
09 WELL INSTALLATION				
	B1 WATER TABLE (DRILL RIG)	84.0000	$38.000	3,192.00
	HH RECOVERY WELL (4 INCH DIA)	72.0000	$45.000	3,240.00
17 DISPOSAL				
	AA WASTEWATER	200.0000	$0.560	112.00
	C1 SOIL TREATMENT DISPOSAL	6.0000	$60.000	360.00
19 RPT/PROJECT MNGT & COORDINATIO				
	PRT REPORT PREPARATION	0.1200	**********	15,353.40
23 EFR				
	A4 96 HOUR EVENT	5.0000	$12,567.500	62,837.50
	C4 OFF GAS TREATMENT 96 HOUR	5.0000	$780.000	3,900.00
	F1 EFFLUENT DISPOSAL	100,000.0000	$0.440	44,000.00
	G AFVR EQUIPMENT MOB	11.0000	$391.500	4,306.50
			Total Amount	143,298.40



UST #01589 Site Visit 02/06/2019


THERE'S NO BULL
IN THE BARN



Circle K Store 2720886 – Petroleum Release – 4315 Savannah Hwy, Ravenel, SC - Community Meeting Notes 9.20.18 - Kilgallen

Jamie Kilgallen <jamie.kilgallen@hightower.us>

UST 55 DOCKETING

Fri 10/12/2018 8:02 AM

Inbox

To: Moye, Donna <moyedd@dhec.sc.gov>;

Cc: Ariail, Ryan D. <AriailRD@dhec.sc.gov>; Mehta, Mihir <mehtam@dhec.sc.gov>; Puzak, Brent <BPuzak@circlek.com>;

1 attachments (4 MB)

Petroleum Release - Circle K Gas Station No. 2720886 - Ravenel, SC Community Meeting Notes - 9.20.18 - Kilgallen.pdf;

Donna, Ryan, Mihir, and Brent -

Good Friday morning -

Please find attached notes/concerns expressed/heard during the **Circle K Store 2720886 – Petroleum Release – 4315 Savannah Hwy, Ravenel, SC – Community Meeting** held at the Ravenel Community Building on Thursday, September 20, 2018. These are notes as I heard them.

I do appreciate you all responding to phone calls and questions in the past and remain hopeful that proaction and good communication will prevail to keep our community well informed and most importantly of all, safe now and in the future. In addition, preserving the precious environment.

Look forward to the continued weekly updates, a copy of items requested in notes such as tests, PowerPoint slides, Tier 2 Report including borings and monitoring well locations, Assessment Report as it is completed, as well as formal response the concerns.

Again, I know to do your job well (as we all have to do) we need to think as if we were in that "customers shoes" so please continue to respond as if you and your family lived in our neighborhood(s).

We look forward to great communication going forward so that clear expectations for all are realized in a timely manner.

Respectfully,

Jamie Kilgallen

Community Meeting Notes
Petroleum Release
Circle K Gas Station No. 2720886
4315 Savannah Highway, Ravenel, SC
Thursday, September 20, 2018
6:00 PM – 9:30 PM

Attendees:

- Mayor Opal Baldwin
- Steve Tumbleston
- Mark Bloomer
- Donna Moye (DHEC)
- Ryan Arial (DHEC)
- Brent Puzak (Circle K) other Representatives from Circle K
- Brad Hubbard (ATC)
- Preston & Sue Mullinax
- Thomas Masi & Nanette Piccirillo
- Terry Wilkinson
- Pat Frazier
- Don Hesher
- Jamie Kilgallen
- and other residents.

Reason for Meeting

Residents of Postell Drive, Jacobs Point and surrounding areas potentially affected by Petroleum Release from Circle K Gas Station No. 2720886, 4315 Savannah Highway, Ravenel, SC requested public forum from DHEC to gather information on the numerous questions and concerns regarding the petroleum release and subsequent contamination of the soils and potential contamination of the aquifer(s) and bodies of water that could impact the safety and health of our families. Many of us utilize a water well system for drinking, cooking, bathing, and washing items and utilize the Wallace River and ponds for swimming, fishing, shrimping and crabbing both before and after this 'petroleum release' became apparent. The safety and well-being of the people and environment now and the future is most paramount and secondarily how will this land/aquifer contamination affect the property values in our community.

We appreciate DHEC for planning, setting up and conducting this public forum.

Introduction:

DHEC's Ms. Donna Moye opened the meeting with a welcome, introductions and the general nature of the meeting. She informed that the projector for the PowerPoint

presentation was not working, therefore, Ms. Moye introduced DHEC's Mr. Ryan Arial to verbally provide presentation.

Historical Background of Circle K Gas Station No. 2720886 Site/Incidents to Date

1. Year 1989 (?) station was constructed – tanks and various equipment installed.
2. Circle K purchased property in 1990's from Gregory Holdings who had had a "release" which Circle K brought to "NFA" – no further action.
3. There was a single leak at this gas station in 2009.
4. Between Jan and March of 2018, a Circle K carrier released approximately 150 gallons of petroleum during regular delivery at the gas station.

Recent Petroleum Release Timeline/Information/Actions Completed/Underway

1. July 26, 2018. DHEC got a phone call about black "goo" in the southbound lane of Savannah Highway as well as the median. DHEC deployed investigators. Contaminated water was sucked up using a vac truck. Seventy-five tons of soil was removed and replaced.
2. August 6-7th – DHEC Emergency Response Team contacted DHEC Underground Storage Tank (Columbia, SC). Evidence was on the road again. Circle K also started investigating, DHEC determined that the spill came from the Circle K Gas Station.
3. August 8th – Clean-up began. Circle K contracted with ATC Engineers and Moran Environmental to clean up under DHEC oversight & procedures.
4. August 10th – September ? Pits were dug, twelve trenches/pits (3' x 1 ½ x 4') were dug and eight were used to pump/extract petroleum and wastewater. Twelve thousand gallons of liquids were removed (combined petroleum and water pumped to FRAC Tank for analyzing).
5. Determined the soil at the Circle K Station was contaminated. DHEC drew a 2,500 foot-radius all the way around the Circle K Station. DHEC received a phone call from a resident of Postell Drive about their well, DHEC started checking receptors.
6. Testing of tanks and remote fill lines indicated that petroleum release was a result of 3 of 4 remote fill lines (not the tanks). Station stayed open distributing high octane out of tank/remote fill lines that were determined as OK.
7. August 17th – Water sampling of (22) wells and one pond sample (?) began. Residents' concerns associated with threats to our health and property to be determined by initial water tests and future testing and new wells across Hwy 17 and in median perhaps NE of site as previous release tracked this way. Initial tests showed no evidence of petroleum contaminants as reported by DHEC/Circle K.
8. Ponds were viewed for contaminants and one pond location tested.
9. Suggested signage be placed along the highway to alert all that standing liquids may in fact be flammable.
10. DHEC role is to monitor the contractor's (Circle K/ATC's) work with regard following to DHEC procedures.

11. Brent Puzak stated that this Circle K has remote fills which were single walled leading to single wall metal holding tanks (4). They have since installed a double walled remote piping system on three of the four remote fill lines (should fourth have been replaced as well???). Three of the four remote fills had been leaking for ??? long?
12. A Notice to Proceed was issued by DHEC in mid-August. The contractor has 90 days to finish the work and provide an Assessment Report (mid-November?) – residents would like a copy of this.
13. Petroleum release from 3 of 4 suspected and tested remote fill lines. Circle K secured engineered drawings to submit to County to permit replacement of these lines. Work completed and now the station has resumed normal operations (approx. October 1, 2018). Circle K owns the tanks and the facilities. They sell BP gas. Circle K is responsible (not BP) since Circle K owns the tanks.
14. 4 underground petroleum storage tanks tested and passed. Age of tank approx. 30 years – soon to be exceeding the average life of such a tank. "Global" replacement of systems being discussed by Circle K and residents feel the 30-year-old tanks and at a site that has experienced many issues should be replaced by "state of the art" tanks that would meet at minimum the DHEC requirement for a "new installation".
15. The gas station property drains across Savannah Highway into a ditch that goes across the property beside Jacob's Point to Wallace Creek.

Future Actions

1. Soil borings will be dug at designated locations mapped by engineer to further investigate footprint of contamination (see Tier II proposal/drawing?). "Clean points" will be mapped and permanent monitoring wells will be placed to provide access to verify/test waters in the future. Vertical delineation?
2. Monitoring wells will be installed to provide access to underground sampling going forward into the future.
3. An Assessment Report will be completed in November 2018. Residents requested a copy.
4. The contractor must report their progress to DHEC. The residents would like a copy of DHEC's progress reports.
5. Residents want weekly updates until Circle K is given a clean bill of health.
6. Resident wells in this area are at varying depth. DHEC will look for clean edges horizontally and vertically. Under the ground there is a layer of clay and then a layer of sand.
7. DHEC's Ryan Arial offered to walk the properties with the residents.
8. The ditches in the area need to be cleaned out. DHEC will reach out to the County about this.
9. Residents would also like copies of previous assessment reports of any previous incidents that have occurred at this same site.
10. Postell Drive residents feel that City water and sewer should be provided to those with wells because of these multiple contamination events and to ensure safety going forward.

Concerns (Neighborhood residents want to know what proactive steps are being made to avoid another future occurrence and to ensure current contaminants in ground and most likely aquifers will cause no further harm to safety and environment, ever):

1. With information that there have been multiple issues at this same location, it is disturbing that "another spill" has occurred. Our primary concern is the health and security of our family and our neighbors, the health of our aquifer system that supplies fresh water to drink, bathe, cook, and clean to our home; health of our waterway in which we swim and fish, crab and shrimp, and the flora and fauna which the environment sustains.
2. How will we be armed with information to protect ourselves and our property now and in the future?
3. What are the future effects of the multiple spills and how effectively will they be monitored to insure safety of our water and land as time goes by and the petroleum continues to leach in to the soils/aquifers?
4. How does the petroleum release (actual contaminants and public exposure) affect the value of our property and that of our neighbors? Perception after visibility of work being performed and exposure via media?
5. How long was the petroleum being released into the environment?
6. It is unclear at this time at what intervals and frequency will Circle K/ATC be taking future tests to ensure our water(s) are acceptably clean?
7. Testing, release prevention monitoring seems inaccurate based upon volume and length of time to notice recent release (Testing by volumetric calculation, release prevention monitoring - an Automatic Tank Gauge (ATG) are installed in all four of Circle K's tanks. What is the state-of-the-art method if it were a new installation?
8. Please verify total volume released and collected to date (% water and petroleum)? What are the anticipated amounts still in the ground?
9. What are the associated threats to our health and property from Circle K's/ATC's/DHEC's standpoint again assuming it was your family that lived, drank, ate, bathed, and swam in the local aquifers/waterways?
10. What other precautionary measures would you "immediately employ" if it were your family living with the exposure our families live with?
11. At what intervals and frequency will Circle K/ATC be taking future tests of wells to ensure our water(s) are acceptably clean? How about the retesting of nearby ponds and Wallace River? How will residents receive those results?
12. The fact that the gas station has reopened infers that no further investigation will be completed on the Circle K property. Is this accurate, prudent and acceptable?
13. What are the potential long-term effects of this recent release and previous ones? Possible "aged materials" located from previous releases mean what?
14. Residents expressed concerns about the pond in between Postell and Jacobs Point neighborhoods which is fed by several underground aquifers or springs. What are the plans to adequately monitor these multiple aquifers over time? This pond outflow is into Wallace Creek.
15. What are the plans to monitor contaminated drainage into the Wallace River now and in future?

16. Again, how long had this leak been "active" of the three remote filling statins had been on-going? How does this affect strategies to address?
17. Residents are curious to see the "gas logs" and why the release was not discovered sooner which delves into "confidence" that piping and tanks are capable of "holding" petroleum well in the future. One resident stated if you have 30,000 gallons of gas and sell 20,000 gallons and the tanks are empty, why wasn't there checks and balances to alert the responsible party that there was a problem?
18. Circle K submitted permit to City to replace these remote fill lines with double wall piping. Why double wall piping on infills if not required on tanks?
19. Current storage tanks are single wall, steel, 30 years old. Residents would like to see "proaction" in replacing these tanks now with double wall tanks with a more sensitive monitoring system to match requirements for a "state of the art" 2018 installation and current DHEC requirements for a new installation.
20. Residents want to know how Circle K is being proactive and going beyond DHEC requirements. How can residents regain trust that all systems in place are suitable for the far distant future?
21. Is the DHEC standard for monitoring of "one percent of sales plus or minus 100 gallons" adequate?
22. Residents feel Circle K should pay for installation of potable water lines for the residents affected or currently have wells in place.
23. One Circle K representative stated that it does not seem like "much gas" is leaking which concerns residents and makes one wonders if this thinking infers that Circle K is just band aiding the issue(s).
24. The contractor found a lot of gas in the trenches that lead to Wallace Creek.
25. DNR and the Coast, Guard have not been notified about the spill. Residents feel like DHEC/Circle K need to advise both interested parties and any other related organizations.

By responding to these and other resident concerns immediately and going "above and beyond" with your actions will be proof that neighborhood/resident confidence can be regained/restored. As the Circle K mantra goes - "Circle K "***takes its environmental responsibilities very seriously***". The fine people and families of our neighborhood look forward to ***PRO*actions** not *Re*actions by DHEC & Circle K. Again, please respond immediately and thoroughly as if *your* family's health depended upon it and secondly with the knowledge that such an environmental stigma adjacent to our community could severely affect desirability for potential buyers in the future and the subsequently reduced property values that could result.

Sincerely,

Jamie Kilgallen

cc. Mihir Mehta (DHEC); All Attendees

Reference Information

Ms. Donna Moye and Mr. Ryan D. Arial
S.C. Department of Health & Environmental Control
UST Management Division
2600 Bull Street
Columbia, SC 29201
803-898-9418

Mr. Brent Puzak
Director, North American Environmental Shared Services/Supply Chain Optimization – Global Fuels
bpuzak@circlek.com
t: (919)774-6700 ext. 6549
m: 904-219-7170

Circle K Stores Inc.
1100 Situs Court, Suite 100
Raleigh, NC 27606
http://corpo.couche-tard.com/en/business-units/

ATC
Mr. Frederick P. Lyke P.G.
7499 Parklane Road
Columbia, SC 29223

Information about the SCDHEC Process.

- Freedom of information requests – web page with this information on https://www.scdhec.gov/Agency/RequestCopiesofRecords/
- Information on the regulations that govern/operate underground storage tanks in SC, and additionally provides information on the corrective action process that we are in now and the regulations that govern our process. http://www.scdhec.gov/Environment/LW/UST/.

Community Meeting Follow-Up Questions

Moye, Donna

Fri 1/11/2019 5:24 PM

Ravenel Release

To: Jamie Kilgallen <jamie.kilgallen@hightower.us>;

Cc: Ariail, Ryan D. <AriailRD@dhec.sc.gov>; Puzak, Brent <BPuzak@circlek.com>; Cubberley, Alan <acubberley@Circlek.com>;

1 attachments (110 KB)

Circle K (Ravenel) Community Meeting - Answers to Jamie Kilgallen Follow-Up Questions - Final (January 11, 2018).pdf;

Hi, Mr. Kilgallen....

Please find DHEC's response to the twenty-five questions you submitted on behalf of your community following our September Community Meeting. I believe you have been in communication with Ryan over the past week or so concerning the delay in getting this to you. He had to leave the office early today and asked that I forward it to you to avoid any further delay. As previously promised, I will be sharing this response letter with the other local residents who attended the meeting.

Thank you again for your patience and continued interest and involvement in this project. Should you have any questions about the attached letter, please feel free to contact Ryan directly.

Sincerely,
Donna Moye

Donna D. Moye
Public Participation Coordinator
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-1382
Connect: www.scdhec.gov Facebook Twitter

dhec
Healthy People Healthy Communities.

January 11, 2019

Jamie Kilgallen
6079 Postell Drive
Ravenel, SC 29470

Re: Follow-Up Concerns/Questions from DHEC Community Meeting
Circle K Petroleum Release
Savannah Highway & Highway 162
Ravenel, South Carolina

Dear Mr. Kilgallen,

Thank you for your continued interest and involvement in the July 2018 petroleum release from the Circle K site located at Savannah Highway & Highway 162. Along with your notes from our community meeting in September, you requested that we address twenty-five follow-up concerns/questions from your community. Following are your concerns, verbatim, as submitted in your October 12, 2018, email. DHEC's response is in italics following each concern. We have also addressed the ten future actions you included in your notes from the meeting.

Concerns

(Neighborhood residents want to know what proactive steps are being made to avoid another future occurrence and to ensure current contaminants in ground and most likely aquifers will cause no further harm to safety and environment, ever):

1. With information that there have been multiple issues at this same location, it is disturbing that "another spill" has occurred. Our primary concern is the health and security of our family and our neighbors, the health of our aquifer system that supplies fresh water to drink, bathe, cook, and clean to our home; health of our waterway in which we swim and fish, crab and shrimp, and the flora and fauna which the environment sustains.

DHEC has heard and shares your community's concerns about this petroleum release. Our first priority with any contaminated site will always be the health and safety of local residents. The goal for this site is that the petroleum is cleaned up until it is no longer considered to be a threat to public health or the environment.

2. How will we be armed with information to protect ourselves and our property now and in the future?

DHEC will ensure that the environmental impacts are minimized through periodic sampling and monitoring of cleanup at the site for this release. Sampling results and any other information DHEC maintains is available for review upon request so that residents can stay informed about the cleanup progress and future monitoring.

3. What are the future effects of the multiple spills and how effectively will they be monitored to insure safety of our water and land as time goes by and the petroleum continues to leach in to the soils/aquifers?

Petroleum releases in South Carolina are required to be cleaned up so there is no threat to public health or the environment. Additional leaching of petroleum is not expected once the source of a release has been repaired or removed. Periodic sampling helps determine the progress of site rehabilitation activities.

4. How does the petroleum release (actual contaminants and public exposure) affect the value of our property and that of our neighbors? Perception after visibility of work being performed and exposure via media?

DHEC is responsible for ensuring that the petroleum release is cleaned up until it is no longer considered to be a threat to public health or the environment. No petroleum contaminants have been found in the initial (late August 2018) and follow-up (October 2018) sampling of 22 drinking water wells located on private property.

5. How long was the petroleum being released into the environment?

As discussed at the community meeting, DHEC has no way of determining when or how long this petroleum release occurred.

6. It is unclear at this time at what intervals and frequency will Circle K/ATC be taking future tests to ensure our water(s) are acceptably clean?

Initial and follow-up sampling has been conducted on 22 private drinking water wells to confirm that there have been no impacts from this petroleum release. The

frequency of future sampling, if necessary, will be determined based on data submitted to DHEC in the Tier II Release Assessment Report.

7. Testing, release prevention monitoring seems inaccurate based upon volume and length of time to notice recent release (Testing by volumetric calculation, release prevention monitoring – an Automatic Tank Gauge (ATG) are installed in all four of Circle K's tanks. What is the state-of-the-art method if it were a new installation?

South Carolina UST Control Regulations, R.61-92 allows for changes or upgrades to an underground storage tank (UST) system if the owner demonstrates that it meets the requirements of the regulations. Failures can still sometimes occur even when regulatory requirements are met.

8. Please verify total volume released and collected to date (% water and petroleum)? What are the anticipated amounts still in the ground?

As discussed at the community meeting, DHEC cannot determine the volume of petroleum released from this leak. At the time of the meeting, 75 tons of contaminated soil, 12,000 gallons of contaminated water, and 1,200 gallons of petroleum had been removed. The Tier II Release Assessment Report will include the total volumes collected to date.

9. What are the associated threats to our health and property from Circle K's/ATC's/DHEC's standpoint again assuming it was your family that lived, drank, ate, bathed, and swam in the local aquifers/waterways.

No petroleum contaminants were found in the 22 drinking water wells that were sampled on private property and we are aware of no impacts to public health from this petroleum release.

10. What other precautionary measures would you "immediately employ" if it were your family living with the exposure our families live with?

DHEC does not suggest precautionary measures unless an exposure risk has been identified. No such risk has been identified to date from this petroleum release.

11. At what intervals and frequency will Circle K/ATC be taking future tests of wells to ensure our water(s) are acceptably clean? How about the retesting of nearby ponds and Wallace River? How will residents receive those results?

Initial and follow-up sampling of 22 private drinking water wells has confirmed that there have been no impacts from this petroleum release. The frequency of future sampling of private wells and surface water locations, if necessary, will be determined based on data submitted in the Tier II Release Assessment Report.

Residents were notified of their drinking well sampling results by Circle K representatives via email and hard copy mail. Routine monitoring or sampling results and other information DHEC maintains, is available for review upon request subject to Freedom of Information (FOI) procedures.

12. The fact that the gas station has reopened infers that no further investigation will be completed on the Circle K property. Is this accurate, prudent and acceptable?

This is not accurate. The investigation, assessment, and cleanup of this petroleum release are ongoing under DHEC oversight and will continue until cleanup goals are met.

13. What are the potential long-term effects of this recent release and previous ones? Possible "aged materials" located from previous releases mean what?

Previous petroleum releases from this site were cleaned-up to acceptable risk-based levels. Petroleum releases in South Carolina are required to be cleaned up so there is no threat to public health or the environment.

14. Residents expressed concerns about the pond in between Postell and Jacobs Point neighborhoods which is fed by several underground aquifers or springs. What are the plans to adequately monitor these multiple aquifers over time? This pond outflow is into Wallace Creek.

Sampling from the unnamed pond next to the Jacobs Point neighborhood did not indicate any impacts from this petroleum release. The frequency of future sampling of these surface water locations, if necessary, will be determined based on data submitted to DHEC in the Tier II Release Assessment Report.

15. What are the plans to monitor contaminated drainage into the Wallace River now and in future?

Sampling results from surface water locations within 1000 ft. of the site will be included in the Tier II Release Assessment Report. The frequency of future sampling of Wallace Creek or other surface water locations, if necessary, will be determined based on these results.

16. Again, how long had this leak been "active" of the three remote filling statins had been on-going? How does this affect strategies to address?

As discussed at the community meeting, DHEC has no way of determining when or how long this petroleum release occurred.

17. Residents are curious to see the "gas logs" and why the release was not discovered sooner which delves into "confidence" that piping and tanks are capable of "holding" petroleum well in the future. One resident stated if you have 30,000 gallons of gas and sell 20,000 gallons and the tanks are empty, why wasn't there checks and balances to alert the responsible party that there was a problem?

DHEC does not maintain such records for tank owners. Monthly system monitoring reports are maintained by Circle K at the facility and reviewed annually by DHEC during compliance inspections. Per regulations, Circle K must report to DHEC any failing results.

18. Circle K submitted permit to City to replace these remote fill lines with double wall piping. Why double wall piping on infills if not required on tanks?

Circle K upgraded to double wall piping on three of the four infills after the remote fill lines failed testing in August 2018. Circle K voluntarily replaced the fourth remote fill line with double wall piping as well. Because all tanks passed testing at that time, South Carolina UST Regulations R.61-92 allows for changes or upgrades to the underground storage tank (UST) system if the owner demonstrates that it meets the requirements of the regulations.

19. Current storage tanks are single wall, steel, 30 years old. Residents would like to see "proaction" in replacing these tanks now with double wall tanks with a more sensitive monitoring system to match requirements for a "state of the art" 2018 installation and current DHEC requirements for a new installation.

South Carolina UST Control Regulations, R.61-92 allows for changes or upgrades to an underground storage tank (UST) system if the owner demonstrates that it meets the requirements of the regulations. Circle K must meet all current regulatory requirements for release detection.

20. Residents want to know how Circle K is being proactive and going beyond DHEC requirements. How can residents regain trust that all systems in place are suitable for the far distant future?

Circle K has cooperated fully with DHEC during the assessment and cleanup of this petroleum release. In addition to replacing the remote fill lines with double wall piping, Circle K has voluntarily added release detection in all of the remote fill piping through interstitial monitoring. They have also instituted annual pressurized line testing to ensure there are no leaks in the piping. This additional testing is not required by regulation for remote fill piping.

Representatives of Circle K attended DHEC's community meeting to answer questions and as promised, has provided weekly email updates to residents and DHEC on the assessment and cleanup progress. Circle K has also worked with DHEC since the meeting to promptly address any new concerns from residents. DHEC believes these actions to be a demonstration of Circle K's desire to establish trust with the local community and a willingness to encourage and maintain an open line of communication.

21. Is the DHEC standard for monitoring of "one percent of sales plus or minus 100 gallons" adequate?

This information is unknown to DHEC.

22. Residents feel Circle K should pay for installation of potable water lines for the residents affected or currently have wells in place.

Initial and follow-up sampling of 22 private drinking water wells has confirmed that there have been no impacts from this petroleum release. Residents are encouraged to contact their local municipalities to discuss options for water and sewer connection, if they so desire.

23. One Circle K representative stated that it does not seem like "much gas" is leaking which concerns residents and makes one wonders if this thinking infers that Circle K is just band aiding the issue(s).

When there is a release, DHEC requires the responsible party to repair the equipment and abate the release, regardless of the total volume. Once repairs have been made, testing is required and results provided to DHEC to show that the UST system meets all regulatory requirements. The total amount of petroleum recovered as a result of this release will be included in the Tier 2 Release Assessment Report.

24. The contractor found a lot of gas in the trenches that lead to Wallace Creek.

Petroleum was recovered from the trenches dug onsite. No trenches were dug off-site. At the time of the release, traces of petroleum were found in the ditch alongside Highway 17 South.

As you know, residual petroleum from the July release recently surfaced in the ditch alongside Highway 17 South. Additional resurfacing of residual petroleum may continue as more rainfall occurs and the water table rises. Circle K has conducted limited remediation activities in the ditch due to restrictions by the South Carolina Department of Transportation (DOT). However, Circle K will continue to extract any petroleum contaminated water that collects in the ditch and storm drains.

25. DNR and the Coast, Guard have not been notified about the spill. Residents feel like DHEC/Circle K need to advise both interested parties and any other related organizations.

In response to concerns voiced at the meeting, DHEC has notified the South Carolina Department of Natural Resources (DNR) and the U.S. Coast Guard of the July 2018 petroleum release.

Future Actions

1. Soil borings will be dug at designated locations mapped by engineer to further investigate footprint of contamination (see Tier II proposal/drawing?). "Clean points" will be mapped and permanent monitoring wells will be placed to provide access to verify/test waters in the future. Vertical delineation?

A map of proposed locations for various work scopes (monitoring wells, recovery wells, soil borings, etc.) to take place during the release assessment was provided by email on October 26, 2018, to residents who attended the community meeting. Locations on the map were subject to change depending on results from data collected throughout the assessment. Permanent locations will be included in the Tier II Release Assessment Report. These locations will depict horizontal and vertical delineation of the contaminant plume.

2. Monitoring wells will be installed to provide access to underground sampling going forward into the future.

Permanent monitoring wells will be installed in locations based upon field screening results. This will allow for future groundwater monitoring of the aquifer and contaminant plume.

3. An Assessment Report will be completed in November 2018. Residents requested a copy.

The Tier II Release Assessment Report was submitted to DHEC on December 27, 2018. Residents who attended the community meeting will be notified once DHEC has completed review of the report. A copy of the report will be made available for interested residents at that time.

4. The contractor must report their progress to DHEC. The residents would like a copy of DHEC's progress reports.

As promised at the community meeting, Circle K representatives have provided weekly email updates to residents and DHEC on the assessment and cleanup progress.

5. Residents want weekly updates until Circle K is given a clean bill of health.

The frequency of updates (as described above) may be re-evaluated once a thorough review of the Tier II Release Assessment Report submitted to DHEC is completed and long-term cleanup goals have been established.

6. Resident wells in this area are at varying depth. DHEC will look for clean edges horizontally and vertically. Under the ground there is a layer of clay and then a layer of sand.

During the Tier II Release Assessment the extent of the contaminant plume will be defined both horizontally and vertically. The results will be included in the final report.

7. DHEC's Ryan Ariail offered to walk the properties with the residents.

DHEC's Ryan Ariail and Donna Moye walked multiple areas with local residents and Circle K staff on September 28, 2018, to look at potential surface water receptor points discussed at the community meeting.

8. The ditches in the area need to be cleaned out. DHEC will reach out to the County about this.

DHEC is in the process of notifying Charleston County about maintenance concerns of the ditches.

9. Residents would also like copies of previous assessment reports of any previous incidents that have occurred at this same site.

DHEC's files include inspection, sampling, and assessment reports for all prior known releases at this site since December 1991. Some of these reports are very large. We will be happy to assist any interested person in filing a FOI request to visit our office and review our files.

10. Postell Drive residents feel that City water and sewer should be provided to those with wells because of these multiple contamination events and to ensure safety going forward.

Initial and follow-up sampling of 22 private drinking water wells have confirmed that there have been no impacts from this petroleum release. Residents are encouraged to contact their local municipalities to discuss options for water and sewer connection, if they so desire.

Thank you for your patience as we have worked to respond to your follow-up questions. We hope that the information provided has adequately addressed your concerns. As stated previously, the Tier II Release Assessment Report was submitted to DHEC on December 27, 2018. Data from this report will help determine future sampling and long-term corrective action measures for this site. After review, DHEC will schedule a community meeting to discuss the report and path forward. We anticipate this to occur in early 2019.

Should you need additional information, please feel free to contact me at (803) 898-9418.

Sincerely,

Ryan D. Ariail
UST Customer Service Representative
Underground Storage Tank Management Division
South Carolina Department of Health and Environmental Control

RE: Community Meeting Follow-Up Questions

UST 56 DOCKETING

Jamie Kilgallen <Jamie.Kilgallen@hightower.us>

Tue 1/22/2019 10:37 AM

Inbox

To: Moye, Donna <moyedd@dhec.sc.gov>;

Cc: Ariail, Ryan D. <AriailRD@dhec.sc.gov>; Puzak, Brent <BPuzak@circlek.com>; Cubberley, Alan <acubberley@Circlek.com>;

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Good morning Ms. Moye –

We are in receipt of DHEC's response to the twenty-five questions we submitted following our September Community Meeting.

I have a couple comments as a result of the DHEC response letter –

1. The Tier II Assessment is referred to often in the DHEC letter as to the future actions to be taken. DHEC has received this document from Circle K. When will it be shared with the public (i.e. the community)?
2. Noting items in the latest weekly update from Circle K (Cubberley Report) there are a lot of mention of "product recovery" still on-going and SCDHEC requested and received a Site Specific Work Plan (SSWP) be submitted to include the installation of 6 additional recovery wells and 7 additional monitoring wells. When will SCDHEC explain why product recovery still continues and the reasons for the SSWP request?
3. We have also observed the vacuum truck presence back in the median of Hwy 17. Again, when will SCDHEC explain why this is necessary, how effective are the actions to date and what are the projections on product recovery completion to the point there are no further concerns?

Thank you,

Jamie Kilgallen

Re: Community Meeting Follow-Up Questions

Ariail, Ryan D.

Thu 1/31/2019 5:41 PM

To:Jamie Kilgallen <jamie.kilgallen@hightower.us>;

Cc:Puzak, Brent <BPuzak@circlek.com>; Cubberley, Alan <acubberley@Circlek.com>; Moye, Donna <moyedd@dhec.sc.gov>;

Bcc:Heinze, Cody W. <heinzecw@dhec.sc.gov>; Mendenhall, Jeffery E. <MENDENJE@dhec.sc.gov>;

1 attachments (303 KB)

Circle K (Ravenel) Community Meeting - Response to Jamie Kilgallen Email Questions.pdf;

Good Evening Mr. Kilgallen,

I hope this email finds you well. Please find DHEC's response to the additional questions sent on January 22nd. If you have any questions in regards to the attached document, please contact me. We understand the community's concerns and are glad to address any questions.

Thank you
Ryan

Ryan D. Ariail
UST Customer Service Representative
Underground Storage Tank Management Division
S.C. Dept. of Health & Environmental Control
Office: (803) 898-9418
ariailrd@dhec.sc.gov
Connect: www.scdhec.gov Facebook Twitter

Healthy People. Healthy Communities.

"Effective May 26, 2017, there were changes to the SC UST Regulations, which may affect you. Please go to http://www.dhec.sc.gov/environment/LW/UST/Regulation/ for more information.

From: Jamie Kilgallen <Jamie.Kilgallen@hightower.us>
Sent: Tuesday, January 22, 2019 10:37 AM
To: Moye, Donna
Cc: Ariail, Ryan D.; Puzak, Brent; Cubberley, Alan
Subject: RE: Community Meeting Follow-Up Questions

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

1. The Tier II Assessment is referred to often in the DHEC letter as to the future actions to be taken. DHEC has received this document from Circle K. When will it be shared with the public (i.e. the community)?

   DHEC has completed review of the Tier II Release Assessment Report. We are unable to share it with the local community via email due to the size (600+ pages). We are currently looking at options to make it available locally prior to our next community meeting. Please let me know if you have any suggestions on the best method and location for community access.

   As always, the Tier II report and any other information DHEC maintains for the Circle K site is readily available for review in Columbia by contacting our Freedom of Information Office at (803) 898-3882.

2. Noting items in the latest weekly update from Circle K (Cubberley Report) there are a lot of mention of "product recovery" still on-going and SCDHEC requested and received a Site Specific Work Plan (SSWP) be submitted to include the installation of 6 additional recovery wells and 7 additional monitoring wells. When will SCDHEC explain why product recovery still continues and the reasons for the SSWP request?

   DHEC has no way of knowing how much petroleum was released or how long the release occurred. Product recovery will continue as long as petroleum is detected in monitoring and/or recovery wells.

   In mid-December 2018, Circle K's contractor conducted an aggressive fluid-vapor recovery (AFVR) event on recovery wells installed in the median of Savannah Highway. This had not occurred in the early stages of the release investigation due to a delay by the South Carolina Department of Transportation (DOT) in granting an encroachment permit. Due to the effectiveness of the December AFVR event, DHEC requested a site-specific work plan (SSWP) to include the installation of additional recovery wells in other areas to maximize product removal. The request for additional monitoring wells was made to include areas where access had not been previously granted. This will ensure proper delineation of the contaminant plume.

   Due to recent rainfall that has caused the water table to rise and push residual petroleum from underneath the highway to the surface, removal

of additional petroleum and contaminated water in the southbound ditch of Savannah Highway has also recently occurred.

3. We have also observed the vacuum truck presence back in the median of Hwy 17. Again, when will SCDHEC explain why this is necessary, how effective are the actions to date and what are the projections on product recovery completion to the point there are no further concerns?

   The recovery rate from the December AFVR event indicated that it was successful in removing petroleum from the subsurface. Additional AFVR events are being conducted to continue cleanup efforts and to help prevent further migration of the petroleum product and contaminants. Data collected from future groundwater monitoring (sampling) will determine the frequency of the AFVR events.

   Petroleum releases in South Carolina are required to be cleaned up so that there is no threat to public health or the environment. DHEC cannot predict a completion date. The investigation, assessment, and cleanup are ongoing under DHEC oversight and will continue until cleanup goals are met.

Re: Community Update - Circle K # 2720886 4315 Savannah Highway, Ravenel, SC

UST DOCKETING 57 feeb

Ariail, Ryan D.

Fri 1/25/2019 8:48 PM

To: Pat Frazier <fraziersouth@gmail.com>; Cubberley, Alan <acubberley@Circlek.com>;

Cc: Moye, Donna <moyedd@dhec.sc.gov>; Mendenhall, Jeffery E. <MENDENJE@dhec.sc.gov>; Fred Lyke <fred.lyke@atcgs.com>; Brad Hubbard <brad.hubbard@atcgs.com>; Puzak, Brent <BPuzak@circlek.com>; Heinze, Cody W. <heinzecw@dhec.sc.gov>;

Mr. Frazier,

Thank you for your email. We understand why the release and recent vacuum events may be concerning to you and your community. As we talked about at the September community meeting, DHEC has no way of knowing how much petroleum was released or how long it occurred. In regards to product removal, the recovery rate from the vacuum events has shown to be successful in removing petroleum from the subsurface, therefore additional events are being conducted to continue cleanup efforts and to help prevent further migration of the petroleum product and contaminants. As seen recently, removal of petroleum and contaminated water in the southbound ditch of Savannah Hwy will be conducted as the water table continues to fluctuate and pushes residual petroleum from underneath the highway to the surface. The investigation, assessment, and cleanup of this petroleum release are ongoing under DHEC oversight and will continue until cleanup goals are met.

If you have any further questions, please contact me.

Thanks

Ryan D. Ariail
UST Customer Service Representative
Underground Storage Tank Management Division
S.C. Dept. of Health & Environmental Control
Office: (803) 898-9418
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Connect: www.scdhec.gov Facebook Twitter

"Effective May 26, 2017, there were changes to the SC UST Regulations, which may affect you. Please go to http://www.dhec.sc.gov/environment/LW/UST/Regulation/ for more information.

From: Pat Frazier <fraziersouth@gmail.com>
Sent: Friday, January 25, 2019 1:49:12 PM
To: Cubberley, Alan
Cc: Moye, Donna; Ariail, Ryan D.; Mendenhall, Jeffery E.; Fred Lyke; Brad Hubbard; Puzak, Brent
Subject: Re: Community Update - Circle K # 2720886 4315 Savannah Highway, Ravenel, SC

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
I have to say it's a little concerning that so much product is being pump from the ground. What's DHEC take on this? This process has been going far longer than anticipated which leads us to believe there was a heck of a lot more product in the ground than originally posted. Any response from DHEC would be appreciated.

On Fri, Jan 25, 2019 at 12:52 PM Cubberley, Alan <acubberley@circlek.com> wrote:

Action items completed for the week ending January 25, 2019:

- Boom replacement addressing product recovery in the ditch west of the southbound lane of Hwy 17 near the intersection of Hwy 162 was conducted on January 25, 2019.

- Conducted a five day vacuum truck product recovery event in the median of US Hwy 17, beginning on January 21, 2019 and ending on January 25, 2019.

Action items anticipated for the week ending February 1, 2019.

- Continue to monitor for the presence of product/remove as needed in the ditch west of the southbound lane of Hwy 17 near the intersection of Hwy 162 and in the monitoring/recovery wells in the median of US Hwy 17.

- Schedule the additional five day vacuum truck product recovery events in the median of US Hwy 17 and schedule the installation of the requested additional recovery wells and monitoring wells.

Action items anticipated for the remainder of February 2019.

- Continue to monitor for the presence of product/remove as needed in the ditch west of the southbound lane of Hwy 17 near the intersection of Hwy 162 and in the monitoring/recovery wells in the median of US Hwy 17.

- Schedule and conduct additional five day vacuum truck product recovery events in the median of US Hwy 17 and install the requested additional recovery wells and monitoring wells.

As always should you have additional questions or concerns please don't hesitate to reach out to myself, or those copied on this e-mail.

Alan Cubberley
Senior Manager, North American Environmental Shared Services
Supply Chain Optimization – Global Fuels

e:acubberley@circlek.com
t: (330) 634-2101
m: (330) 814-4032

Circle K Stores Inc.

1100 Situs Court, Suite 100
Raleigh, NC 27606
http://corpo.couche-tard.com/en/business-units/

Re: Community Update - Circle K # 2720886 4315 Savannah Highway, Ravenel, SC

Ariail, Ryan D.

Tue 2/5/2019 9:44 AM

UST DOCKETING 58 Tech

To: Pat Frazier <fraziersouth@gmail.com>; Jamie Kilgallen <jamie.kilgallen@hightower.us>;

Cc: Cubberley, Alan <acubberley@Circlek.com>; Moye, Donna <moyedd@dhec.sc.gov>; Mendenhall, Jeffery E. <MENDENJE@dhec.sc.gov>; Fred Lyke <fred.lyke@atcgs.com>; Brad Hubbard <brad.hubbard@atcgs.com>; Puzak, Brent <bpuzak@circlek.com>; Heinze, Cody W. <heinzecw@dhec.sc.gov>;

1 attachments (110 KB)

Circle K (Ravenel) Community Meeting - Answers to Jamie Kilgallen Follow-Up Questions - Final (January 11, 2018).pdf;

Mr. Frazier,

My apologies. I placed your last email in a folder and totally dropped the ball on getting you a response. To address your questions, DHEC never defined the petroleum release at the Circle K as a minor spill as we have no way of knowing how much petroleum was released or how long the release occurred. Through the extensive investigation activities that have taken place over the last several months, the petroleum release has had no impacts to Wallace Creek or the surrounding marshes to date. Federal concern would not be warranted as the responsible party (Circle K) has been responsive in abating the release, identifying the extent, and protecting sensitive receptors in the area. Product recovery will continue as long as petroleum is detected in monitoring and/or recovery wells. DHEC cannot predict a completion date, but this cleanup will continue until there is no threat to public health or the environment. The investigation, assessment, and cleanup are ongoing under DHEC oversight and will continue until cleanup goals are met.

I have also attached a document that addressed a series of questions that Jamie Kilgallen submitted to DHEC towards the end of last year, that may help address any other questions you may have.

If you have any further questions, please contact me.

Thanks
Ryan

Ryan D. Ariail
UST Customer Service Representative
Underground Storage Tank Management Division
S.C. Dept. of Health & Environmental Control
Office: (803) 898-9418
ariailrd@dhec.sc.gov
Connect: www.scdhec.gov Facebook Twitter

"Effective May 26, 2017, there were changes to the SC UST Regulations, which may affect you. Please go to http://www.dhec.sc.gov/environment/LW/UST/Regulation/ for more information.

From: Pat Frazier <fraziersouth@gmail.com>
Sent: Tuesday, February 5, 2019 6:32:59 AM
To: Ariail, Ryan D.; Patrick Frazier; Jamie Kilgallen
Cc: Cubberley, Alan; Moye, Donna; Mendenhall, Jeffery E.; Fred Lyke; Brad Hubbard; Puzak, Brent; Heinze, Cody W.
Subject: Re: Community Update - Circle K # 2720886 4315 Savannah Highway, Ravenel, SC

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
I guess my questions didn't warrant a reply which is a shame since my family and I live in the effective area and, have legitimate concerns with ground water and the adjacent environment.
I believe the environmental issues are much bigger than first anticipated and the cleanup progress is much slower than voiced. Not to provide answers to reasonable questions doesn't help the matter especially when DHEC is suppose to be a liaison between those in violation and those effected.

On Sat, Jan 26, 2019 at 10:19 AM Pat Frazier <fraziersouth@gmail.com<mailto:fraziersouth@gmail.com>> wrote:
Thanks Ryan,
Is a five month and ongoing product removal still considered a minor spill? At what point does it become a Federal concern?
Is DHEC 100% convinced that the product is limited to the immediate area and there are still no other enviromental/ conservation issues ongoing outside the immediate area?
I apologize in advance and I'm sure the answer is somewhere in all the emails,, have all the test wells be installed and have produce no evidence of product? Just concerned that this isues is bigger than what it seems. I believe this was identified in August but, the enviromental impact was months perhaps years prior to discovery. WIth this ongoing concern as well as the well noted fuel issues in North Charleston with Circle K products we, and I think I can speak for our community, want to make sure that Circle K and DHEC are entirely invested in the most productive means to remove all the contamination in the quickest way possible. It maybe time for another meeting with the community.

On Fri, Jan 25, 2019, 8:48 PM Ariail, Ryan D. <AriailRD@dhec.sc.gov<mailto:AriailRD@dhec.sc.gov> wrote:
Mr. Frazier,

Thank you for your email. We understand why the release and recent vacuum events may be concerning to you and your community. As we talked about at the September community meeting, DHEC has no way of knowing how much petroleum was released or how long it occurred. In regards to product removal, the recovery rate from the vacuum events has shown to be successful in removing petroleum from the subsurface, therefore additional events are being conducted to continue cleanup efforts and to help prevent further migration of the petroleum product and contaminants. As seen recently, removal of petroleum and contaminated water in the southbound ditch of Savannah Hwy will be conducted as the water table continues to fluctuate and pushes residual petroleum from underneath the highway to the surface. The investigation, assessment, and cleanup of this petroleum release are ongoing under DHEC oversight and will continue until cleanup goals are met.

If you have any further questions, please contact me.

Thanks

Ryan D. Ariail

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

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May 2, 2019

Mr. Robert Dunn, Hydrogeologist
South Carolina Department of Health and Environmental Control
UST Assessment Section
Bureau of Land and Waste Management
UST Management Division
2600 Bull Street
Columbia, South Carolina 29201

UST
MAY 03 2019
PROGRAM

UST
59
DOCKETING

RE: Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Report
Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
UST Permit ID #01589; CA #58799
ATC Project No. DHEC088604

Dear Mr. Dunn:

On behalf of Circle K is submitting the enclosed Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Report for the **Circle K 2720886** facility. This report has been written in accordance with the South Carolina Department of Health and Environmental Control (SCDHEC) directive letter dated January 22, 2019 and documents investigative procedures performed at the site including product skimming, recovery well and monitoring well installation, and multiple AFVR events. If you have any questions or require additional information, please contact me at (803) 735-0003.

Sincerely,
ATC Group Services, LLC

Fred Lyke, P.G. #1055
Branch Manager
(803) 735-0003
Email: Fred.Lyke@atcgs.com

Jesse L. Keeffe, Jr. PG #2308
Project Manager
Direct Line +1 803 223 0796 ext. 2010
Email: jesse.keeffe@atcgs.com

cc: Mr. Brent Puzak, Environmental Director, *Circle K Stores, Inc.*, 1100 Situs Road, Suite 100, Raleigh, NC 27606

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
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Prepared By:

Fred Lyke, P.G. #1055
Senior Geologist

FREDERICK P. LYKE
REGISTERED
No. 1055
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

Jesse L. Keeffe, Jr., P.G. #2308
Project Manager

JESSE L. KEEFFE, JR.
REGISTERED
No. 2308
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

Submitted To:

State of South Carolina
Department of Health and Environmental Control
Bureau of Land and Waste Management
UST Management Division
UST Assessment Section
2600 Bull Street
Columbia, South Carolina 29201

On Behalf Of:

Mr. Brent Puzak
Circle K Stores Inc.
1100 Situs Court, Suite 100
Raleigh, NC 27606
Phone: (919) 774-6700

Submitted By:

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC 29223
Phone: (803) 735-0003
Fax: (803) 735-0443

Underground Storage Tank Site Rehabilitation
Contractor Certification No. 313

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Figure 1	Site Map
Figure 2	Product Map on February 26, 2019
Figure 3,	Product Map on April 25, 2019

APPENDICES

Appendix A	SCDHEC Notice to Proceed
Appendix B	Boring Logs, 1903 Forms, and disposal manifests
Appendix C	Boom disposal manifests
Appendix D	AFVR Reports and disposal manifests

1.0 INTRODUCTION

ATC Group Services, LLC (ATC) was retained by *Circle K Stores, Inc.* to perform Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation services at the **Circle K 2720886** facility located at 4315 Savannah Highway in Ravenel (Charleston County), South Carolina (UST Permit #01589). The scope of work was authorized by the SCDHEC in a directive letter provided by email on January 22, 2019. A copy of the Directive Letter is provided in **Appendix A**. Activities included conducting multiple AFVR events to remove product from the subsurface, skim product from the surface ditch west of the south-bound lane of US Hwy 17 if needed, monitor and replace booms if needed, install additional recovery and monitoring wells, and report preparation. The results of this work, along with Recommendations are included herein.

2.0 WELL INSTALLATION

On February 12 and 13, 2019, ATC personnel directed the installation of shallow groundwater Monitoring Wells 01589 MW-32, 01589 MW-33, 01589 MW-34, 01589 MW-35, 01589 MW-36, 01589 MW-37, and 01589 MW-38. Well installation was performed by VERCO personnel operating a track-mounted Geoprobe 7720DT spinning 8½-inch outer diameter hollow stem auger flights. Well locations are presented on **Figure 1**. Shallow monitoring well borings were advanced to depths of 13 feet bgs. Each shallow groundwater monitoring well was constructed with a 10 foot length of 2-inch diameter, Schedule 40, flush-threaded PVC well screen (0.010- inch slot size) and an appropriate length of Schedule 40 PVC riser extending the well into a flush mounted protective vault for surficial completions. Shallow wells were designed for respective well screens to bracket the static water table. Boring Logs, Driller Forms 1903 and soil and development water disposal manifests are provided in **Appendix B**.

On February 12 and 13, 2019, ATC personnel directed the installation of shallow groundwater Recovery Wells 01589 MW-7, 01589 MW-8, 01589 MW-9, 01589 MW-10, 01589 MW-11, and 01589 MW-12. Well installation was performed by VERCO personnel operating a track-mounted Geoprobe 7720DT spinning 8½-inch outer diameter hollow stem auger flights. Well locations are presented on **Figure 1**. Recovery Wells borings were installed to depths of 13 feet bgs. Each shallow groundwater monitoring well was constructed with a 10 foot

length of 2-inch diameter, Schedule 40, flush-threaded PVC well screen (0.010- inch slot size) and an appropriate length of Schedule 40 PVC riser extending the well into a flush mounted protective vault for surficial completions. Recovery Wells were designed for respective well screens to bracket the static water table. Boring Logs, Driller Forms 1903 and soil and development water disposal manifests are provided in **Appendix B**.

3.0 PRODUCT SKIMMING AND BOOM REPLACEMENT

ATC activities on the west side of the south-bound lane of US Hwy 17 included monitoring any standing water in the ditch. If product was observed on the surface water of the ditch, it was skimmed using a vacuum truck. Absorbent booms were also placed in the ditch to absorb product sheen. Weekly visits were conducted to observe the condition of the booms. Petroleum impacted surface water was skimmed from the ditch in early December 2018. Skimming activities have not been required in 2019 to date. Boom replacements were conducted on an as needed basis. **Table I** summarizes the product skimming and boom replacement activities. Disposal manifests for boom material disposal are provided in **Appendix C**.

4.0 AFVR EVENTS

Upon completion of abatement activities on August 28, 2018 ATC had recovered approximately 1,269 gallons of fuel from the subsurface beneath the store property. On December 17, 2018 ATC conducted an Aggressive Vapor Fluid Recovery (AFVR) event in the median of US Hwy 17 and recovered 266 gallons of fuel. As part of the work conducted to comply with the current directive, ATC conducted an additional 6 AFVR events. These events were conducted on January 25, 2019 in the median, February 19, 2019 in the median, March 4, 2019 on site, March 4, 2019 in the median, March 18, 2019 in the median, and April 8, 2019 in the median. To date, approximately 3503 gallons of fuel have been recovered from the subsurface associated with this release. A summary of all AFVR events conducted for this release is summarized in **Table 2**. Reports for each event along with the disposal manifests are provided in **Appendix D**. Based on the low recovery amount of Free Product from beneath the store property, no additional AFVR events are anticipated beneath the store property. Additional AFVR activities should continue in the median of US Hwy 17 based on the continued recovery success of Free Product at that location.

5.0 EXTENT OF FREE PRODUCT

Gauging events to assess the presence of Free Product were conducted on all monitoring and recovery wells associated with this release on February 26, 2019, March 11, 2019, and April 25, 2018. A summary table of all gauging dated collected since the Tier II Assessment is provided in **Table 3**. Data from the gauging events demonstrate the success of product removal from beneath the store property. It also indicates that additional product recovery will be needed in the median of Hwy 17.

Figure 2 illustrates the extent of Free Product using February 26, 2019 gauging data. Gauging data from April 25, 2019 was used to illustrate the extent of Free Product in **Figure 3**. Comparing these two figures, the total square footage of the Figure 3 plume is slightly smaller than the Figure 2 plume and the thickness of the plume is also reduced by approximately 0.46 foot in RW-6. It should also appears that the plume has not significantly migrated in that two month period.

6.0 SUMMARY

- Monitoring Wells 01589 MW-32, 01589 MW-33, 01589 MW-34, 01589 MW-35, 01589 MW-36, 01589 MW-37, and 01589 MW-38 were installed on February 12 and 13, 2019;
- Recovery Wells 01589 MW-7, 01589 MW-8, 01589 MW-9, 01589 MW-10, 01589 MW-11, and 01589 MW-12 were installed on February 12 and 13, 2019;
- Weekly observations of surface water and boom conditions were conducted with petroleum impacted surface water removal and boom replacements as needed;
- Six AFVR events conducted in 2019 removed approximately 2,234 gallons of fuel, with a cumulative total of approximately 3,503 gallons of fuel removed as part of this release response;
- Data provided by gauging events demonstrate a slight reduction in the size of the lateral extent of the product plume and a reduction in it thickness at its highest point. The plume also does not appear to be quickly moving in the subsurface. Gauging date also indicates that AFVR activities may not be required on the store property.

7.0 RECOMMENDATIONS

ATC recommends that a series of AFVR Events continue to be conducted at the median of US Hwy 17. Following the proposed AFVR events, a comprehensive groundwater sampling event including all monitoring wells, recovery wells and homeowner water supply wells should be conducted to monitor AFVR effectiveness and chemical of concern migration.

TABLES

Table 1
Boom Replacement and Surface Water Recovery Summary
(from ditch on west side of U.S. Highway 17)
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Date Began	Vacuum Surface Water	Surface Water Recovered (gallons)	Boom Replacement
12/8/2018	Y	500	Y
12/10/2018	N	0	N
12/14/2018	Y	1000	Y
12/17/2018	Y	1500	Y
12/19/2018	N	0	N
12/21/2018	N	0	N
1/8/2019	N	0	Y
1/18/2019	N	0	N
1/30/2019	N	0	Y
2/4/2019	N	0	N
2/7/2019	N	0	Y
2/14/2019	N	0	Y
2/21/2019	N	0	Y
2/22/2019	N	0	Y
2/28/2019	N	0	N
3/5/2019	N	0	Y
3/12/2019	N	0	Y
3/21/2019	N	0	Y

From 12/8/18 to 4/31/19 there have been 18 site visits to assess surface water and boom condition in the ditch on the west side of US Hwy 17. Boom replacements occurred 12 of the 18 site visits.
On 3 three occassions in the first half of December 2018, 2000 gallons of petroleum imacted ground water was vacuumed up and transported for disposal. Disposal manifests were provided in the Tier II report.

Table 2
Product Recovery Summary
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Date Began	AFVR Duration (hrs)	FP Recovered (gallons)	Cummulative gallons of FP recovered	AFVR Location
8/28/2018	*NA	1269	1,269	Store Property
12/17/218	96	266	1,535	Hwy 17 Median
1/25/2019	96	175	1,710	Hwy 17 Median
2/19/2019	96	149	1,859	Hwy 17 Median
3/4/2019	96	667	2,526	Hwy 17 Median
3/4/2019	48	25	2,551	Store Property
3/18/2019	96	949	3,500	Hwy 17 Median
4/8/2019	96	3	3,503	Store Property

* At end of abatement activities on 8/28/2018, the amount of FP recovered was approximately 1,269 gallons.

Gallons recovered are approximate.

Table 3
Groundwater Elevation Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-1	11/22/2018	21.62	2.0 - 12.0	12.0	NM	4.82	0	16.80
	2/26/2019				NM	4.30	0	17.32
	3/11/2019				NM	4.53	0	17.09
	4/25/2019				NM	5.24	0	16.38
01589 MW-2	11/22/2018	21.59	2.0 - 12.0	12.0	NM	4.93	0	16.66
	2/12/2019				NM	3.37	0	18.22
	2/26/2019				NM	3.83	0	17.76
	3/11/2019				NM	4.07	0	17.52
	4/25/2019				NM	4.99	0	16.60
01589 MW-3	11/22/2018	22.94	2.0 - 12.0	12.0	NM	5.47	0	17.47
	2/12/2019				NM	3.81	0	19.13
	2/26/2019				NM	4.29	0	18.65
	3/11/2019				NM	4.55	0	18.39
	4/25/2019				NM	5.31	0	17.63
01589 MW-4	11/22/2018	22.80	2.0 - 12.0	12.0	NM	4.70	0	18.10
	2/26/2019				NM	4.46	0	18.34
	3/11/2019				NM	4.67	0	18.13
	4/25/2019				NM	5.33	0	17.47
01589 MW-5	11/22/2018	23.57	2.0 - 12.0	12.0	NM	5.19	0	18.38
	2/26/2019				NM	4.46	0	19.11
	3/11/2019				NM	4.74	0	18.83
	4/25/2019				NM	5.41	0	18.16
01589 MW-6	11/22/2018	19.33	2.0 - 12.0	12.0	2.30	3.06	0.76	16.83
	2/12/2019				2.22	2.16	0.06	17.21
	2/26/2019				2.77	2.96	0.19	16.51
	3/11/2019				NM	3.02	0	16.31
	4/25/2019				3.66	3.72	0.06	15.61
01589 MW-7	11/22/2018	19.55	2.0 - 12.0	12.0	NM	2.98	0	16.57
	2/12/2019				NM	2.45	0	17.10
	2/26/2019				NM	2.84	0	16.71
	3/11/2019				NM	2.99	0	16.56
	4/25/2019				NM	3.61	0	15.94
01589 MW-8	11/22/2018	19.14	2.0 - 12.0	12.0	NM	3.05	0	16.09
	2/26/2019				NM	2.80	0	16.34
	3/11/2019				NM	2.93	0	16.21
	4/25/2019				NM	3.64	0	15.50
01589 MW-9	11/22/2018	16.50	2.0 - 12.0	12.0	NM	2.32	0	14.18
	2/26/2019				NM	2.77	0	13.73
	3/11/2019				NM	2.82	0	13.68
	4/25/2019				NM	3.33	0	13.17

Table 3
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Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-10	11/22/2018	17.63	2.0 - 12.0	12.0	NM	3.09	0	14.54
	2/26/2019				NM	3.04	0	14.59
	3/11/2019				NM	3.04	0	14.59
	4/25/2019				NM	3.61	0	14.02
01589 MW-11	11/22/2018	18.13	2.0 - 12.0	12.0	NM	2.85	0	15.28
	2/26/2019				NM	3.03	0	15.10
	3/11/2019				NM	3.09	0	15.04
	4/25/2019				NM	3.76	0	14.37
01589 MW-12	11/22/2018	21.38	2.0 - 12.0	12.0	NM	4.76	0	16.62
	2/12/2019				NM	3.70	0	17.68
	2/26/2019				NM	4.15	0	17.23
	3/11/2019				NM	4.36	0	17.02
	4/25/2019				NM	5.28	0	16.10
01589 MW-13	11/22/2018	20.48	2.0 - 12.0	12.0	NM	4.07	0	16.41
	2/12/2019				NM	3.11	0	17.37
	2/26/2019				NM	3.54	0	16.94
	3/11/2019				NM	3.71	0	16.77
	4/25/2019				NM	4.70	0	15.78
01589 MW-14	11/22/2018	23.45	2.0 - 12.0	12.0	NM	5.96	0	17.49
	2/26/2019				NM	4.60	0	18.85
	3/11/2019				NM	4.85	0	18.60
	4/25/2019				NM	5.92	0	17.53
01589 MW-15	11/22/2018	22.82	2.0 - 12.0	12.0	NM	5.48	0	17.34
	2/26/2019				NM	4.41	0	18.41
	3/11/2019				NM	4.89	0	17.93
	4/25/2019				NM	5.95	0	16.87
01589 MW-16	11/22/2018	21.18	2.0 - 12.0	12.0	NM	4.10	0	17.08
	2/12/2019				NM	2.89	0	18.29
	2/26/2019				NM	3.30	0	17.88
	3/11/2019				NM	3.59	0	17.59
	4/25/2019				NM	4.44	0	16.74
01589 MW-17	11/22/2018	20.96	2.0 - 12.0	12.0	NM	4.04	0	16.92
	2/26/2019				NM	3.40	0	17.56
	3/11/2019				NM	3.68	0	17.28
	4/25/2019				NM	4.75	0	16.21
01589 MW-18	11/22/2018	20.05	2.0 - 12.0	12.0	NM	3.86	0	16.19
	2/26/2019				NM	3.44	0	16.61
	3/11/2019				NM	3.56	0	16.49
	4/25/2019				NM	4.59	0	15.46

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Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-19	11/22/2018	19.82	2.0 - 12.0	12.0	NM	3.71	0	16.11
	2/26/2019				NM	2.74	0	17.08
	3/11/2019				NM	2.70	0	17.12
	4/25/2019				NM	4.71	0	15.11
01589 MW-20	11/22/2018	18.53	2.0 - 12.0	12.0	NM	2.71	0	15.82
	2/26/2019				NM	2.60	0	15.93
	3/11/2019				NM	2.76	0	15.77
	4/25/2019				NM	3.74	0	14.79
01589 MW-21	11/22/2018	16.16	2.0 - 12.0	12.0	NM	1.34	0	14.82
	2/26/2019				NM	0.00	0	16.16
	3/11/2019				NM	0.99	0	15.17
	4/25/2019				NM	1.24	0	14.92
01589 MW-22	11/22/2018	18.79	2.0 - 12.0	12.0	NM	3.96	0	14.83
	2/26/2019				NM	3.97	0	14.82
	3/11/2019				NM	4.10	0	14.69
	4/25/2019				NM	5.03	0	13.76
01589 MW-23	11/22/2018	22.36	5.0 - 15.0	15.0	NM	7.61	0	14.75
	2/26/2019				NM	7.33	0	15.03
	3/11/2019				NM	7.49	0	14.87
	4/25/2019				NM	8.50	0	13.86
01589 MW-24	11/22/2018	22.50	5.0 - 15.0	15.0	NM	6.96	0	15.54
	2/12/2019				NM	6.46	0	16.04
	2/26/2019				NM	6.81	0	15.69
	3/11/2019				NM	6.99	0	15.51
	4/25/2019				NM	7.97	0	14.53
01589 MW-25	11/22/2018	16.46	2.0 - 12.0	12.0	NM	0.22	0	16.24
	2/26/2019				NM	1.37	0	15.09
	3/11/2019				NM	1.24	0	15.22
	4/25/2019				NM	1.90	0	14.56
01589 MW-26	11/22/2018	21.36	5.0 - 15.0	15.0	NM	6.96	0	14.40
	2/26/2019				NM	6.96	0	14.40
	3/11/2019				NM	7.15	0	14.21
	4/25/2019				NM	8.37	0	12.99
01589 MW-27	11/22/2018	20.77	5.0 - 15.0	15.0	NM	6.97	0	13.80
	2/26/2019				NM	7.31	0	13.46
	3/11/2019				NM	7.44	0	13.33
	4/25/2019				NM	8.31	0	12.46

Table 3
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Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-28	11/22/2018	18.18	2.0 - 12.0	12.0	NM	5.02	0	13.16
	2/26/2019				NM	4.93	0	13.25
	3/11/2019				NM	5.01	0	13.17
	4/25/2019				NM	5.69	0	12.49
01589 MW-29	11/22/2018	22.35	5.0 - 15.0	15.0	NM	7.01	0	15.34
	2/26/2019				NM	6.68	0	15.67
	3/11/2019				NM	6.84	0	15.51
	4/25/2019				NM	4.93	0	17.42
01589 MW-30	11/22/2018	18.06	2.0 - 12.0	12.0	NM	3.27	0	14.79
	2/26/2019				NM	3.30	0	14.76
	3/11/2019				NM	3.44	0	14.62
	4/25/2019				NM	4.38	0	13.68
01589 MW-31	11/22/2018	23.28	2.0 - 12.0	12.0	NM	7.64	0	15.64
	2/26/2019				NM	7.58	0	15.70
	3/11/2019				NM	7.69	0	15.59
	4/25/2019				NM	8.55	0	14.73
01589 MW-32	2/26/2019	22.80	3.0-13.0	13.0	NM	4.64	0	18.16
	3/11/2019				NM	4.97	0	17.83
	4/25/2019				NM	5.59	0	17.21
01589 MW-33	2/26/2019	22.26	3.0-13.0	13.0	NM	4.30	0	17.96
	3/11/2019				NM	4.54	0	17.72
	4/25/2019				NM	5.46	0	16.80
01589 MW-34	2/26/2019	26.56	3.0-13.0	13.0	NM	8.08	0	18.48
	3/11/2019				NM	8.35	0	18.21
	4/25/2019				NM	9.43	0	17.13
01589 MW-35	2/26/2019	25.15	3.0-13.0	13.0	NM	6.85	0	18.30
	3/11/2019				NM	7.11	0	18.04
	4/25/2019				NM	8.33	0	16.82
01589 MW-36	2/26/2019	19.00	3.0-13.0	13.0	NM	2.60	0	16.40
	3/11/2019				NM	2.76	0	16.24
	4/25/2019				NM	3.66	0	15.34
01589 MW-37	2/26/2019	23.01	3.0-13.0	13.0	NM	8.31	0	14.70
	3/11/2019				NM	8.51	0	14.50
	4/25/2019				NM	9.72	0	13.29
01589 MW-38	2/26/2019	23.25	3.0-13.0	13.0	NM	8.19	0	15.06
	3/11/2019				NM	8.36	0	14.89
	3/11/2019				NM	9.50	0	13.75

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Circle K 2720886
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Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 DMW-1	11/22/2018	21.84	34.0 - 39.0	39.0	NM	5.11	0	16.73
	2/26/2019				NM	4.87	0	16.97
	3/11/2019				NM	4.94	0	16.90
	4/25/2019				NM	5.81	0	16.03
01589 DMW-2	11/22/2018	18.81	34.0 - 39.0	39.0	NM	8.25	0	10.56
	2/26/2019				NM	3.81	0	15.00
	3/11/2019				NM	3.89	0	14.92
	4/25/2019				NM	4.91	0	13.90
01589 DMW-3	11/22/2018	23.33	35.0 - 40.0	40.0	NM	3.65	0	19.68
	2/26/2019				NM	8.20	0	15.13
	3/11/2019				NM	8.34	0	14.99
	4/25/2019				NM	9.13	0	14.20
01589 RW-1	11/22/2018	21.63	2.0 - 12.0	12.0	NM	4.68	0	16.95
	2/26/2019				4.01	4.71	0.70	17.44
	3/11/2019				NM	4.43	0	17.20
	4/25/2019				NM	5.15	0	16.48
01589 RW-2	11/22/2018	21.51	2.0 - 12.0	12.0	NM	4.28	0	17.23
	2/26/2019				3.91	3.95	0.04	17.59
	3/11/2019				4.2	4.24	0.04	17.30
	4/25/2019				NM	4.69	0	16.82
01589 RW-3	11/22/2018	21.95	2.0 - 12.0	12.0	NM	4.60	0	17.35
	2/26/2019				NM	4.36	0	17.59
	3/11/2019				NM	4.58	0	17.37
	4/25/2019				NM	5.14	0	16.81
01589 RW-4	11/22/2018	21.80	2.0 - 12.0	12.0	NM	3.91	0	17.89
	2/26/2019				NM	3.70	0	18.10
	3/11/2019				NM	3.88	0	17.92
	4/25/2019				NM	4.49	0	17.31
01589 RW-5	11/22/2018	19.76	2.0 - 12.0	12.0	2.80	3.16	0.36	16.87
	2/26/2019				2.52	3.11	0.59	17.09
	3/11/2019				2.76	3.31	0.55	16.86
	4/25/2019				3.25	5.02	1.77	16.05
01589 RW-6	11/22/2018	19.20	2.0 - 12.0	12.0	3.11	4.42	1.31	15.75
	2/26/2019				1.91	4.09	2.18	16.72
	3/11/2019				2.52	2.98	0.46	16.56
	4/25/2019				2.95	4.67	1.72	15.80
01589 RW-7	2/26/2019	21.53	3.0-13.0	13.0	NM	4.40	0	17.13
	3/11/2019				NM	4.66	0	16.87
	4/25/2019				NM	5.37	0	16.16

Table 3
Groundwater Elevation Data
Circle K 2720886
4315 Savannah Highway
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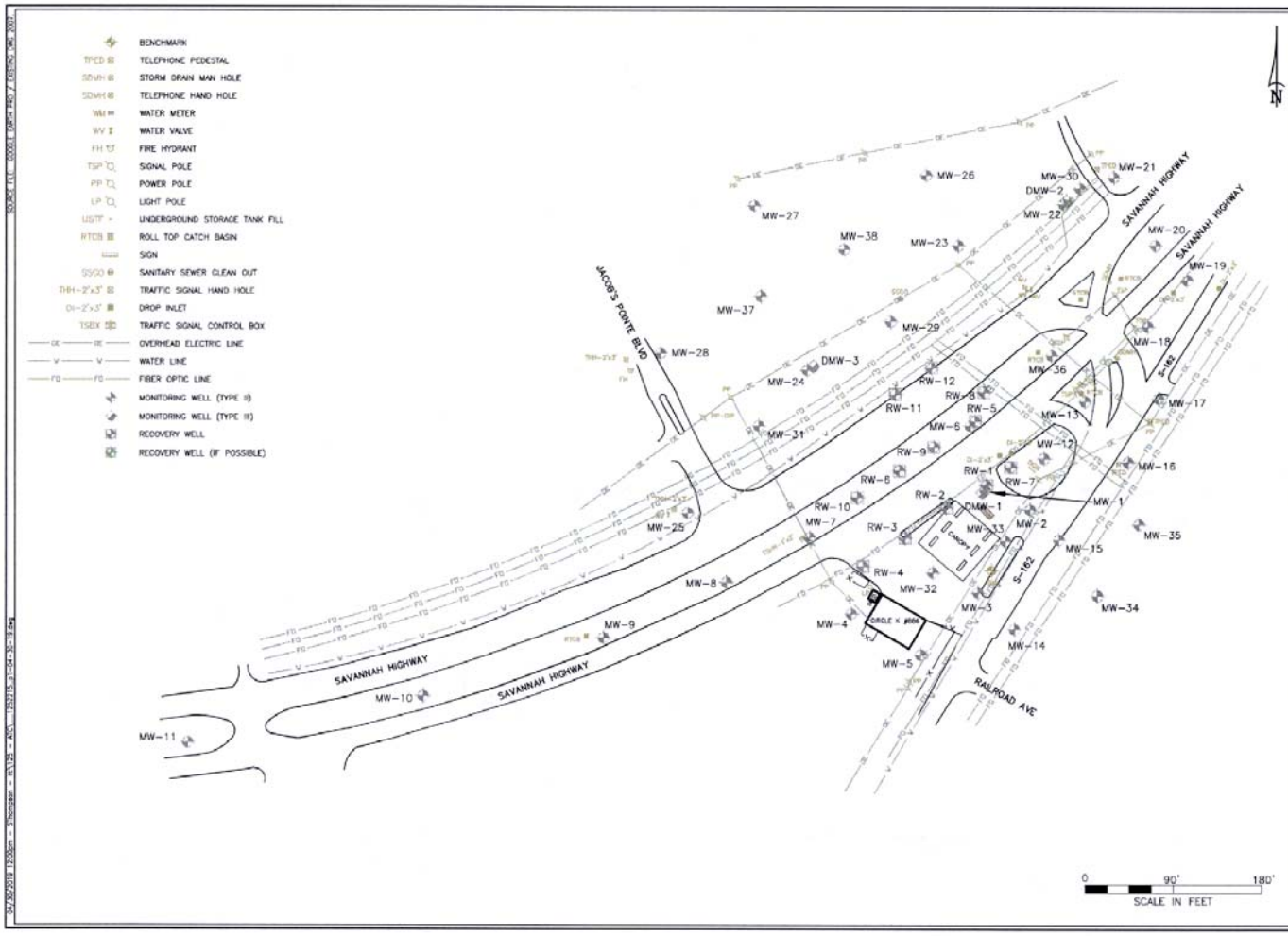
Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 RW-8	2/26/2019	18.67	3.0-13.0	13.0	2.30	2.31	0.01	16.37
	3/11/2019				2.47	2.48	0.01	16.20
	4/25/2019				3.25	4.36	1.11	15.13
01589 RW-9	2/26/2019	19.36	3.0-13.0	13.0	2.90	3.14	0.24	16.40
	3/11/2019				3.11	3.21	0.10	16.22
	4/25/2019				3.42	5.15	1.73	15.49
01589 RW-10	2/26/2019	17.00	3.0-13.0	13.0	2.00	3.99	1.99	14.48
	3/11/2019				2.28	2.61	0.33	14.63
	4/25/2019				3.00	4.57	1.57	13.59
01589 RW-11	2/26/2019	17.49	1.0-6.0	6.0	1.39	1.80	0.41	15.99
	3/11/2019				NM	NM	0.50	NM
	4/25/2019				NM*	NM*	1.3*	NM
01589 RW-12	2/26/2019	17.05	1.0-6.0	6.0	NM	1.09	0	15.96
	3/11/2019				NM	1.19	0	15.86
	4/25/2019				NM	2.06	0	14.99

FIGURES



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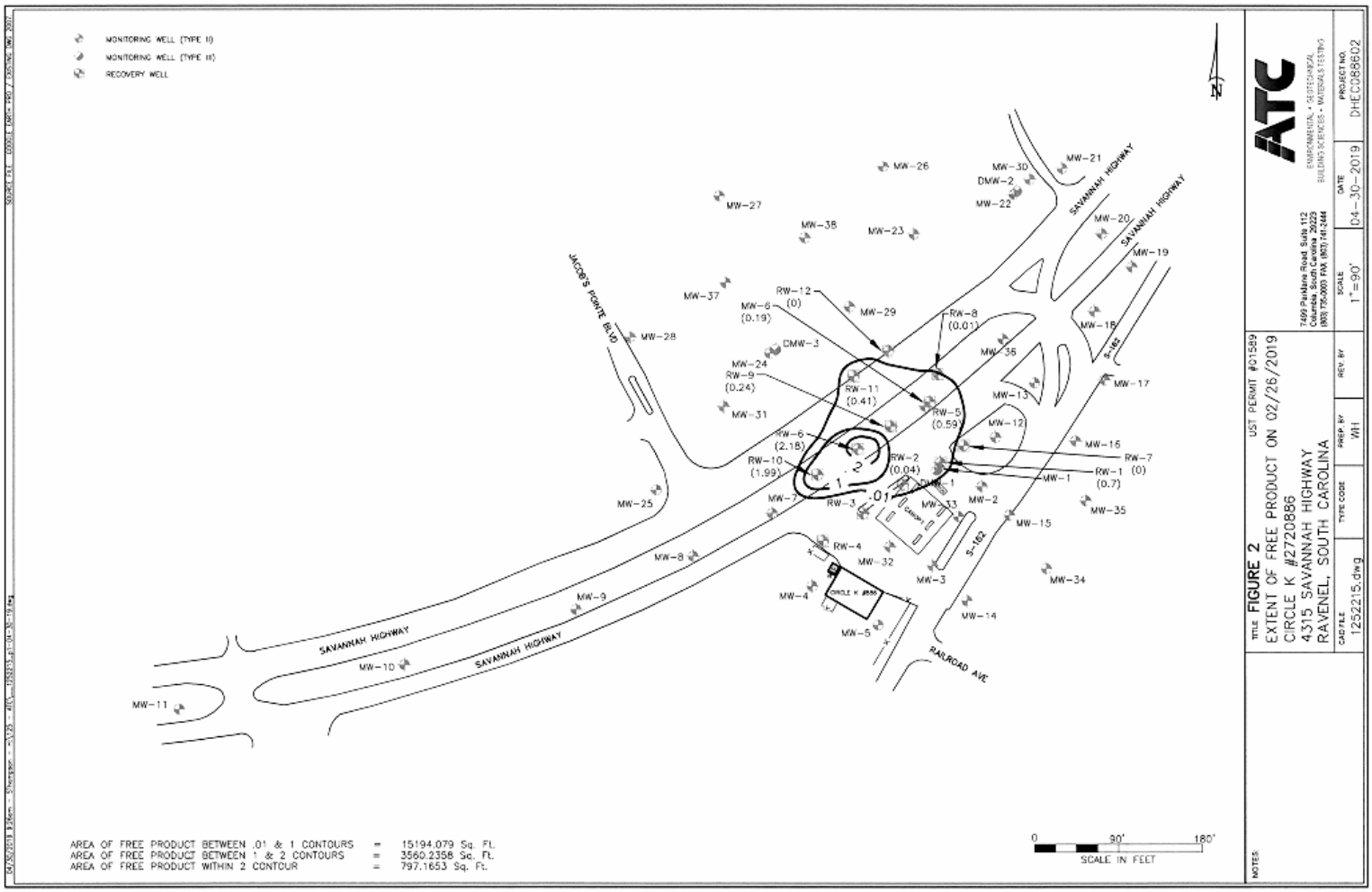
SCALE	DATE	PROJECT NO.
1"=90'	04-30-2019	DHEC06860 2

UST PERMIT #01589

TITLE **FIGURE 1**
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

CAD FILE	TYPE CODE	PREP BY	REV BY
1252215.dwg		WH	

NOTES:



AREA OF FREE PRODUCT BETWEEN .01 & 1 CONTOURS = 15194.079 Sq. Ft.
AREA OF FREE PRODUCT BETWEEN 1 & 2 CONTOURS = 3560.2358 Sq. Ft.
AREA OF FREE PRODUCT WITHIN 2 CONTOUR = 797.1653 Sq. Ft.

NOTES:

TITLE **FIGURE 2**
EXTENT OF FREE PRODUCT ON 02/26/2019
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

UST PERMIT #01589

CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		WH		1"=90'	04-30-2019	DHEC088602

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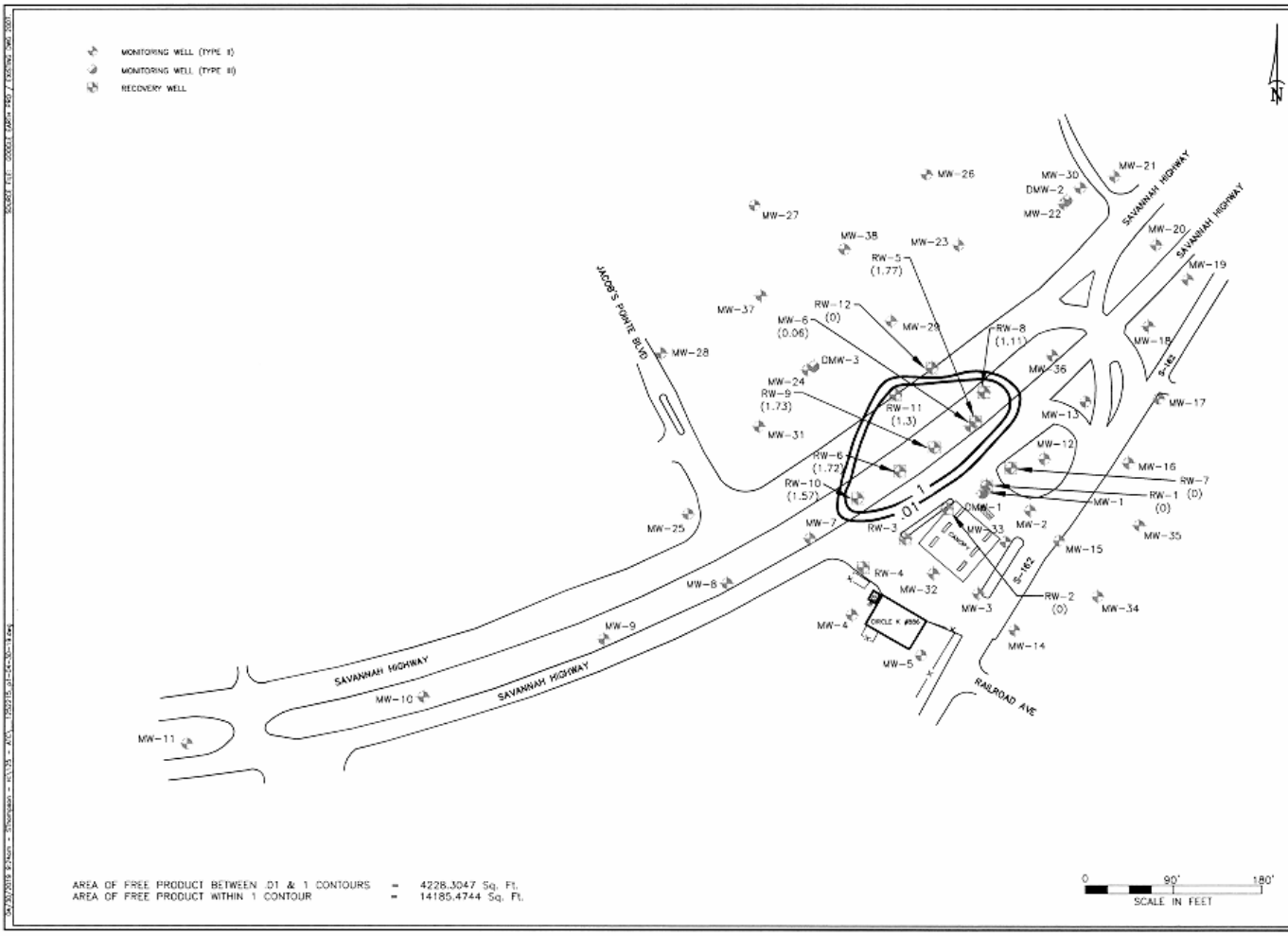

AREA OF FREE PRODUCT BETWEEN .01 & 1 CONTOURS = 4228.3047 Sq. Ft.
AREA OF FREE PRODUCT WITHIN 1 CONTOUR = 14185.4744 Sq. Ft.

NOTES:

TITLE: **FIGURE 3**
EXTENT OF FREE PRODUCT ON 04/25/2019
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

UST PERMIT #01589

CAD FILE	TYPE CODE	PREP BY	REV. BY	SCALE	DATE	PROJECT NO
1252215.dwg		WH		1"=90'	04-30-2019	DHEC088802

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APPENDIX A
SCDHEC Notice to Proceed

Healthy People. Healthy Communities.

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT
SUITE 100
RALEIGH NC 27606

Re: **Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Directive**
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589; CA #58799; UMW-#27349
Release reported August 2, 2018
Site-Specific Work Plan received January 11, 2019
Charleston County

Dear Ms. Carl:

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 ATC Group Services, LLC. All work should be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), your contractors SSWP and 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 at http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

The AFVR events, product skimming, and recovery & monitoring well installation should begin immediately upon receipt of this letter. Cost agreement #58799 has been approved for the amount shown on the enclosed cost agreement form. **The Contractor must provide the UST Project Manager with a Project Status Report on a weekly basis via e-mail or notify the UST Project Manager 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.**

The AFVR, product skimming, and recovery & monitoring well installation report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the Division within ninety (90) days of the date of this correspondence. The report submitted at the completion of these activities should include the required information outlined in the UST QAPP.

The following revisions have been made to the approved cost agreement:

- Item4A1 Equipment Mob/Demob has been reduced from 3 to 2. No Soil Borings or Field Screening is required for the scope of work.
- Item4B1 Personnel Mob/Demob has been increased from 7 to 9. Personnel Mob/Demob for Soil Boring/Field Screening and Miscellaneous (3x) have been removed. 6 Personnel Mob/Demob have been added for weekly product skimming.
- Item9B1 Water Table Well Installation has been reduced from 96 to 84 for 7 monitoring wells to be installed to a depth of 12 feet.
- Item23F1 Effluent Disposal (AFVR) has been increased from 80000 to 100000 for disposal costs of product skimming.
- Item23G AFVR Mob/Demob has been increased from 5 to 11 for weekly product skimming. (6 weeks)

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 Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Division is obtained. 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 an 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. 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 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 #01589. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 898-0610, fax me at (803) 898-0673, or e-mail me at heinzecw@dhec.sc.gov.

Sincerely,

Cody Heinze, Hydrogeologist
Corrective Action & Field Support Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement (ACA)
Monitoring Well Approval (MWA)

cc: ATC Group Services, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223 (w/enc.)
Technical file (w/enc.)

APPENDIX B
Boring Logs, 1903 Forms, and Disposal Manifests

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-32
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	**SAND, tan, medium dense, fine grained, subangular,**
					3.0	**poorly graded, moist, strong petroleum odors**
					3.5	
					4.0	
					4.5	
					5.0	**becomes wet**
					5.5	
					6.0	**SAND, olive and tan, fine grained, sibangular, poorly**
					6.5	**graded, wet**
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

* -Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
SCREEN

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-33
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	SAND, tan and black, medium dense, fine grained,
					3.0	poorly graded, dry, strong petroleum odors
					3.5	
					4.0	SAND, olive and tan, fine grained, sibangular, poorly
					4.5	graded, wet
					5.0	
					5.5	
					6.0	SAND, olive and tan, fine grained, sibangular, poorly
					6.5	graded, wet
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
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SAMPLING METHODS
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GROUT
BENTONITE
SAND
SCREEN

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-34
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	SAND, tan and brown, medium dense, fine grained,
					3.0	subangular, poorly graded, dry, no petroleum odors
					3.5	
					4.0	
					4.5	
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	SAND, light tan, fine grained, sibangular, poorly
					10.0	graded, wet
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	Stickup well
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-35
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ½" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	**SAND, tan and brown, medium dense, fine grained,**
					3.0	**subangular, poorly graded, dry, no petroleum odors**
					3.5	
					4.0	
					4.5	
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	**SAND, light tan, fine grained, sibangular, poorly**
					10.0	**graded, wet**
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	**Stickup well**
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-36
PROJECT NO.:	CHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	**SAND, tan and brown, medium dense, fine grained,**
					3.0	**subangular, poorly graded, moist**
					3.5	
					4.0	**SAND, light tan, medium dense, fine grained,**
					4.5	**subangular, poorly graded, moist**
					5.0	**becomes wet**
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-37
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/13/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	**Sandy CLAY, tan and brown, soft, fine grained,**
					3.0	**subangular, poorly graded, dry, no petroleum odors**
					3.5	
					4.0	
					4.5	
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	**SAND, tan, some Clay, fine grained, poorly graded,**
					7.5	**wet**
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	**Stickup well**
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

* -Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
SCREEN

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

7499 Parklane Road, Unit 112
Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 MW-38
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/13/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4316 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12.0' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot bgs to 1.0 foot bgs)
					2.5	**Sandy CLAY, tan and brown, soft, fine grained,**
					3.0	**subangular, poorly graded, dry, no petroleum odors**
					3.5	
					4.0	
					4.5	
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	**SAND, tan, some Clay, fine grained, poorly graded,**
					7.5	**wet**
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2 feet bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	**Stickup well**
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
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MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

* -Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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GRAPHIC COLUMN
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ENVIRONMENTAL - GEOTECHNICAL
BUILDING SCIENCES - MATERIALS TESTING

7499 Parklane Road, Unit 112
Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-7
PROJECT NO.:	DHEC088502	DATE DRILLED:	2/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot to 1.0 foot bgs)
					2.5	
					3.0	**SAND, tan, medium dense, fine grained, subangular,**
					3.5	**poorly graded**
					4.0	
					4.5	
					5.0	**becomes wet, strong hydrocarbon odor**
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2.0 foot bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
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HA - HAND AUGER
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MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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GRAPHIC COLUMN
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BUILDING SCIENCES • MATERIALS TESTING

7499 Parklane Road, Unit 112
Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-8
PROJECT NO.:	DHEC088802	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot to 1.0 foot bgs)
					2.5	
					3.0	**SAND, tan, medium dense, fine grained, subangular,**
					3.5	**poorly graded**
					4.0	
					4.5	**becomes wet, strong hydrocarbon odor**
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2.0 foot bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
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MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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GRAPHIC COLUMN
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BUILDING SCIENCES • MATERIALS TESTING

7499 Parklane Road, Unit 112
Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-9
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot to 1.0 foot bgs)
					2.5	
					3.0	**SAND, tan, medium dense, fine grained, subangular,**
					3.5	**poorly graded**
					4.0	
					4.5	**becomes wet, strong hydrocarbon odor**
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2.0 foot bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
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Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-10
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/12/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Hollow Stem Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(1.0 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(2.0 foot to 1.0 foot bgs)
					2.5	
					3.0	**SAND, tan, medium dense, fine grained, subangular,**
					3.5	**poorly graded**
					4.0	
					4.5	**becomes wet, strong hydrocarbon odor**
					5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	#2 filter sand
					11.0	(13 feet bgs to 2.0 foot bgs)
					11.5	
					12.0	
					12.5	
					13.0	boring terminated at 13 feet bgs
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
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Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-11
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/13/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Manual Hand Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	Topsoil
					1.0	(0.5 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(1.0 foot to 0.5 foot bgs)
					2.5	
					3.0	
					3.5	
					4.0	#2 filter sand
					4.5	(6.0 feet bgs to 1.0 foot bgs)
					5.0	
					5.5	
					6.0	boring terminated at 6 feet bgs
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
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HA - HAND AUGER
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RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
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SCREEN

ATC
ENVIRONMENTAL - GEOTECHNICAL
BUILDING SCIENCES - MATERIALS TESTING

7499 Parklane Road, Unit 112
Columbia, SC 29223

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 RW-12
PROJECT NO.:	DHEC088602	DATE DRILLED:	02/13/2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	VERCO
		DRILL METHOD:	Manual Hand Auger
	4315 Savannah Highway, Ravenel, SC	BORING DIAMETER:	8 ¼" O.D.
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	12' btoc
LOGGED BY:	Jesse Keeffe	STATIC DTW >24 hours:	~5'

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	Topsoil
					1.0	(0.5 foot bgs to surface)
					1.5	3/8" hydrated bentonite chips
					2.0	(1.0 foot to 0.5 foot bgs)
					2.5	
					3.0	
					3.5	
					4.0	#2 filter sand
					4.5	(6.0 feet bgs to 1.0 foot bgs)
					5.0	
					5.5	
					6.0	boring terminated at 6 feet bgs
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
					10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	

DRILLING METHODS
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Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
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7499 Parklane Road, Unit 112
Columbia, SC 29223

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-32

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-33

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi **CERT. NO.:** 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-34

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 3 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi **CERT. NO.:** 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-35

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 3 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (08/2017) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc.
(last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-36

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-37

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 3 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi **CERT. NO.:** 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (08/2017) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** MW-38

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 3 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (08/2017) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-7

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-8

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-9

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-10

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	13	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 13 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 2 ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 1 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-11

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	6	6
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 2/12/19
6 ft. Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 1 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 5'
Set Between: 1 ft. and 6 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 1 ft. to 6 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.5 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi CERT. NO.: 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Circle K Stores, Inc. (last) (first)
Address: 1100 Situs Court, Suite 100
City: Raleigh State: NC Zip: 27606
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Hwy
City: Ravenel Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 01589 **PUBLIC SYSTEM NUMBER:** RW-12

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See Geologist's Log	6	6
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST#01589

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 6 ft. Date Started: 2/12/19 Date Completed: 2/13/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 1 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.010 Length: 5'
Set Between: 1 ft. and 6 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 1 ft. to 6 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.5 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ 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: Jason Chiorazzi **CERT. NO.:** 1790
Address: (Print) 2047 Industrial Blvd, Lexington, SC 29072
Level: A B C D (circle one)
Telephone No.: 8034295001 Fax No.:

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: _____ Date: 3/4/19
Well Driller

If D Level Driller, provide supervising driller's name:

INBOUND
08:49 AM Feb/14/2019
ID:12183
17180 lb

OUTBOUND
09:02 AM Feb/14/2019
ID:12183
17180 lb G
14940 lb PT
2240 lb N

regulatory solutions, inc.

CUSTOMER NAME: _____

GENERATOR: Verco

TRUCK/CONTAINER #: _____

MANIFEST#: 28543

WEIGHER (INITIALS): MJG

12183

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 803-926-0089	4. Waste Tracking Number 28543

GENERATOR

5. Generator's Name and Mailing Address

VERCO
2047 Industrial Blvd.
Lexington, SC 29072-

Generator's Phone: 803-429-5001

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Regulatory Solutions, Inc — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address — U.S. EPA ID Number:

Regulatory Solutions, Inc.
40 Pascon Court
Gaston, SC 29053-

Facility's Phone: 803-926-0089

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-RCRA, NOT DOT REGULATED MATERIAL 10658 - 1038	1	DM	450	P	
2.	NON-RCRA, NOT DOT REGULATED MATERIAL 10658 - 1040	4	DM	450	P	
3.						
4.						

13. Special Handling Instructions and Additional Information

ATC Ravenel, SC Pantry

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Elvin Noe Fajardo — Signature: [signature] — Month 2 Day 14 Year 19

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Elvin Noe Fajardo — Signature: [signature] — Month 2 Day 14 Year 19

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Harriet Gilkerson — Signature: [signature] — Month 2 Day 14 Year 19

APPENDIX C
Boom Disposal Manifests

Jan 2019

MER

Job #: 18SCMa0033 - ATC - Friday 1/18/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886
				4315 Savannah Highway
Customer PO/WO		Notes	Phase	Ravenel, SC 29470

Scope of Work

December Mobilization: MER has been activated to provide vac truck, operator, transportation and disposal to support investigation of fuel emerging from road surface on Highway 17 South. Change 4 x 10" sections of sorbent boom. Relocate barricades and cones to rear of store. Load and relocate 7 ea sheets of 3/4 inch plywood to 2668 Spruill Ave.

Additional Site Information

Start Time **10:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **10:30 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **3:00 PM**				
End Time: **3:30 PM**				

Services Performed

- 10:00 AM Arrive at shop to load truck with drums, boom and trash bags
- 10:30 AM Arrive at the job site to check in on sausage boom locations to see if boom needed to be replaced
- 12:00 PM Left the job site
- 3:00 PM Arrived back at shop to unload truck

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Christopher Amoroso				0		No		
Technician	Unassigned				0				
Technician	Chad Welsh	10:00 AM	3:30 PM	0	5.5		Yes	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Stake bed w/liftgate	CR	213	1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

No

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Wednesday 1/30/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886 4315 Savannah Highway
Customer PO/WO		Notes	Phase	Ravenel, SC 29470

Scope of Work

December Mobilization: MER has been activated to provide vac truck, operator, transportation and disposal to support investigation of fuel emerging from road surface on Highway 17 South. Change 4 x 10" sections of sorbent boom. Relocate barricades and cones to rear of store. Load and relocate 7 ea. sheets of 3/4 inch plywood to 2668 Spruill Ave

Additional Site Information

Start Time: **9:30 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **10:15 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **2:40 PM**				
End Time: **3:30 PM**				

Services Performed

- 9:30 AM Arrived at the shop / load up booms and hand tools
- 9:43 AM Depart from the shop
- 10:15 AM Arrived at job site / fill out JSA
- 10:30 AM Begin to remove used oily booms/ removing leaves and trash from oily Water from out of the ditch
- 2:40 PM Depart from job site
- 3:20 PM Arrived at the shop/ offload 3-55gallon drums and hand tools
- 3:30 PM Job ended for today

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Mack Jones	9:30 AM	3:30 PM	0	6		No		
Technician	Chad Welsh	9:30 AM	3:30 PM	0	6		No		

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Crew Vehicle	CU	206	1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Booms	NB	6	No
55 gallon reconditioned steel drums	OA	3	No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Monday 2/4/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886
				4315 Savannah Highway
Customer PO/WO		Notes	Phase	Ravenel, SC 29470

Scope of Work

December Mobilization: MER has been activated to provide vac truck, operator, transportation and disposal to support investigation of fuel emerging from road surface on Highway 17 South. Change 4 x 10" sections of sorbent boom. Relocate barricades and cones to rear of store. Load and relocate 7 ea sheets of 3/4 inch plywood to 2668 Spruill Ave.

Additional Site Information

Start Time: **9:30 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **10:15 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **2:40 PM**				
End Time: **3:30 PM**				

Services Performed

- 7:00 AM Arrived at shop. Began my pretrip on rack truck
- 7:30 AM Started to load 3 drums on the truck.
- 7:50 AM Left shop to head to landfill.
- 8:30 AM Arrived at the landfill Waiting in line.
- 9:30 AM Drums offloaded and heading back
- 10:31 AM Arrived back at shop Heavy traffic. Began to wash the mud off the truck
- 11:00 AM Truck is clean and job is complete.

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Daniel Vacari				0		No		
Technician	Doug Brown	7:00 AM	11:00 AM		4		Yes		

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Utility/Crew Truck	1xxx	290	0.5 day	1 day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Subcontractors	Service				PO #	Actual	Plan
Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub
Safety Protocols	Level	Respirator	Confined Space Entry	Other			

Open Items/Job Notes

Job Complete

No

Customer Signature

18SC MA0033

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. — Manifest Doc No.

2. Page 1 of

3. Generator's Mailing Address:
CIRCLE K #886
4315 SAVANNAH HIGHWAY
RAVENEL, SC 29470

Generator's Site Address (if different than mailing)

A. Manifest Number

4. Generator's Phone 803-608-1635

B. State Generator's ID

5. Transporter 1 Company Name
Mann Environmental

6. US EPA ID Number

C. State Transporter's ID

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone

9. Designated Facility Name and Site Address
OAKRIDGE LANDFILL, INC.
2183 HIGHWAY 78
DORCHESTER, SC 29437

10. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

G. State Facility ID 182400 1101

H. State Facility Phone 843-563-4587

GENERATOR

11. Description of Waste Materials

	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. NON-HAZARDOUS, NON-REGULATED SOIL & SORBENTS — WM Profile # 6100235C	~~2~~ 007				
b. — WM Profile #					
c. — WM Profile # 962968					.25
d. — WM Profile #					

J. Additional Descriptions for Materials Listed Above

K. Disposal Location
Cell
Grid
Level

15. Special Handling Instructions and Additional Information
CHARLESTON COUNTY

Purchase Order #

EMERGENCY CONTACT / PHONE NO.:

16. GENERATOR'S CERTIFICATE:
I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name Fred Lyke for ATC — Signature "On behalf of" Circle K Stores — Month 12 Day 17 Year 2018

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed Name MARK BROWN — Signature — Month 2 Day 4 Year 19

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed Name — Signature — Month Day Year

FACILITY

19. Certificate of Final Treatment/Disposal
I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.
Printed Name — Signature — Month 2 Day 4 Year 19

Feb 2019

MER

Job #: 18SCMa0033 - ATC - Thursday 2/7/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

December Mobilization: MER has been activated to provide vac truck, operator, transportation and disposal to support investigation of fuel emerging from road surface on Highway 17 South. Change 4 x 10" sections of sorbent boom. Relocate barricades and cones to rear of store. Load and relocate 7 ea. sheets of 3/4 inch plywood to 2668 Spruill Ave.

Additional Site Information

Start Time: **7:30 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **8:30 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **11:17 AM**				
End Time: **12:30 PM**				

Services Performed

7:30 AM	Load up supplies/tools
7:41 AM	Depart from the shop
8:30 AM	Arrived at the job site
8:39 AM	Safety meeting/ fill out JSA
8:50 AM	Perform job scope
11:17 AM	Depart from job site
12:10 PM	Arrive at the shop / offload crew truck
12:30 PM	Job ended for today

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Mack Jones	7:30 AM	12:30 PM	0	5		No		
Technician	Mark Brown	7:30 AM	12:30 PM	0	5		Yes		

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Crew Vehicle	CU	206	1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
PVC Gloves	MO		2		No
Absorbent Booms	NC		5		No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

No

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Thursday 2/14/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **8:30 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **10:00 AM**				
End Time: **12:00 PM**				

Services Performed

8:00 AM	Arrive to shop yard, pre trip crew truck, load needed supplies
8:30 AM	Arrive onsite, tailgate safety meeting, replace boom with fresh boom and load onto crew truck
10:00 AM	Head to waste management for disposal
11:00 AM	Weigh in at WM unload drums and haul to MER shop
12:00 PM	Unload unused supplies and post trip crew vehicle

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Michael Hess	8:00 AM	12:00 PM	0	4		No		
Technician	Doug Brown	8:00 AM	12:00 PM	0	4		Yes		

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Crew Vehicle	CU	213	1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
55-Gal (Steel) Drums - Reconditioned 17H	OA	Each	2		No
Absorbent Booms 5' dia. x 10" (4 ct)	NC	Bale	2		No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

Dorchester Landfill
2183 Highway 78
Dorchester, SC, 29437

Original
Ticket# 964728

Ph: (843) 563-2607

Customer Name MORANENVIRONMEN MORAN EN Carrier MORANENVIRONMEN MORAN ENVIRONMENTAL
Ticket Date 02/14/2019
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 610023sc
Profile 610023SC (NON-HAZARDOUS, NON-REGULATED SOIL)
Generator 126-CIRCLEK886 CIRCLE K #886
PO# MA000072

Vehicle# 214
Container
Driver
Check#
Billing# 0000233
Grid

	Time	Scale	Operator	Inbound		
In	02/14/2019 10:15:24	Scale1	ALloyd		Gross	10220 lb
Out	02/14/2019 10:30:38	Scale2	ALloyd		Tare	10040 lb
					Net	180 lb
					Tons	0.09

Comments

Product	LD%	Qty	UOM	Rate	Tax/Fee Amount	Origin
1 NON-HAZARDOUS, NON-REGUL	100	0.09	Tons			10-
CHARLES						
2 EVT-P-Standard Environme	100		%			10-
CHARLES						
3 FUEL-Fuel Surcharge - La	100		%			10-
CHARLES						
4 RCR-P-Regulatory Cost Re	100		%			10-
CHARLES						

Total Tax/Fees
Total Ticket

Driver's Signature

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. | Manifest Doc. No. | 2. Page 1 of

A. Manifest Number

3. Generator's Mailing Address:
CIRCLE K #886
4315 SAVANNAH HIGHWAY
RAVENEL, SC 29470

Generator's Site Address (if different than mailing):

B. State Generator's ID

4. Generator's Phone 803-608-1635

5. Transporter 1 Company Name
MER

6. US EPA ID Number

C. State Transporter's ID
D. Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
OAKRIDGE LANDFILL, INC.
2183 HIGHWAY 78
DORCHESTER, SC 29437

10. US EPA ID Number

G. State Facility ID 182400-1101
H. State Facility Phone 843-563-4587

GENERATOR

11. Description of Waste Materials	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a NON-HAZARDOUS, NON-REGULATED SOIL & SORBENTS WM Profile # 610023SC	002 2	50gal Drums	2		
b. WM Profile #					
c. WM Profile # 964728					.09
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above

[redacted]

K. Disposal Location

Cell		Level	
Grid			

15. Special Handling Instructions and Additional Information
CHARLESTON COUNTY

Purchase Order # | EMERGENCY CONTACT / PHONE NO.:

16. GENERATOR'S CERTIFICATE:
I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name	Signature "On behalf of"	Month	Day	Year
Fred Lyke for RTC	Circle K Stores	12	17	2018

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
X Doug Brown	[signature]	2	14	19

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

19. Certificate of Final Treatment/Disposal
I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.

Printed Name	Signature	Month	Day	Year
[signature]	[signature]	2	14	19

MER

Job #: 18SCMa0033 - ATC - Thursday 2/21/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **10:00 AM**				
End Time: **12:00 PM**				

Services Performed

8:00 AM	Arrive at shop load up materials needed for job.
8:30 AM	Leave shop
9:00 AM	Arrive on site. Begin looking at areas where boom has been placed. Saw that there were no boom needed to be replaced today.
9:30 AM	Left site.
10:00 AM	Arrive at shop. End time.

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Patrick Lovick	8:00 AM	10:00 AM	0	2		No		
Technician	Doug brown	8:00 AM	10:00 AM	0	2		Yes		Yes

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Utility/Crew Truck	1xxx	1000	1 day	1 day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Friday 2/22/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886
Customer PO/WO		Notes	Phase	4315 Savannah Highway
				Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **10:00 AM**				
End Time: **12:00 PM**				

Services Performed

2:30 PM	Arrived at shop began preparation
3:00 PM	Departed shop for MER Charleston Resource center
3:15 PM	Arrived at MER Charleston Resource Center and collected pads, etc.
3:20 PM	Left MER Charleston Resource Center for Kangaroo
4:00 PM	Arrived at Kangaroo
6:00 PM	Departed Kangaroo and returned to shop
6:30 PM	Arrived at shop completed for today

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Michael Rahmaan	2:30 PM	6:30 PM	0	4		No	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Utility/Crew Truck	1xxx	1023	0.5 day	1 day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
Absorbent Pads 17' x 19' (100 ct)	ND	Bale	1		No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

No

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Saturday 2/23/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **10:00 AM**				
End Time: **12:00 PM**				

Services Performed

8:00 AM	Depart Shop
8:30 AM	Arrive site Inspect area
9:30 AM	Inspect area
10:00 AM	Inspect Area
11:00 AM	Inspect Area
11:30 AM	Leave Site
12:00 PM	Arrive Shop

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Michael Rahmaan	8:00 AM	12:00 PM	0	4		No	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Utility/Crew Truck	1xxx	1023	1 day	1 day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

No

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Thursday 2/28/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:30 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:20 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **9:55 AM**				
End Time: **12:30 PM**				

Services Performed

8:30 AM	Arrive at shop begin load materials
9:20 AM	Arrive on site replace boom
9:55 AM	Leave site for landfill
11:00 AM	landfill
11:35 AM	Leave landfill
12:30 PM	Arrive at shop and offload

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Logan Brown	8:30 AM	12:30 PM		4		No		
Technician		8:30 AM	12:30 PM	0	4		Yes	No	No

Subcontractors	Service	PO #	Actual	Plan
Doug Brown	Help out			

Equipment	Code	Unit	Actual	Plan	Sub
Stake bed w/liftgate	CR		1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
One 55 gallon steel drum					No
2 bails of sausage boom					No

Subcontractors	Service					PO #	Actual	Plan
Waste	Facility		PO #	Manifest	Basis	Actual	Plan	Sub
Safety Protocols	Level	Respirator		Confined Space Entry	Other			

Open Items/Job Notes

Job Complete

Yes

Customer Signature

March 2019

MER

Job #: 18SCMa0033 - ATC - Tuesday 3/5/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **7:30 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:20 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **11:50 AM**				
End Time: **12:30 PM**				

Services Performed

7:30 AM	Arrive at the shop
7:35 AM	Load up drums tools and booms
8:00 AM	Depart from the shop
9:20 AM	Arrived at job site
9:32 AM	Safety meeting / fill out JSA
9:48 AM	Remove old booms out of ditch ar d replace with new booms
10:30 AM	Raked up all the leaves from out of the ditch put them into a 55 gallon drums
10:45 AM	Load up all of the drums also put labc on all of the drums
11:50 AM	Depart from job site
12:21 PM	Arrive at the shop / offload drums and tools
12:30 PM	Job ended for today

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Mack Jones	7:30 AM	12:30 PM	0	5		No		
Technician	Jeffrey Riley	7:30 AM	12:30 PM	0	5		Yes	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Stake bed w/liftgate	CR		1 Day	1 Day	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
2 bails of sausage boom	NC		5		No
One 55 gallon steel drum	OA		3		No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

MER

Job #: 18SCMa0033 - ATC - Wednesday 3/6/2019

Contact	Fred Lyke	Site Contact	
Phone	803-767-0826	Phone	
Customer PO/WO		Notes	Phase

Location:
Kangaroo # 886
4315 Savannah Highway
Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **9:30 AM**				
End Time: **10:30 AM**				

Services Performed

- 8:00 AM arrive at shop load out equipment
- 9:00 AM arrive on site offload drums
- 9:30 AM depart site
- 10:30 AM arrive at shop end day

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Franklin Gillis	8:00 AM	10:30 AM	0	2.5		No		

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

Oakridge Landfill
2183 Highway 78
Dorchester, SC, 29437

Original
Ticket# 967231

Ph: (843) 563-2607

Customer Name MORANENVIRONMEN MORAN EN Carrier MORANENVIRONMEN MORAN ENVIRONMENTAL
Ticket Date 03/06/2019
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 610023sc
Profile 610023SC (NON-HAZARDOUS, NON-REGULATED SOIL)
Generator 126-CIRCLEK886 CIRCLE K #886
PO# MA000072

Vehicle# 1008
Container
Driver
Check#
Billing# 0000233
Grid

	Time	Scale	Operator	Inbound	Gross	7840 lb
In	03/06/2019 09:09:45	Scale1	Alloyd		Tare	7420 lb
Out	03/06/2019 09:28:29	Scale2	Alloyd		Net	420 lb
					Tons	0.21

Comments

Product	LOC	Qty	UOM	Rate	Tax/Fee Amount	Origin
1 NON-HAZARDOUS, NON-REGUL 100 CHARLES		0.21	Tons			10-
2 EVF-P-Standard Environme 100 CHARLES		1				10-
3 FUEL-Fuel Surcharge - ba 100 CHARLES		1				10-
4 RCR-P-Regulatory Cost Re 100 CHARLES		1				10-

Total Tax/Fees
Total Ticket

Driver's Signature

NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. | Manifest Doc No. | 2. Page 1 of

3. Generator's Mailing Address:
CIRCLE K #888
4315 SAVANNAH HIGHWAY
RAVENEL, SC 29470

Generator's Site Address (if different than mailing)

A. Manifest Number

B. State Generator's ID

4. Generator's Phone 803-608-1551

5. Transporter 1 Company Name | 6. US EPA ID Number | C. State Transporter's ID | D. Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | E. State Transporter's ID | F. Transporter's Phone

9. Designated Facility Name and Site Address
OAKRIDGE LANDFILL, INC.
2183 HIGHWAY 78
DORCHESTER, SC 29437

10. US EPA ID Number | G. State Facility ID 182400-1201 | H. State Facility Phone 843-563-4587

11. Description of Waste Materials	Containers No.	Containers Type	12. Total Quantity	13. Unit Wt./Vol.	I. Waste Comments
a. NON-HAZARDOUS, NON-REGULATED SOIL & SORBENTS WM Profile # 6100231C	D37	DP	3		
b. WM Profile #					
c. WM Profile # 9607331					.21
d. WM Profile #					

GENERATOR

J. Additional Descriptions for Materials Listed Above | K. Disposal Location: Site, Bay, Cell, Level

L. General Routing to Destination of Additional Sites Across
CHARLESTON COUNTY

Purchase Order #

M. EMERGENCY CONTACT / PHONE NO.

N. GENERATOR'S CERTIFICATE:
I hereby certify that the above-described waste is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in all respects in proper condition for transportation according to applicable regulations.

Printed Name: Truckline Inc LLC | Signature: On behalf of Circle K Stores | Month 12 | Day 17 | Year 2018

O. Transporter 1 Acknowledgment of Receipt of Materials
Printed Name: Arrick Stacy | Signature: Arrick Stacy | Month | Day | Year

P. Transporter 2 Acknowledgment of Receipt of Materials
Printed Name | Signature | Month | Day | Year

Q. Certificate of Receipt at Designated Facility
I certify on behalf of the designated treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable permit requirements and listed on the Manifest listed above.

R. Hazardous Waste Generator Certification of Receipt of Non-Hazardous Waste Described on this Manifest
A. Signature | Signature | Month 12 | Day 10 | Year 19

MER

Job #: 18SCMa0033 - ATC - Tuesday 3/12/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886 4315 Savannah Highway
Customer PO/WO		Notes	Phase	Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site **9:30 AM**				
End Time: **11:30 AM**				

Services Performed

- 8:00 AM Shift start, pre trip crew truck and gather needed supplies, drums, labels
- 9:00 AM Arrive on site conduct tailgate saftey meeting, determine condition of absorbent boom onsite, remove and replace contaminated absorbent
- 9:30 AM Filled one drum labeled and transporting to WM for disposal
- 10:30 AM Arrive at wm dispose of drum and return to shop
- 11:30 AM Post trip crew vehicle unload unused supplies and work shift
- 11:28 AM

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	Michael Hess	8.00 AM	11.30 AM	0	3.5		No		
Technician	Brown, Doug	8.00 AM	11.30 AM	0	3.5		Yes	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Crew Vehicle	CU	290	1 Hour	1 Hour	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
55-Gal (Steel) Drums - Reconditioned 17H	OA	Each	1		No

Subcontractors	Service				PO #	Actual	Plan
Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub
Safety Protocols	Level	Respirator	Confined Space Entry	Other			

Open Items/Job Notes

Job Complete

Yes

Customer Signature

Oakridge Landfill
2183 Highway 78
Dorchester, SC, 29437

Original
Ticket# 967965

Ph: (843) 563-2607

Customer Name MORANENVIRONMEN MORAN EN Carrier MORANENVIRONMEN MORAN
ENVIRONMENTAL
Ticket Date 03/12/2019
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 6100238E
Profile 6100238C (NON-HAZARDOUS, NON-REGULATED SOIL)
Generator 126-CIRCLEK886 CIRCLE K #886
PO# MA000072

Vehicle# 200
Container
Driver
Check#
Billing# 0000233
Grid

	Time						
In	03/12/2019 10:04:21	Scale1	Alloyd	Inbound	Gross	11080	lb
Out	03/12/2019 10:31:01	Scale2	Alloyd		Tare	11040	lb
					Net	40	lb
					Tons	0.02	

Comments

Product	LD%	Qty	UOM	Rate	Tax/Fee Amount	Origin
1 NON-HAZARDOUS, NON-REGUL CHARLES	100	0.02	Tons			10-
2 EVF-P-Standard Environme CHARLES	100		%			10-
3 FUEL-Fuel Surcharge - La CHARLES	100		%			10-
4 RCR-P-Regulatory Cost Re CHARLES	100		%			10-

Total Tax/Fees
Total Ticket

Driver's Signature

NON-HAZARDOUS MANIFEST

[illegible] HIGHWAY RAVENEL, SC 29470 4. Generator's Phone 803-608-1635	[illegible] mailing):	A. Manifest Number B. State Generator's ID
5. Transporter 1 Company Name MER	6. US EPA ID Number	C. State Transporter's ID D. Transporter's Phone
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone
9. Designated Facility Name and Site Address OAKRIDGE LANDFILL, INC. 2183 HIGHWAY 78 DORCHESTER, SC 29437	10. US EPA ID Number	G. State Facility ID 182400-1101 H. State Facility Phone 843-563-4587

GENERATOR

11. Description of Waste Materials	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. NON-HAZARDOUS, NON-REGULATED SOIL & SORBENTS WM Profile # 61/023SC	007		1		
b. WM Profile #					
c. WM Profile # 112-19625					02
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above

K. Disposal Location: Cell | Level | Grid

15. Special Handling Instructions and Additional Information
CHARLESTON COUNTY

Purchase Order # | EMERGENCY CONTACT / PHONE NO.:

16. GENERATOR'S CERTIFICATE:
I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name	Signature "On behalf of"	Month	Day	Year
Fred Lyke for ATC	Circle K Stores	12	13	2019

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials				
Printed Name	Signature	Month	Day	Year
Frank Brown		3	12	2019
18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed Name	Signature	Month	Day	Year

FACILITY

19. Certificate of Final Treatment/Disposal
I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the site listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.

Printed Name	Signature	Month	Day	Year
Carlyle	Carlyle	3	12	19

MER

Job #: 18SCMa0033 - ATC - Thursday 3/21/2019

Contact	Fred Lyke	Site Contact		Location:
Phone	803-767-0826	Phone		Kangaroo # 886 4315 Savannah Highway
Customer PO/WO		Notes	Phase	Ravenel, SC 29470

Scope of Work

Drive to Kangaroo Jobsite to remove and replace contaminated boom and transport to WM for disposal

Additional Site Information

Start Time: **8:00 AM**	Notified: **No**	Water: **No**	Air: **No**	Electric: **No**
On Site: **9:00 AM**	Sampling Required: **No**	Dig Safe: **No**	Dig Safe #:	
Leave Site: **9:30 AM**				
End Time: **11:30 AM**				

Services Performed

- 9:00 AM Arrive at shop, load supplies.
- 10.00 AM Arrive on site, inspect boom.
- 10:30 AM Changed out 4 pieces of sausage boom. Drummed it up and labeled drum
- 12.00 PM Dropped drum at landfill.
- 12:30 PM Stopped to fill up truck
- 1:30 PM Back at shop. Unload truck.
- 2.00 PM Job secured for the day.

Labor	Assigned	Start	End	Lunch	Actual	Plan	T/S	PD	TP
Supervisor	John Todd	9:00 AM	2.00 PM		5		No		
Technician	Logan Brown	9:00 AM	2.00 PM	0	5		No	No	No

Subcontractors	Service	PO #	Actual	Plan

Equipment	Code	Unit	Actual	Plan	Sub
Crew Vehicle	CU	1000	1 Hour	1 Hour	No

Subcontractors	Service	PO #	Actual	Plan

Materials	Code	Basis	Actual	Plan	Sub
55-Gal (Steel) Drums - New 17H/17E	OB	Each	1		No

Absorbent Booms 5' dia x 10" (4 ct)	NC	Bale	1	No

Subcontractors	Service	PO #	Actual	Plan

Waste	Facility	PO #	Manifest	Basis	Actual	Plan	Sub

Safety Protocols	Level	Respirator	Confined Space Entry	Other

Open Items/Job Notes

Job Complete

Yes

Customer Signature

Oakridge Landfill
2183 Highway 78
Dorchester, SC, 29437

Ph: (843) 563-2607

Original
Ticket# 969434

Customer Name MORANENVIRONMEN MORAN
ENVIRONMENTAL
Ticket Date 03/21/2019
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 610023sc
Profile 610023SC (NON-HAZARDOUS, NON-REGULATED SOIL)
Generator 126-CIRCLEK886 CIRCLE K #886
PO# MA000072

Carrier MORANENVIRONMEN MORAN

Vehicle# 1000
Container
Driver
Check#
Billing# 0000233
Grid

	Time	Scale	Operator	Inbound		
In	03/21/2019 11:36:40	Scale1	Alloyd		Gross	9260 lb
Out	03/21/2019 11:48:27	Scale2	Alloyd		Tare	9220 lb
					Net	40 lb
					Tons	0.02

Comments

Product	Rate	Qty	UM	Line	Tax/Fee Amount	Origin
1 NON-HAZARDOUS, NON-REGUL [illegible] CHARLES	[illegible]	0.02	Tons			10-
2 EVT-P-Standard Mobilization [illegible] CHARLES						10-
3 FUEL-Fuel Surcharge [illegible] CHARLES						10-
4 RCS-P-Regulatory Cost Sc [illegible] CHARLES						10-

Total Tax/Fees
Total Ticket

Driver's Signature

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No. Manifest Doc No.	2. Page 1 of	
3. Generator's Mailing Address: CIRCLE K #886 4315 SAVANNAH HIGHWAY RAVENEL, SC 29470 4. Generator's Phone 803-608-1635	Generator's Site Address (if different than mailing)	A. Manifest Number	B. State Generator's ID
5. Transporter 1 Company Name	6. US EPA ID Number	C. State Transporter's ID	D. Transporter's Phone
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID	F. Transporter's Phone
9. Designated Facility Name and Site Address OAKRIDGE LANDFILL, INC. 2183 HIGHWAY 78 DORCHESTER, SC 29437	10. US EPA ID Number	G. State Facility ID 182400-1101	H. State Facility Phone 843-563-4587

GENERATOR

11. Description of Waste Materials	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. NON-HAZARDOUS, NON-REGULATED SOIL & SORBENTS WM Profile # 610023SC	007		1		
b. WM Profile #					
c. WM Profile # 969434					.02
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above

K. Disposal Location

Cell		Level	
Grid			

15. Special Handling Instructions and Additional Information

CHARLESTON COUNTY

Purchase Order # EMERGENCY CONTACT / PHONE NO.

16. GENERATOR'S CERTIFICATE

I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name	Signature "On behalf of"	Month	Day	Year
Fred Lyke for A[illegible]	Circle K Stores	12	17	2018

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
[illegible]	[illegible]	3	21	19

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

19. Certificate of Final Treatment/Disposal

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest

Printed Name	Signature	Month	Day	Year
[illegible]	[illegible]	3	21	19

APPENDIX D
AFVR Reports and Disposal Manifests

AFVR MONITORING DATA
SITE LOCATION: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATE: 1/21/2019 - 1/25/2019

Date	Time (hh:mm)	Extraction Well Head Vacuum (in. Hg)					Vacuum Truck Exhaust						
		RW-5	RW-6			Truck	Relative Humidity	Temp (°F)	Pretreatment Conc. (PPM)	Post Treatment Conc. (PPM)	Offgas Velocity Ft/Min	Water Vapor (%)	Flow Rate (DSCFM)
1/21/2019	9:00												
	9:30	11.0	5.0			19.0	17.1	100	526	0	1900	0.01	86.87
	10:00	11.0	5.0			19.0	16.9	100	517	12	1900	0.01	86.89
	10:30	11.0	5.0			19.0	15.7	115	562	15	1900	0.01	84.61
	11:00	11.0	5.0			19.0	15.6	119	699	18	1900	0.01	84.02
	11:30	11.0	5.0			19.0	15.1	120	721	21	1900	0.01	83.88
	12:00	11.0	5.0			19.0	14.6	136	671	25	1900	0.01	81.63
	12:30	11.0	5.0			19.0	12.8	135	683	31	1900	0.01	81.76
	13:00	11.0	5.0			19.0	11.6	137	698	36	1900	0.01	81.49
	13:30	11.0	5.0			19.0	10.7	139	720	42	1900	0.01	81.22
	14:00	11.0	5.0			19.0	10.3	140	745	46	1900	0.01	81.08
	14:30	11.0	5.0			19.0	9.6	142	786	51	1900	0.01	80.81
	15:00	11.0	5.0			19.0	9.4	144	853	59	1900	0.01	80.55
	15:30	11.0	5.0			19.0	8.9	146	946	63	1900	0.01	80.28
	16:00	11.0	5.0			19.0	8.6	150	952	66	1900	0.01	79.75
	16:30	11.0	5.0			19.0	8.3	153	978	71	1900	0.01	79.36
	17:00	11.0	5.0			19.0	8.4	154	968	74	1900	0.01	79.23
	18:00	11.0	5.0			19.0	8.6	152	879	81	1900	0.01	78.21
	19:00	11.0	5.0			19.0	7.8	160	864	88	1900	0.01	78.47
	20:00	11.0	5.0			19.0	7.5	161	821	91	1900	0.01	78.34
	21:00	11.0	5.0			19.0	7.4	157	783	96	1900	0.01	78.85
	22:00	11.0	5.0			19.0	7.3	155	753	106	1900	0.01	79.10
	23:00	11.0	5.0			19.0	7.4	153	734	111	1900	0.01	79.36
1/22/2019	0:00	11.0	5.0			19.0	7.8	154	635	117	1900	0.01	79.23
	8:00	11.0	5.0			19.0	14.2	144	854	0	2000	0.01	84.78
	9:00	11.0	5.0			19.0	13.8	136	1345	12	2000	0.01	85.92
	11:00	11.0	5.0			19.0	13.1	142	1564	21	2000	0.01	85.07
	13:00	11.0	5.0			19.0	12.5	141	2065	38	2000	0.01	85.21
	15:00	11.0	5.0			19.0	12.3	139	2185	53	2000	0.01	85.49
	17:00	11.0	5.0			19.0	11.7	136	2209	61	2000	0.01	85.92
	19:00	11.0	5.0			19.0	11.8	138	2185	78	2000	0.01	85.64
	21:00	11.0	5.0			19.0	12.5	136	2014	92	2000	0.01	85.92
	23:00	11.0	5.0			19.0	12.3	135	1987	112	2000	0.01	86.07
1/23/2019	0:00	11.0	5.0			19.0	10.2	151	1967	123	2100	0.01	88.00
	8:00	11.0	5.0			19.0	9.6	153	1934	134	2100	0.01	87.72
	10:00	11.0	5.0			19.0	9.1	157	1893	148	2100	0.01	87.15
	12:00	11.0	5.0			19.0	10.1	156	1924	163	2100	0.01	87.29
	14:00	11.0	5.0			19.0	10.6	158	1986	172	2100	0.01	87.01
	16:00	11.0	5.0			19.0	11.0	154	1934	185	2100	0.01	87.57
	18:00	11.0	5.0			19.0	11.1	156	1883	193	2100	0.01	87.29
	20:00	11.0	5.0			19.0	10.6	153	1853	201	2100	0.01	87.72
	22:00	11.0	5.0			19.0	10.3	148	1763	213	2100	0.01	88.39
1/24/2019	0:00	11.0	5.0			19.0	9.5	149	1834	224	2000	0.01	84.05
	8:00	11.0	5.0			19.0	9.6	152	1980	0	2000	0.01	83.62
	10:00	11.0	5.0			19.0	10.4	155	1965	11	2000	0.01	83.21
	12:00	11.0	5.0			19.0	10.3	153	2065	25	2000	0.01	83.54
	14:00	11.0	5.0			19.0	10.6	151	2152	37	2000	0.01	83.81
	16:00	11.0	5.0			19.0	11.2	148	2043	51	2000	0.01	84.23
	18:00	11.0	5.0			19.0	11.0	146	1968	58	2000	0.01	84.50
	20:00	11.0	5.0			19.0	10.1	145	1932	71	2000	0.01	84.64
	22:00	11.0	5.0			19.0	9.8	143	1866	86	2000	0.01	84.93
1/25/2019	0:00	11.0	5.0			19.0	9.6	143	1856	97	2000	0.01	84.93
	8:00	11.0	5.0			19.0	9.2	152	1798	156	2000	0.01	83.68
	9:00	11.0	5.0			19.0	9.1	152	1771	161	2200	0.01	92.04

Well No.	Diameter (in)	Total well depth (ft)	Target Stinger Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
RW-5	4.00	12.00	8.00	0.06	3.49	3.43	9.30	10.30	1.00
RW-5	4.00	12.00	8.00	1.00	3.24	2.24	9.11	10.06	0.95

APVR Information		Notes: Pipe ID - The inside diameter of the blower discharge piping (from vacuum truck)
Client	ATC	Velocity - The rate at which air flows is measured at the blower discharge piping
Equipment Operator:	RU	Temperature - The temperature of the air stream exiting the blower discharge piping
Blower Discharge I.D.	4 inches	Relative humidity - The % relative humidity of the air stream exiting the blower discharge piping
		Water Vapor in % - Pounds of water per pound of dry air (derived from a Psychrometric chart of temp. vs relative humidity)
		Flow rate = (1 - water vapor)(velocity)(Pipe Diameter/24)^2(3.14)(528°R/Temp + 460)

Total Gallons Extracted
15,573

1/25/19
MWW

EMISSION CALCULATION
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 01/21/2019 - 01/25/2019

Date/Time	Elapsed Time (hr)	Flow Rate (DSCFM)	Concentration (ppm)	K (PC - gas)	PPMg (ppm)	Cg:m (mg/dam³)	Cg (lbs/dscf)	PMRg (lb/hr)	PMR (lb)
1/21/2019 - 9:00	0.0								
9:30	0.5	86.87	526	4	2104	11193.28	0.000698796	3.642427285	1.821213643
10:00	1.0	86.89	517	4	2068	11001.76	0.00068684	3.580743804	1.790371902
10:30	1.5	84.61	562	4	2249.2	11965.744	0.000747021	3.792219021	1.896109511
11:00	2.0	84.02	699	4	2794.8	14868.336	0.00092823	4.679563587	2.339781794
11:30	2.5	83.88	721	4	2885.2	15349.264	0.000958255	4.822598559	2.41129928
12:00	3.0	81.63	671	4	2684.8	14283.136	0.000891696	4.367157567	2.183578783
12:30	3.5	81.76	683	4	2732	14534.24	0.000907373	4.451402972	2.225701486
13:00	4.0	81.49	698	4	2792.4	14855.568	0.000927433	4.534573862	2.267286931
13:30	4.5	81.22	720	4	2879.2	15317.344	0.000956262	4.659917129	2.329958565
14:00	5.0	81.08	745	4	2981.2	15859.984	0.000990139	4.816960048	2.408480024
14:30	5.5	80.81	786	4	3145.2	16732.464	0.001044608	5.06506424	2.53253212
15:00	6.0	80.55	859	4	3412.4	18153.968	0.001133352	5.477169446	2.738584723
15:30	6.5	80.28	946	4	3785.2	20137.264	0.001257169	6.055491368	3.027745684
16:00	7.0	79.75	952	4	3808.8	20262.816	0.001265008	6.053290489	3.026645244
16:30	7.5	79.36	978	4	3913.2	20818.224	0.001299682	6.188775837	3.094387919
17:00	8.0	79.29	968	4	3872.4	20601.168	0.001286151	6.114275767	3.057137883
18:00	9.0	78.21	879	4	3515.2	18700.864	0.001167495	5.478893228	5.478893228
19:00	10.0	78.47	864	4	3457.2	18392.904	0.001148232	5.405874971	5.405874971
20:00	11.0	78.34	821	4	3284	17470.88	0.001090707	5.126780578	5.126780578
21:00	12.0	78.85	783	4	3133.6	16670.752	0.001040755	4.923699921	4.923699921
22:00	13.0	79.10	753	4	3010	16013.2	0.000999704	4.744872664	4.744872664
23:00	14.0	79.36	734	4	2936.8	15623.776	0.000975392	4.644586752	4.644586752
1/22/2019 - 0:00	15.0	79.23	835	4	3338	17758.16	0.001108642	5.270491816	5.270491816
8:00	23.0	84.78	854	4	3417.2	18179.504	0.001134946	5.773551391	46.18841113
9:00	24.0	85.92	1345	4	5380	28621.6	0.001786846	9.211823172	9.211823172
11:00	26.0	85.07	1564	4	6256	33281.92	0.00207779	10.60497991	21.20995862
13:00	28.0	85.21	2065	4	8260	43943.2	0.002743374	14.02539664	28.05079329
15:00	30.0	85.49	2185	4	8740	46496.8	0.002902795	14.88998249	29.77996498
17:00	32.0	85.92	2209	4	8836	47007.52	0.002934679	15.12930881	30.25861321
19:00	34.0	85.64	2185	4	8740	46496.8	0.002902795	14.91488213	29.82976426
21:00	36.0	85.92	2014	4	8056	42857.92	0.00267562	13.79376347	27.58752694
23:00	38.0	86.07	1987	4	7948	42283.36	0.00263975	13.63171412	27.26342823
1/23/2019 - 0:00	39.0	88.00	1967	4	7868	41857.76	0.00261318	13.7981867	13.7981867
8:00	47.0	87.72	1934	4	7736	41155.52	0.002569339	13.52243375	108.17947
10:00	49.0	87.15	1893	4	7572	40283.04	0.00251487	13.14995653	26.29991306
12:00	51.0	87.29	1924	4	7696	40942.72	0.002556054	13.38699875	26.7739975
14:00	53.0	87.01	1986	4	7944	42262.08	0.002638422	13.77366882	27.54733763
16:00	55.0	87.57	1934	4	7736	41155.52	0.002569339	13.50041024	27.00082049
18:00	57.0	87.29	1883	4	7532	40070.24	0.002501585	13.10172487	26.20344973
20:00	59.0	87.72	1853	4	7412	39431.84	0.00246173	12.9560857	25.9121714
22:00	61.0	88.39	1763	4	7052	37516.64	0.002342164	12.42705258	24.84410515
1/24/2019 - 0:00	63.0	84.05	1834	4	7336	39027.52	0.002436488	12.28676979	24.57353959
8:00	71.0	83.62	1980	4	7920	42134.4	0.002630451	13.19774024	105.581922
10:00	73.0	83.21	1965	4	7860	41815.2	0.002610523	13.03390739	26.06781479
12:00	75.0	83.54	2065	4	8260	43943.2	0.002743374	13.75083749	27.50167499
14:00	77.0	83.81	2152	4	8608	45794.56	0.002858954	14.37707787	28.75415573
16:00	79.0	84.23	2043	4	8172	43475.04	0.002714147	13.71621726	27.43243452
18:00	81.0	84.50	1968	4	7872	41879.04	0.002614508	13.25629128	26.51258255
20:00	83.0	84.64	1932	4	7728	41112.96	0.002566682	13.03530855	26.0706171
22:00	85.0	84.93	1868	4	7472	39751.04	0.002481657	12.64529973	25.29059946
1/25/2019 - 0:00	87.0	84.93	1856	4	7424	39495.68	0.002465715	12.56406654	25.12813309
8:00	95.0	83.68	1798	4	7192	38261.44	0.002388662	11.99244771	95.93958166
9:00	96.0	92.04	1771	4	7084	37686.88	0.002352792	12.99359698	12.99359698
						Total Emissions in pounds			1082.532403
						Equivalent Gallons (vapor)			175.7357798

STINGER DEPTH
SITE: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATE: 1/21/2019 - 1/25/2019

STINGER DEPTH

		RW-5	RW-6		
Time	**Elapsed Time**				
1/21/2019 - 9:00	0.0	3.50	3.50		
9:30	0.5	4.00	4.00		
10:00	1.0	4.00	4.00		
10:30	1.5	4.50	4.50		
11:00	2.0	4.50	4.50		
11:30	2.5	5.00	5.00		
12:00	3.0	5.50	5.50		
12:30	3.5	6.00	6.00		
13:00	4.0	6.00	6.00		
13:30	4.5	6.50	6.50		
14:00	5.0	6.50	6.50		
14:30	5.5	7.00	7.00		
15:00	6.0	7.00	7.00		
15:30	6.5	7.50	7.50		
16:00	7.0	7.50	7.50		
16:30	7.5	8.00	8.00		
17:00	8.0	8.00	8.00		
18:00	9.0	8.00	8.00		
19:00	10.0	8.00	8.00		
20:00	11.0	8.00	8.00		
21:00	12.0	8.00	8.00		
22:00	13.0	8.00	8.00		
23:00	14.0	8.00	8.00		
1/22/2019 - 0:00	15.0	8.00	8.00		
8:00	23.0	8.00	8.00		
9:00	24.0	8.00	8.00		
11:00	26.0	8.00	8.00		
13:00	28.0	8.00	8.00		
15:00	30.0	8.00	8.00		
17:00	32.0	8.00	8.00		
19:00	34.0	8.00	8.00		
21:00	36.0	8.00	8.00		
23:00	38.0	8.00	8.00		
1/23/2019 - 0:00	39.0	8.00	8.00		
8:00	47.0	8.00	8.00		
10:00	49.0	8.00	8.00		
12:00	51.0	8.00	8.00		
14:00	53.0	8.00	8.00		
16:00	55.0	8.00	8.00		
18:00	57.0	8.00	8.00		
20:00	59.0	8.00	8.00		
22:00	61.0	8.00	8.00		
1/24/2019 - 0:00	63.0	8.00	8.00		
8:00	71.0	8.00	8.00		
10:00	73.0	8.00	8.00		
12:00	75.0	8.00	8.00		
14:00	77.0	8.00	8.00		
16:00	79.0	8.00	8.00		
18:00	81.0	8.00	8.00		
20:00	83.0	8.00	8.00		
22:00	85.0	8.00	8.00		
1/25/2019 - 0:00	87.0	8.00	8.00		
8:00	95.0	8.00	8.00		
9:00	96.0	8.00	8.00		

DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
SITE NAME: Circle K
SITE LOCATION - 4315 Savannah Highway, Ravenel, SC
DATE: 1/21/2019 - 1/25/2019

DIFFERENTIAL PRESSURE DATA

		Well Designation:				
		MW-1	MW-6			
Time	Elapsed Time					
1/21/2019 - 9:00	0.0	0.0	0.0			
9:30	0.5	0.0	0.0			
10:00	1.0	0.0	0.0			
10:30	1.5	0.0	0.0			
11:00	2.0	0.0	0.0			
11:30	2.5	0.0	0.0			
12:00	3.0	0.0	0.0			
12:30	3.5	0.0	0.0			
13:00	4.0	0.0	0.0			
13:30	4.5	0.0	0.0			
14:00	5.0	0.0	0.0			
14:30	5.5	0.0	0.0			
15:00	6.0	0.0	0.0			
15:30	6.5	0.0	0.0			
16:00	7.0	0.0	0.0			
16:30	7.5	0.0	0.0			
17:00	8.0	0.0	0.0			
18:00	9.0	0.0	0.0			
19:00	10.0	0.0	0.0			
20:00	11.0	0.0	0.0			
21:00	12.0	0.0	0.0			
22:00	13.0	0.0	0.0			
23:00	14.0	0.0	0.0			
1/22/2019 - 0:00	15.0	0.0	0.0			
8:00	23.0	0.0	0.0			
9:00	24.0	0.0	0.0			
11:00	26.0	0.0	0.0			
13:00	28.0	0.0	0.0			
15:00	30.0	0.0	0.0			
17:00	32.0	0.0	0.0			
19:00	34.0	0.0	0.0			
21:00	36.0	0.0	0.0			
23:00	38.0	0.0	0.0			
1/23/2019 - 0:00	39.0	0.0	0.0			
8:00	47.0	0.0	0.0			
10:00	49.0	0.0	0.0			
12:00	51.0	0.0	0.0			
14:00	53.0	0.0	0.0			
16:00	55.0	0.0	0.0			
18:00	57.0	0.0	0.0			
20:00	59.0	0.0	0.0			
22:00	61.0	0.0	0.0			
1/24/2019 - 0:00	63.0	0.0	0.0			
8:00	71.0	0.0	0.0			
10:00	73.0	0.0	0.0			
12:00	75.0	0.0	0.0			
14:00	77.0	0.0	0.0			
16:00	79.0	0.0	0.0			
18:00	81.0	0.0	0.0			
20:00	83.0	0.0	0.0			
22:00	85.0	0.0	0.0			
1/25/2019 - 0:00	87.0	0.0	0.0			
8:00	95.0	0.0	0.0			
9:00	96.0	0.0	0.0			
Maximum Change:		0.0	0.0			

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-1	MW-6			
Time	Elapsed Time	Depth to Water (feet below of casing): No Producted Detected				
Prior to AFVR	0 hours	4.98	5.30			
	24 hours	4.99	5.32			
	48 hours	5.01	5.36			
	72 hours	5.01	5.40			
	96 hours	5.02	5.40			
Maximum Change:		0.04	0.10			

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: KANGAROO EXPRESS Phone ( )
~~2995 Fort Jolly Rd~~ 4315 SAVANNAH HWY P O #:
~~Johns Island, SC~~ RANDOLL SC

3. Agent of Generator and Mailing Address: Phone ( )
P O #:

4. Transporter Company Name: Phone ( )
Goodsell Transport
511 Old Mt Holly Rd
Goose Creek, SC
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	1	VT	GAL	4,855

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: PAUL Goodsell Signature: AS AGENT FOR VERCO Date: 1-23-19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: P. Berry Signature: [signature] Date: 1-23-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: [signature] Date 1-23-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21270

55093981
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 WITH the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) 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: 1-22-19

13:05
55093981
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

STEER AXLE	10800 lb
DRIVE AXLE	16980 lb
TRAILER AXLE	11100 lb
* GROSS WEIGHT	38880 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 08 TRAILER # 101

WEIGH NUMBER
3981

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE PAUL M

TICKET # OF FULL $ WEIGH (IF REWEIGH)

STOMER COPY

© CAT Scale® Reg 3057 7/18

55094005
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 890
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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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:

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(2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

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3) **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: 1-23-19

STEER AXLE	10780 lb
DRIVE AXLE	34820 lb
TRAILER AXLE	33720 lb
*GROSS WEIGHT	79320 lb

07-17
55094005
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

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 facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 08 TRAILER # 101

WEIGH NUMBER 3981

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE NATASHA FRANKLIN

TICKET # OF FULL $ WEIGH (IF REWEIGH) 55093981

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

DRIVER IN TRUCK UNTIL PASS CHECKED HERE

79320
38880
40,440 /8.33 = 4854 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: KANGAROO EXPRESS Phone ( )
4315 Savannah HWY PO #:
Ravenel SC

3. Agent of Generator and Mailing Address: VERCO Phone ( )
PO #:

4. Transporter Company Name: Woodsdell TRANSPORT Phone ( )
Truck & Trailer License Number: Moore Creek SC.

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	107	VT	GAL	6079

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: PAUL Woodsdell Signature: AS AGENT FOR VERCO Date: 1-24-19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: PAUL Woodsdell Signature: [signature] Date: 1-24-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Woodsdell Signature: [signature] Date 1-24-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20586

43884886

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 530
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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:

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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 1-24-19

10:51
43884885

SCALE 054
LOCATION KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE 10280 lb
DRIVE AXLE 12320 lb
TRAILER AXLE 9080 lb
*GROSS WEIGHT 31680 lb

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 facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOOD SELL

TRACTOR # 09 TRAILER # 107

WEIGH NUMBER 4885

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE TINA

TICKET # OF FULL WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 5063 11/17

43884887
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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DATE 1-24-19

STEER AXLE 10880 lb

DRIVE AXLE 35640 lb

TRAILER AXLE 35800 lb

GROSS WEIGHT 82320 lb

14:04
43884886

SCALE 254

LOCATION KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

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 facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOOD SELL

TRACTOR # 09 TRAILER # 107

WEIGH NUMBER
4885

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE TINA

TICKET # OF FULL $ WEIGH (IF REWEIGH) 43884885

CUSTOMER COPY

DRIVER IN TRUCK UNLESS CHECKED HERE

© CAT Scale® Reg 3063 11/17

82320
31680
50,640 / 8.3 =
6079 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: KANGAROO EXPRESS Phone ( )
4315 Savannah Hwy
RAVENEL SC. PO #:

3. Agent of Generator and Mailing Address: VERCO Phone ( )
PO #:

4. Transporter Company Name: Goodsell TRANSPORT Phone ( )
511 OLD MT. HOLLY RD
Truck & Trailer License Number: GOOSE CREEK SC

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	70893	VT	GAL	4639

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Paul Goodsell Signature: AS AGENT FOR VERCO Date: 1/25/19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: PAUL BERRY Signature: Date: 1/25/19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL GOODSELL Signature: Date 1-25-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20587

3 3 0 7 1 7 9 3

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 830
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

THE CAT SCALE GUARANTEE

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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* 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:

SCALE:

LOCATION:

STEER AXLE

DRIVE AXLE

TRAILER AXLE

* GROSS WEIGHT 31920

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 facie evidence of the accuracy of the weight shown as prescribed by law.

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED _____

COMPANY _____ TRACTOR # _____ TRAILER # _____

FEE _____ WEIGHMASTER OR WEIGHER SIGNATURE _____ TICKET # OF FULL & WEIGH (IF REWEIGH) _____

DRIVER IN TRUCK UNLESS CHECKED HERE

TOMER COPY

© CAT Scale® Reg 3067 7/18

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

...us different from other scale companies is that we back up our guarantee with cash.©

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

* 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: 1-25-19

12:11
56071930 SCALE: 893
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10720 lb
DRIVE AXLE	30440 lb
TRAILER AXLE	29400 lb
*GROSS WEIGHT	70560 lb

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 facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL

WEIGH NUMBER 1930

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: FATIMAH CARN

TRACTOR #: 09 TRAILER #: 70823

TICKET # OF FULL & WEIGH (IF REWEIGH):

DRIVER IN TRUCK UNLESS CHECKED HERE

...MER COPY

© CAT Scale® Reg 3067 7/18

70560
31920
38,640 / 8.3 = 4639 gallons

AFVR MONITORING DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 2/19/2019 - 2/23/2019

Date	Time (hh:mm)	Extraction Well Head Vacuum (in. Hg)				Vacuum Truck Exhaust						
		RW-10	RW-9	RW-8	RW-5	Relative Humidity	Temp (°F)	Pretreatment Conc. (PPM)	Post Treatment Conc. (PPM)	Offgas Velocity Ft/Min	Water Vapor (%)	Flow Rate (DSCFM)
2/19/2019	12:00	6.0	12.0	5.0	4.0							
	12:30	6.0	12.0	5.0	4.0	8.9	143	2545	18	2400	0.01	101.91
	13:00	6.0	12.0	5.0	4.0	8.5	148	2521	21	2400	0.01	101.07
	13:30	6.0	12.0	5.0	4.0	7.8	159	2482	25	2400	0.02	98.27
	14:00	6.0	12.0	5.0	4.0	7.6	161	2458	32	2400	0.02	97.96
	14:30	6.0	12.0	5.0	4.0	7.5	163	2435	37	2400	0.02	97.64
	15:00	6.0	12.0	5.0	4.0	7.2	163	2165	43	2400	0.02	97.64
	15:30	6.0	12.0	5.0	4.0	7.6	162	1865	51	2400	0.02	97.80
	16:00	6.0	12.0	5.0	4.0	7.3	157	1515	58	2400	0.01	99.60
	16:30	6.0	12.0	5.0	4.0	7.2	158	1487	63	2400	0.01	99.44
	17:00	6.0	12.0	5.0	4.0	7.0	157	1451	70	2400	0.01	99.60
	17:30	6.0	12.0	5.0	4.0	6.3	154	1437	78	2400	0.01	100.08
	18:00	6.0	12.0	5.0	4.0	6.5	155	1385	83	2400	0.01	99.92
	18:30	6.0	12.0	5.0	4.0	6.8	154	1342	91	2400	0.01	100.08
	19:00	6.0	12.0	5.0	4.0	6.7	153	1260	98	2400	0.01	100.25
	19:30	6.0	12.0	5.0	4.0	6.6	151	1235	107	2400	0.01	100.58
	20:00	6.0	12.0	5.0	4.0	6.4	150	1225	116	2400	0.01	100.74
	21:00	6.0	12.0	5.0	4.0	6.3	152	1210	129	2400	0.01	100.41
	22:00	6.0	12.0	5.0	4.0	6.5	151	1183	147	2400	0.01	100.58
	23:00	6.0	12.0	5.0	4.0	6.3	150	1167	158	2400	0.01	100.74
2/20/2019	0:00	6.0	12.0	5.0	4.0	6.1	150	1145	165	2400	0.01	100.74
	8:00	6.0	12.0	5.0	4.0	6.4	149	1063	0	2400	0.01	100.91
	9:00	6.0	12.0	5.0	4.0	6.8	148	1095	12	2400	0.01	101.07
	10:00	6.0	12.0	5.0	4.0	7.2	149	1134	19	2400	0.01	100.91
	11:00	6.0	12.0	5.0	4.0	7.3	148	1168	23	2400	0.01	101.07
	12:00	6.0	12.0	5.0	4.0	7.1	150	1201	29	2300	0.01	95.54
	14:00	6.0	12.0	5.0	4.0	7.4	151	1245	37	2300	0.01	95.39
	16:00	6.0	12.0	5.0	4.0	7.1	151	1281	44	2300	0.01	95.39
	18:00	6.0	12.0	5.0	4.0	7.2	150	1258	51	2300	0.01	95.54
	20:00	6.0	12.0	5.0	4.0	6.8	149	1264	59	2300	0.01	95.70
	22:00	6.0	12.0	5.0	4.0	6.4	151	1245	67	2300	0.01	95.39
2/21/2019	0:00	6.0	12.0	5.0	4.0	6.3	150	1239	72	2300	0.01	95.54
	6:00	6.0	12.0	5.0	4.0	6.2	148	1186	79	2300	0.01	95.70
	10:00	6.0	12.0	5.0	4.0	6.5	147	1156	83	2300	0.01	97.02
	12:00	6.0	12.0	5.0	4.0	7.5	155	1265	91	2500	0.01	104.09
	14:00	6.0	12.0	5.0	4.0	7.6	158	1234	97	2500	0.02	102.53
	15:00	6.0	12.0	5.0	4.0	7.3	164	1209	104	2500	0.02	101.55
	18:00	6.0	12.0	5.0	4.0	7.2	175	1141	112	2500	0.02	99.32
	20:00	6.0	12.0	5.0	4.0	7.8	181	1130	129	2500	0.03	97.85
	22:00	6.0	12.0	5.0	4.0	8.1	182	1065	137	2500	0.03	97.69
2/22/2019	0:00	6.0	12.0	5.0	4.0	8.4	174	1059	156	2500	0.03	98.53
	8:00	6.0	12.0	5.0	4.0	7.8	175	1089	0	2500	0.03	98.77
	10:00	6.0	12.0	5.0	4.0	7.7	174	1121	9	2500	0.03	98.93
	12:00	6.0	12.0	5.0	4.0	8.3	176	1159	13	2400	0.03	94.67
	14:00	6.0	12.0	5.0	4.0	8.5	175	1279	19	2400	0.03	94.82
	16:00	6.0	12.0	5.0	4.0	8.0	176	1288	23	2400	0.03	94.67
	18:00	6.0	12.0	5.0	4.0	8.4	178	1267	29	2400	0.03	94.37
	20:00	6.0	12.0	5.0	4.0	8.3	179	1254	37	2400	0.03	94.23
	22:00	6.0	12.0	5.0	4.0	7.6	181	1230	48	2400	0.03	93.93
2/23/2019	0:00	6.0	12.0	5.0	4.0	7.4	180	1195	56	2400	0.03	94.08
	8:00	6.0	12.0	5.0	4.0	7.5	179	1152	99	2400	0.03	94.23
	10:00	6.0	12.0	5.0	4.0	7.3	176	1134	118	2400	0.02	95.65
	12:00	6.0	12.0	5.0	4.0	8.3	179	1139	131	2300	0.02	91.23

Well No.	Diameter (in)	Total well depth (ft)	Target Stinger Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
RW-10	4.00	13.00		0.00	2.37	0.00	0.00	4.21	0.00
RW-9	4.00	13.00		0.00	2.76	0.00	0.00	4.01	0.00
RW-8	4.00	13.00		0.00	2.35	0.00	0.00	3.95	0.00
RW-5	4.00	13.00		2.31	2.93	0.62	3.95	4.10	0.12

AFVR Information		
Client	ATC	
Equipment Operato	RU	
Blower Discharge I	4 inches	

Notes: Pipe ID - The inside diameter of the blower discharge piping (from vacuum truck)
Velocity - The rate at which air flows is measured at the blower discharge piping
Temperature - The temperature of the air stream exiting the blower discharge piping
Relative humidity - The % relative humidity of the air stream exiting the blower discharge piping
Water Vapor in % - Pounds of water per pound of dry air (derived from a Psychrometric chart of temp. vs relative humidity)
Flow rate = (1 - water vapor)*velocity*(Pipe Diameter/24)^2)3.14)528*R/(Temp + 460)

Total Gallons Extracted
19,296

2/19/19
AWR

EMISSION CALCULATION
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 2/19/2019 - 2/23/2019

Date/Time	Elapsed Time (hr)	Flow Rate (DSCFM)	Concentration (ppm)	K (#C - gas)	PPMg (ppm)	Cg:m (mg/dsm^3)	Cg (lbs/dscf)	PMRg (lb/hr)	PMR (lb)
2/19/2019 - 12:00	0.0								
12:30	0.5	101.91	2645	4	10580	56285.6	0.00351391	21.48617845	10.74308923
13:00	1.0	101.07	2521	4	10084	53646.88	0.003349175	20.31047501	10.15523751
13:30	1.5	98.27	2482	4	9928	52816.96	0.003297363	19.44253205	9.721266023
14:00	2.0	97.96	2458	4	9832	52306.24	0.003265479	19.19251876	9.596259378
14:30	2.5	97.64	2435	4	9740	51816.8	0.003234923	18.9518988	9.475946902
15:00	3.0	97.64	2165	4	8660	46071.2	0.002876225	16.85045178	8.425225891
15:30	3.5	97.80	1865	4	7460	39687.2	0.002477672	14.53885304	7.269426521
16:00	4.0	99.60	1515	4	6060	32239.2	0.002012693	12.0275808	6.013790398
16:30	4.5	99.44	1487	4	5948	31643.36	0.001975495	11.78618647	5.893093233
17:00	5.0	99.60	1451	4	5804	30877.28	0.001927669	11.51948497	5.759742487
17:30	5.5	100.08	1437	4	5748	30579.36	0.001909069	11.46408008	5.732040042
18:00	6.0	99.92	1368	4	5472	29111.04	0.001817402	10.89586706	5.44793353
18:30	6.5	100.08	1342	4	5368	28557.76	0.001782861	10.70619031	5.353095154
19:00	7.0	100.25	1260	4	5040	26812.8	0.001673923	10.06840983	5.034204913
19:30	7.5	100.58	1235	4	4940	26280.8	0.00164071	9.900943029	4.950471515
20:00	8.0	100.74	1226	4	4904	26089.28	0.001628754	9.844903179	4.92245159
21:00	9.0	100.41	1210	4	4840	25748.8	0.001607498	9.68466856	9.68466856
22:00	10.0	100.58	1183	4	4732	25174.24	0.001571628	9.484061218	9.484061218
23:00	11.0	100.74	1167	4	4668	24833.76	0.001550372	9.371127251	9.371127251
2/20/2019 - 0:00	12.0	100.74	1145	4	4580	24365.6	0.001521144	9.194465041	9.194465041
8:00	20.0	100.91	1063	4	4252	22620.64	0.001412207	8.550013217	68.40010574
9:00	21.0	101.07	1095	4	4380	23301.6	0.001454719	8.821884228	8.821884228
10:00	22.0	100.91	1134	4	4536	24131.52	0.001506531	9.121086537	9.121086537
11:00	23.0	101.07	1168	4	4672	24855.04	0.0015517	9.410009843	9.410009843
12:00	24.0	96.54	1201	4	4804	25557.28	0.001595541	9.242311056	9.242311056
14:00	26.0	96.39	1245	4	4980	26493.6	0.001653995	9.565232917	19.13046583
16:00	28.0	96.39	1261	4	5044	26834.08	0.001675252	9.688159605	19.37631921
18:00	30.0	96.54	1256	4	5024	26727.68	0.001668609	9.665564269	19.33112854
20:00	32.0	96.70	1264	4	5056	26897.92	0.001679237	9.743100669	19.48620134
22:00	34.0	96.39	1248	4	4992	26557.44	0.001657981	9.588281671	19.17656334
2/21/2019 - 0:00	36.0	96.54	1239	4	4956	26365.92	0.001646024	9.534740549	19.0694811
8:00	44.0	96.70	1186	4	4744	25238.08	0.001575613	9.141865026	73.13492021
10:00	46.0	97.02	1156	4	4624	24599.68	0.001535758	8.939980089	17.87996018
12:00	48.0	104.09	1265	4	5060	26919.2	0.001680566	10.49530923	20.99060647
14:00	50.0	102.53	1234	4	4936	26259.52	0.001639382	10.08549334	20.17098668
16:00	52.0	101.55	1209	4	4836	25727.52	0.001606169	9.786156877	19.57231375
18:00	54.0	99.32	1141	4	4564	24280.48	0.00151583	9.033071086	18.06614217
20:00	56.0	97.85	1130	4	4520	24046.4	0.001501217	8.813259033	17.62651807
22:00	58.0	97.69	1065	4	4260	22663.2	0.001414864	8.293363491	16.58672698
2/22/2019 - 0:00	60.0	98.93	1059	4	4236	22535.52	0.001406893	8.350698869	16.70139774
8:00	68.0	98.77	1089	4	4356	23173.92	0.001446748	8.573739328	68.58991463
10:00	70.0	98.93	1121	4	4484	23854.88	0.00148926	8.839597198	17.6791944
12:00	72.0	94.67	1159	4	4636	24663.52	0.001539744	8.746084606	17.49216921
14:00	74.0	94.82	1279	4	5116	27217.12	0.001699165	9.666832045	19.33366409
16:00	76.0	94.67	1288	4	5152	27408.64	0.001711121	9.719548725	19.43909745
18:00	78.0	94.37	1267	4	5068	26961.76	0.001683229	9.531105791	19.06221158
20:00	80.0	94.23	1254	4	5016	26685.12	0.001665952	9.418549665	18.83709933
22:00	82.0	93.93	1230	4	4920	26174.4	0.001634068	9.209465723	18.41893145
2/23/2019 - 0:00	84.0	94.08	1195	4	4780	25429.6	0.00158757	8.96138808	17.92277616
8:00	92.0	94.23	1162	4	4648	24727.36	0.001543729	8.727555591	69.82044473
10:00	94.0	95.65	1134	4	4536	24131.52	0.001506531	8.645649684	17.29129937
12:00	96.0	91.23	1139	4	4556	24237.92	0.001513173	8.28287592	16.56575184
						Total Emissions in pounds			919.9752796
						Equivalent Gallons (vapor)			148.3726103

STINGER DEPTHS
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 2/19/2019 - 2/23/2019

Date/Time	Elapsed Time	RW-10	RW-9	RW-8	RW-5
2/19/2019 - 12:00	0.0	2.50	3.00	2.50	3.00
12:30	0.5	2.50	3.00	2.50	3.00
13:00	1.0	3.00	3.00	3.00	3.50
13:30	1.5	3.50	3.50	3.50	3.50
14:00	2.0	3.50	3.50	3.50	3.50
14:30	2.5	4.00	4.00	4.00	4.00
15:00	3.0	4.00	4.00	4.00	4.00
15:30	3.5	4.50	4.50	4.50	4.50
16:00	4.0	4.50	4.50	4.50	4.50
16:30	4.5	5.00	5.00	5.00	5.00
17:00	5.0	5.00	5.00	5.00	5.00
17:30	5.5	4.50	4.50	4.50	4.50
18:00	6.0	4.00	4.00	4.00	4.00
18:30	6.5	3.50	3.50	3.50	3.50
19:00	7.0	3.50	3.50	3.50	3.50
19:30	7.5	3.00	3.00	3.00	3.00
20:00	8.0	3.00	3.00	3.00	3.00
21:00	9.0	3.00	3.00	3.00	3.00
22:00	10.0	3.00	3.00	3.00	3.00
23:00	11.0	3.00	3.00	3.00	3.00
2/20/2019 - 0:00	12.0	3.00	3.00	3.00	3.00
8:00	20.0	3.00	3.00	3.00	3.00
9:00	21.0	3.00	3.00	3.00	3.00
10:00	22.0	3.00	3.00	3.00	3.00
11:00	23.0	3.00	3.00	3.00	3.00
12:00	24.0	3.00	3.00	3.00	3.00
14:00	26.0	3.00	3.00	3.00	3.00
16:00	28.0	3.00	3.00	3.00	3.00
18:00	30.0	3.00	3.00	3.00	3.00
20:00	32.0	3.00	3.00	3.00	3.00
22:00	34.0	3.00	3.00	3.00	3.00
2/21/2019 - 0:00	36.0	3.00	3.00	3.00	3.00
8:00	44.0	3.00	3.00	3.00	3.00
10:00	46.0	3.00	3.00	3.00	3.00
12:00	48.0	3.00	3.00	3.00	3.00
14:00	50.0	3.00	3.00	3.00	3.00
16:00	52.0	3.00	3.00	3.00	3.00
18:00	54.0	3.00	3.00	3.00	3.00
20:00	56.0	3.00	3.00	3.00	3.00
22:00	58.0	3.00	3.00	3.00	3.00
2/22/2019 - 0:00	60.0	3.00	3.00	3.00	3.00
8:00	68.0	3.00	3.00	3.00	3.00
10:00	70.0	3.00	3.00	3.00	3.00
12:00	72.0	3.00	3.00	3.00	3.00
14:00	74.0	3.00	3.00	3.00	3.00
16:00	76.0	3.00	3.00	3.00	3.00
18:00	78.0	3.00	3.00	3.00	3.00
20:00	80.0	3.00	3.00	3.00	3.00
22:00	82.0	3.00	3.00	3.00	3.00
2/23/2019 - 0:00	84.0	3.00	3.00	3.00	3.00
8:00	92.0	3.00	3.00	3.00	3.00
10:00	94.0	3.00	3.00	3.00	3.00
12:00	96.0	3.00	3.00	3.00	3.00

DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 2/19/2019 - 2/23/2019

		Well Designation:				
		MW-5	MW-36			
Date/Time	Elapsed Time	Differential Pressure Readings (inches of water)				
2/19/2019 - 12:00	0.0					
12:30	0.5	0.0	0.0			
13:00	1.0	0.0	0.0			
13:30	1.5	0.0	0.0			
14:00	2.0	0.0	0.0			
14:30	2.5	0.0	0.0			
15:00	3.0	0.0	0.0			
15:30	3.5	0.0	0.0			
16:00	4.0	0.0	0.0			
16:30	4.5	0.0	0.0			
17:00	5.0	0.0	0.0			
17:30	5.5	0.0	0.0			
18:00	6.0	0.0	0.0			
18:30	6.5	0.0	0.0			
19:00	7.0	0.0	0.0			
19:30	7.5	0.0	0.0			
20:00	8.0	0.0	0.0			
21:00	9.0	0.0	0.0			
22:00	10.0	0.0	0.0			
23:00	11.0	0.0	0.0			
2/20/2019 - 0:00	12.0	0.0	0.0			
8:00	20.0	0.0	0.0			
9:00	21.0	0.0	0.0			
10:00	22.0	0.0	0.0			
11:00	23.0	0.0	0.0			
12:00	24.0	0.0	0.0			
14:00	26.0	0.0	0.0			
16:00	28.0	0.0	0.0			
18:00	30.0	0.0	0.0			
20:00	32.0	0.0	0.0			
22:00	34.0	0.0	0.0			
2/21/2019 - 0:00	36.0	0.0	0.0			
8:00	44.0	0.0	0.0			
10:00	46.0	0.0	0.0			
12:00	48.0	0.0	0.0			
14:00	50.0	0.0	0.0			
16:00	52.0	0.0	0.0			
18:00	54.0	0.0	0.0			
20:00	56.0	0.0	0.0			
22:00	58.0	0.0	0.0			
2/22/2019 - 0:00	60.0	0.0	0.0			
8:00	68.0	0.0	0.0			
10:00	70.0	0.0	0.0			
12:00	72.0	0.0	0.0			
14:00	74.0	0.0	0.0			
16:00	76.0	0.0	0.0			
18:00	78.0	0.0	0.0			
20:00	80.0	0.0	0.0			
22:00	82.0	0.0	0.0			
2/23/2019 - 0:00	84.0	0.0	0.0			
8:00	92.0	0.0	0.0			
10:00	94.0	0.0	0.0			
12:00	96.0	0.0	0.0			
Maximum Change:		0.0	0.0			

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-5	MW-36			
Time	Elapsed Time	Depth to Liquid (feet below of casing):				
Prior to AFVR	0 hours	2.75	2.74			
	24 hours	2.75	2.74			
	48 hours	2.78	2.75			
	72 hours	2.79	2.76			
	96 hours	2.80	2.77			
Maximum Change:		0.05	0.03			

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: Circle K, 4315 Savannah Hwy, Ravenel, SC — Phone ( ) — P O #:

3. Agent of Generator and Mailing Address: Verco, Lexington, SC — Phone ( ) — P O #:

4. Transporter Company Name: Goodsell Transport, 511 Old Mt Holly Rd, Goose Creek — Phone ( )
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address: US Water Recovery, 511 Old Mt. Holly Rd., Goose Creek, SC 29445
Mailing Address: US Water Recovery, 511 Old Mt. Holly Rd., Goose Creek, SC 29445
Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	101	VT	GAL	4840

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.
Printed/Typed Name: Robert Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: C. Berry Signature: Date: 2-20-19

11. Discrepancy Indication space:

12. Facility Owner or Operator Certification of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Date 2-20-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20464

56177442
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER
7442

CUSTOMER COPY

THE CAT SCALE GUARANTEE

The CAT Scale Company guarantees that our scales will give [illegible] 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 **WITH** the driver as an expert witness if we believe our scale was correct.

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: [illegible]

SCALE: [illegible]

LOCATION: PILOT
I-26 EXIT 153
BOWMAN SC

STEER AXLE	[illegible]
DRIVE AXLE	[illegible]
TRAILER AXLE	[illegible]
* GROSS WEIGHT	[illegible]

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 [illegible]

COMPANY [illegible] TRACTOR # [illegible] TRAILER # [illegible]

FEE [illegible]

WEIGHMASTER OR WEIGHER SIGNATURE [illegible]

TICKET # OF FULL $ WEIGH (IF REWEIGH)

© CAT Scale® Reg 3067 7/18

56292803
TICKET NUMBER

CAT SCALE®

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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DATE: 2-20-19

08:11
56292803

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 893
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

STEER AXLE	10660	lb
DRIVE AXLE	34660	lb
TRAILER AXLE	33480	lb
* GROSS WEIGHT	78800	lb

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSALES TRACTOR # 08 TRAILER # 101

WEIGH NUMBER
2803

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE SHERRY YARBERT

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

78800
38480
40320 / 8.33 = 4840
gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): | Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
4315 Savannah Hwy
Ravenel, SC
Phone ( )
P O #:

3. Agent of Generator and Mailing Address:
Verco
Lexington, SC
Phone ( )
P O #:

4. Transporter Company Name:
Goodseed Transport
511 Old Mt Holly Rd
Goose Creek, SC
Phone ( )
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: | End Level: | Total Gallons: | Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	101	VT	GAL	5128

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Robert Ulrich | Signature: | Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Pike my | Signature: Paul Berry | Date: 2-21-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL GOODSELL | Signature: | Date 2-21-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20466

4388433U
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
PO. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WE GH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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*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: 10-16-18

SCALE: 254

[redacted] LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE	14660 lb
DRIVE AXLE	7580 lb
TRAILER AXLE	8960 lb
GROSS WEIGHT	31200 lb

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL

TRACTOR #: 18 TRAILER #: 70823

WEIGH NUMBER 4330

FEE: $11.50 WEIGHMASTER OR WEIGHER SIGNATURE: DON

TICKET # OF FULL WEIGH (IF REWEIGH):

DRIVER IN TRUCK UNLESS CHECKED HERE

TOMER COPY

© CAT Scale® Reg 3063 11/17

56292851
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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DATE: 2-21-19

06:07
56292851
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 893
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

STEER AXLE	10460 lb
DRIVE AXLE	32420 lb
TRAILER AXLE	31040 lb
* GROSS WEIGHT	73920 lb

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSALES TRACTOR # 08 TRAILER # 101

WEIGH NUMBER 2803

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE JODECI

TICKET # OF FULL $ WEIGH (IF REWEIGH) 56292803

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

73920
31200
42,720 / 8.33 = 5128 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
VERCO
Circle K
4315 Savannah Hwy
RAVENEL, SC

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:

Phone ( )

P O #:

4. Transporter Company Name:
GOODSELL TRANSPORT

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111

Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	105	VT	GAL	~~5000~~
EMPTY TRAILER DCW				4917

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Robert Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Date: 2/22/19

11. Discrepancy Indication Space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: Date 2-22-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21332

47199288
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER
9288

CUSTOMER COPY

THE CAT SCALE GUARANTEE

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WEIGH WHAT WE SAY OR WE PAY®

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DATE: 1-05-19

SCALE: 1033

LOCATION: LOVES COUNTRY STORE
I-26 EXIT 154 A
ORANGEBURG SC

STEER AXLE	10320 lb
DRIVE AXLE	15540 lb
TRAILER AXLE	12120 lb
* GROSS WEIGHT	37980 lb

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LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODCELL TRANS

TRACTOR #: 05

TRAILER #: 105

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: Carrie Pindetkis 326
CARRIE PINDETKIS

TICKET # OF FULL $ WEIGH (IF REWEIGH)

© CAT Scale® Reg 3063 11/1

56758325

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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DATE: 2-22-19

08:23

56758325

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 1871

LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

STEER AXLE	10680 lb
DRIVE AXLE	35060 lb
TRAILER AXLE	33200 lb
* GROSS WEIGHT	78940 lb

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 05 TRAILER # 105

WEIGH NUMBER 8325

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE B MacBay BRITTANY M

TICKET # OF FULL $ WEIGH (IF REWEIGH)

DRIVER IN TRUCK UNLESS CHECKED HERE

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

78940
37980
40,960 / 8.33 = 4917 gallons

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (If applicable): Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
4315 Savannah Hwy
Ravenel, SC
Phone ( )
P O #:

3. Agent of Generator and Mailing Address:
Vereo
Lexington SC
Phone ( )
P O #:

4. Transporter Company Name:
Goodsell Transport
511 Old Mt Holly Rd
Goose Creek, SC
Phone ( )
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	70823	BLK	GAL	4413

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Printed/Typed Name: Jerrica Drayton Signature: Jerrica Drayton Date: 2-23-19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: C. Berry Signature: Carl Berry Date: 2-23-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: Paul Woods Signature: Paul Woods Date 2-23-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20471

43884330
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER
4330

TOMER COPY

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DATE: 10-16-18

SCALE: 254

LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE	14660 lb
DRIVE AXLE	7580 lb
TRAILER AXLE	8960 lb
* GROSS WEIGHT	31200 lb

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LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL

TRACTOR #: 08

TRAILER #: 70823

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: DON

TICKET # OF FULL $ WEIGH (IF REWEIGH):

DRIVER IN TRUCK UNLESS CHECKED HERE

© CAT Scale® Reg 3063 11/17

56292949
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
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DATE: 2-23-19

STEER AXLE	10440	lb
DRIVE AXLE	30200	lb
TRAILER AXLE	27320	lb
* GROSS WEIGHT	67960	lb

10:51
56292949

SCALE: 693
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOOD SELL TRANSPORT TRACTOR #: 08 TRAILER #: 70813

WEIGH NUMBER 2943

FEE: $2.00

WEIGHMASTER OR WEIGHER SIGNATURE: KYRA W

TICKET # OF FULL $ WEIGH (IF REWEIGH): 56292943

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

67960
31200
36,760 / 8.33 = 4413 gallons

AFVR MONITORING DATA
SITE LOCATION: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 3/4/2019 - 3/8/2019

Date	Time (hh:mm)	Extraction Well Head Vacuum (in. Hg)				Vacuum Truck Exhaust						
		RW-5	RW-6	RW-9	RW-10	Relative Humidity	Temp (°F)	Pretreatment Conc. (PPM)	Post Treatment Conc. (PPM)	Offgas Velocity Ft/Min	Water Vapor (%)	Flow Rate (DSCFM)
3/4/2019	10:00	7.0	4.0	10.0	4.0							
	10:30	7.0	4.0	10.0	4.0	9.6	134	7361	22	2200	0.01	94.83
	11:00	7.0	4.0	10.0	4.0	9.8	136	7212	48	2200	0.01	94.51
	11:30	7.0	4.0	10.0	4.0	9.4	137	7181	72	2200	0.01	94.36
	12:00	7.0	4.0	10.0	4.0	9.6	148	7061	88	2200	0.01	92.85
	12:30	7.0	4.0	10.0	4.0	9.4	150	6915	103	2200	0.02	91.41
	13:00	7.0	4.0	10.0	4.0	8.4	165	6761	139	2200	0.02	89.22
	13:30	7.0	4.0	10.0	4.0	8.6	173	6354	156	2200	0.03	87.19
	14:00	7.0	4.0	10.0	4.0	8.3	174	6126	177	2200	0.03	87.05
	14:30	7.0	4.0	10.0	4.0	7.8	175	6365	191	2200	0.02	87.81
	15:00	7.0	4.0	10.0	4.0	7.2	176	6918	219	2200	0.02	87.68
	15:30	7.0	4.0	10.0	4.0	7.3	177	6031	237	2200	0.02	87.54
	16:00	7.0	4.0	10.0	4.0	7.1	174	5332	261	2200	0.02	87.95
	16:30	7.0	4.0	10.0	4.0	12.8	173	5531	289	2200	0.03	87.19
	17:00	7.0	4.0	10.0	4.0	12.8	176	5845	329	2200	0.03	86.78
	17:30	7.0	4.0	10.0	4.0	12.1	180	5931	358	2200	0.04	85.35
	18:00	7.0	4.0	10.0	4.0	13.0	179	6178	391	2200	0.04	85.48
	19:00	7.0	4.0	10.0	4.0	9.4	174	6454	448	2200	0.03	87.05
	20:00	7.0	4.0	10.0	4.0	9.6	170	7127	497	2200	0.03	87.61
	21:00	7.0	4.0	10.0	4.0	8.8	172	7024	531	2200	0.03	87.33
	22:00	7.0	4.0	10.0	4.0	8.4	171	7010	569	2200	0.02	88.37
	23:00	7.0	4.0	10.0	4.0	8.1	174	6985	638	2200	0.03	87.05
3/5/2019	0:00	7.0	4.0	10.0	4.0	7.9	175	6962	712	2200	0.02	87.81
	8:00	7.0	4.0	10.0	4.0	7.8	173	7023	993	2200	0.02	88.09
	9:00	7.0	4.0	10.0	4.0	7.6	171	6716	13	2200	0.02	88.37
	10:00	7.0	4.0	10.0	4.0	7.5	167	5965	31	2300	0.02	92.98
	12:00	7.0	4.0	10.0	4.0	7.2	166	5856	58	2300	0.02	93.13
	14:00	7.0	4.0	10.0	4.0	7.3	167	5559	69	2300	0.02	92.98
	16:00	7.0	4.0	10.0	4.0	7.1	166	5218	81	2300	0.02	93.13
	18:00	7.0	4.0	10.0	4.0	7.1	167	7154	99	2300	0.02	92.98
	20:00	7.0	4.0	10.0	4.0	7.3	169	5979	121	2300	0.02	92.68
	22:00	7.0	4.0	10.0	4.0	7.5	171	6692	136	2300	0.02	92.38
3/6/2019	0:00	7.0	4.0	10.0	4.0	7.8	172	6393	166	2300	0.02	92.24
	8:00	7.0	4.0	10.0	4.0	8.1	170	6111	289	2400	0.02	92.53
	10:00	7.0	4.0	10.0	4.0	8.2	167	6349	322	2400	0.02	97.02
	12:00	7.0	4.0	10.0	4.0	7.6	166	6289	407	2400	0.02	96.86
	14:00	7.0	4.0	10.0	4.0	7.2	165	6321	491	2400	0.02	97.33
	16:00	7.0	4.0	10.0	4.0	7.4	167	6129	547	2400	0.02	97.02
	18:00	7.0	4.0	10.0	4.0	7.2	168	6011	569	2400	0.02	96.86
	20:00	7.0	4.0	10.0	4.0	7.3	167	5992	621	2400	0.02	97.02
	22:00	7.0	4.0	10.0	4.0	7.6	165	5823	669	2400	0.02	97.33
3/7/2019	0:00	7.0	4.0	10.0	4.0	7.5	166	5799	732	2400	0.02	97.17
	8:00	7.0	4.0	10.0	4.0	7.4	165	5316	918	2400	0.02	97.33
	10:00	7.0	4.0	10.0	4.0	7.7	170	5212	4	2300	0.02	92.53
	12:00	7.0	4.0	10.0	4.0	7.9	171	4861	23	2300	0.02	92.39
	14:00	7.0	4.0	10.0	4.0	7.0	170	4804	39	2300	0.02	92.53
	16:00	7.0	4.0	10.0	4.0	7.7	175	4781	53	2300	0.02	91.81
	18:00	7.0	4.0	10.0	4.0	7.2	172	4514	71	2300	0.02	92.24
	20:00	7.0	4.0	10.0	4.0	6.2	169	4444	88	2300	0.02	92.68
	22:00	7.0	4.0	10.0	4.0	6.3	170	4373	119	2300	0.02	92.53
3/8/2019	0:00	7.0	4.0	10.0	4.0	6.5	168	4345	143	2300	0.02	92.83
	8:00	7.0	4.0	10.0	4.0	6.8	169	4315	387	2300	0.02	92.68
	10:00	7.0	4.0	10.0	4.0	7.0	170	4281	456	2400	0.02	96.56

Well No.	Diameter (in)	Total well depth (ft)	Target Stinger Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
RW-5	4.00	13.00	4.5 - 6.0	2.15	3.81	1.66	5.50	5.51	0.01
RW-6	4.00	13.00	4.5 - 6.0	1.72	3.92	2.20	5.60	5.94	0.34
RW-9	4.00	13.00	4.0 - 6.0	2.74	3.25	0.51	5.00	5.58	0.00
RW-10	4.00	13.00	4.5 - 6.0	1.85	3.90	2.05	5.49	5.54	0.05

AFVR Information	
Client	ATC
Equipment Operator	RU
Blower Discharge L	2 inches

Notes: Pipe ID - The inside diameter of the blower discharge piping (from vacuum truck)
Velocity - The rate at which air flows is measured at the blower discharge piping
Temperature - The temperature of the air stream exiting the blower discharge piping
Relative humidity - The % relative humidity of the air stream exiting the blower discharge piping
Water Vapor in % - Pounds of water per pound of dry air (derived from a Psychrometric chart of temp. vs relative humidity)
Flow rate = (1 - water vapor)(velocity)(Pipe Diameter/24)^2(3.1416)(528°R/Temp + 460)

Total Gallons Extracted
16,737

3/4/19
96 hr

EMISSION CALCULATION
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 3/4/2019 - 3/8/2019

Date/Time	Elapsed Time (hr)	Flow Rate (DSCFM)	Concentration (ppm)	K (#C - gas)	PPMg (ppm)	Cg:m (mg/dsm³)	Cg (lbs/dscf)	PMRg (lb/hr)	PMR (lb)
3/4/2019 - 10:00	0.0								
10:30	0.5	94.83	7361	4	29444	156642.08	0.009779165	55.64326766	27.82163383
11:00	1.0	94.51	7212	4	28848	153471.36	0.009581217	54.33400415	27.16700208
11:30	1.5	94.36	7181	4	28724	152811.68	0.009540083	54.0098348	27.0049174
12:00	2.0	92.65	7061	4	28244	150258.08	0.009380612	52.1464665	26.07323325
12:30	2.5	91.41	6915	4	27660	147151.2	0.009186649	50.38664988	25.19332494
13:00	3.0	89.22	6761	4	27044	143874.08	0.008982059	48.08216927	24.04108463
13:30	3.5	87.19	6354	4	25416	135213.12	0.008441355	44.16134515	22.08067257
14:00	4.0	87.05	6126	4	24504	130361.28	0.008138455	42.50955195	21.25477598
14:30	4.5	87.81	6365	4	25460	135447.2	0.008455969	44.55308867	22.27654433
15:00	5.0	87.68	6918	4	27672	147215.04	0.009190635	48.34778436	24.17389218
15:30	5.5	87.54	6031	4	24124	128339.68	0.008012246	42.0826452	21.0413226
16:00	6.0	87.95	5332	4	21328	113464.96	0.007083617	37.381267	18.6906335
16:30	6.5	87.19	5531	4	22124	117699.68	0.007347991	38.44135977	19.22067989
17:00	7.0	86.78	5845	4	23380	124381.6	0.007765143	40.43209014	20.21604507
17:30	7.5	85.35	5931	4	23724	126211.68	0.007879395	40.35025111	20.17512556
18:00	8.0	85.48	6178	4	24712	131467.84	0.008207537	42.09643685	21.04821842
19:00	9.0	87.05	6454	4	25816	137341.12	0.008574206	44.78561024	44.78561024
20:00	10.0	87.61	7127	4	28508	151662.56	0.009468294	49.76969764	49.76969764
21:00	11.0	87.33	7024	4	28096	149470.72	0.009331457	48.89519895	48.89519895
22:00	12.0	88.37	7010	4	28040	149172.8	0.009312858	49.37894344	49.37894344
23:00	13.0	87.05	6885	4	27540	148640.8	0.009279645	48.47032654	48.47032654
3/5/2019 - 0:00	14.0	87.81	6962	4	27848	148151.36	0.009249089	48.73190939	48.73190939
8:00	22.0	88.09	7023	4	28092	149449.44	0.009330129	49.31421143	394.5136914
9:00	23.0	88.37	6716	4	26864	142916.48	0.008922276	47.30798633	47.30798633
10:00	24.0	92.98	5965	4	23860	126935.2	0.007924565	44.20803351	44.20803351
12:00	26.0	93.13	5856	4	23424	124615.68	0.007779757	43.469538	86.93907599
14:00	28.0	92.98	5559	4	22236	118295.52	0.007385189	41.19907096	82.39814192
16:00	30.0	93.13	5218	4	20872	111039.04	0.006932167	38.73361497	77.46722994
18:00	32.0	92.98	7154	4	28616	152237.12	0.009504163	53.01999526	106.0399905
20:00	34.0	92.68	6979	4	27916	148513.12	0.009271674	51.55856751	103.117135
22:00	36.0	92.39	6692	4	26768	142405.76	0.008890392	49.28160718	98.56321436
3/6/2019 - 0:00	38.0	92.24	6393	4	25572	136043.04	0.008493167	47.00520118	94.01040236
8:00	46.0	92.53	6111	4	24444	130042.08	0.008118527	45.07440721	360.5952577
10:00	48.0	97.02	6349	4	25396	135106.72	0.008434713	49.09977269	98.19954538
12:00	50.0	96.86	6289	4	25156	133829.92	0.008355002	48.55831927	97.11663855
14:00	52.0	97.33	6321	4	25284	134510.88	0.008397514	49.03966201	98.07932402
16:00	54.0	97.02	6129	4	24516	130425.12	0.00814244	47.39841027	94.79682055
18:00	56.0	96.86	6011	4	24044	127914.08	0.007985676	46.41183927	92.82367853
20:00	58.0	97.02	5992	4	23968	127509.76	0.007960434	46.33892549	92.67785099
22:00	60.0	97.33	5823	4	23292	123913.44	0.007735916	45.17607212	90.35214424
3/7/2019 - 0:00	62.0	97.17	5799	4	23196	123402.72	0.007704032	44.91800621	89.83601242
8:00	70.0	97.33	5318	4	21272	113167.04	0.007065018	41.25817475	330.065398
10:00	72.0	92.53	5212	4	20848	110911.36	0.006924196	38.44343158	76.88686316
12:00	74.0	92.39	4861	4	19444	103442.08	0.006457889	35.79765279	71.59530559
14:00	76.0	92.53	4804	4	19216	102229.12	0.006382164	35.43404553	70.86809106
16:00	78.0	91.81	4781	4	19124	101739.68	0.006351608	34.98672634	69.97345267
18:00	80.0	92.24	4514	4	18056	96057.92	0.005996896	33.18965714	66.37931429
20:00	82.0	92.68	4444	4	17776	94568.32	0.0059039	32.83081731	65.66163462
22:00	84.0	92.53	4373	4	17492	93057.44	0.005809576	32.25501272	64.51002544
3/8/2019 - 0:00	92.0	92.83	4345	4	17380	92461.6	0.005772378	32.15055147	257.2044118
8:00	94.0	92.68	4315	4	17260	91823.2	0.005732522	31.87780754	63.75561507
10:00	96.0	96.56	4281	4	17124	91099.68	0.005687353	32.94931374	65.89862749
						Total Emissions in pounds			4109.351705
						Equivalent Gallons (vapor)			667.1025496

3

STINGER DEPTHS
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 3/4/2019 - 3/8/2019

Date/Time	Elapsed Time	RW-5	RW-6	RW-9	RW-10
3/4/2019 - 10:00	0.0	4.50	4.50	4.00	4.50
10:30	0.5	4.50	4.50	4.00	4.50
11:00	1.0	4.50	4.50	4.50	4.50
11:30	1.5	4.50	4.50	4.50	4.50
12:00	2.0	4.50	4.50	4.50	4.50
12:30	2.5	5.00	5.00	5.00	5.00
13:00	3.0	5.00	5.00	5.00	5.00
13:30	3.5	5.00	5.00	5.00	5.00
14:00	4.0	5.50	5.50	5.50	5.50
14:30	4.5	5.50	5.50	5.50	5.50
15:00	5.0	6.00	6.00	6.00	6.00
15:30	5.5	6.00	6.00	6.00	6.00
16:00	6.0	6.00	6.00	6.00	6.00
16:30	6.5	6.00	6.00	6.00	6.00
17:00	7.0	6.00	6.00	6.00	6.00
17:30	7.5	6.00	6.00	6.00	6.00
18:00	8.0	6.00	6.00	6.00	6.00
19:00	9.0	5.50	5.50	5.50	5.50
20:00	10.0	5.50	5.50	5.50	5.50
21:00	11.0	5.50	5.50	5.50	5.50
22:00	12.0	6.00	6.00	6.00	6.00
23:00	13.0	5.00	5.00	5.00	5.00
3/5/2019 - 0:00	14.0	5.00	5.00	5.00	5.00
8:00	22.0	5.00	5.00	5.00	5.00
9:00	23.0	5.00	5.00	5.00	5.00
10:00	24.0	5.00	5.00	5.00	5.00
12:00	26.0	5.00	5.00	5.00	5.00
14:00	28.0	5.00	5.00	5.00	5.00
16:00	30.0	5.00	5.00	5.00	5.00
18:00	32.0	5.00	5.00	5.00	5.00
20:00	34.0	5.00	5.00	5.00	5.00
22:00	36.0	5.00	5.00	5.00	5.00
3/6/2019 - 0:00	38.0	5.00	5.00	5.00	5.00
8:00	46.0	5.00	5.00	5.00	5.00
10:00	48.0	5.00	5.00	5.00	5.00
12:00	50.0	5.00	5.00	5.00	5.00
14:00	52.0	5.00	5.00	5.00	5.00
16:00	54.0	5.00	5.00	5.00	5.00
18:00	56.0	5.00	5.00	5.00	5.00
20:00	58.0	5.00	5.00	5.00	5.00
22:00	60.0	5.00	5.00	5.00	5.00
3/7/2019 - 0:00	62.0	5.00	5.00	5.00	5.00
8:00	70.0	5.00	5.00	5.00	5.00
10:00	72.0	5.00	5.00	5.00	5.00
12:00	74.0	5.00	5.00	5.00	5.00
14:00	76.0	5.00	5.00	5.00	5.00
16:00	78.0	5.00	5.00	5.00	5.00
18:00	80.0	5.00	5.00	5.00	5.00
20:00	82.0	5.00	5.00	5.00	5.00
22:00	84.0	5.00	5.00	5.00	5.00
3/8/2019 - 0:00	92.0	5.00	5.00	5.00	5.00
8:00	94.0	5.00	5.00	5.00	5.00
10:00	96.0	5.00	5.00	5.00	5.00

DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 3/4/2019 - 3/8/2019

		Well Designation:				
		MW-6	MW-1			
Date/Time	Elapsed Time	Differential Pressure Readings (Inches of water)				
3/4/2019 - 10:00	0.0					
10:30	0.5	0.0	0.0			
11:00	1.0	0.0	0.0			
11:30	1.5	0.0	0.0			
12:00	2.0	0.0	0.0			
12:30	2.5	0.0	0.0			
13:00	3.0	0.0	0.0			
13:30	3.5	0.0	0.0			
14:00	4.0	0.0	0.0			
14:30	4.5	0.0	0.0			
15:00	5.0	0.0	0.0			
15:30	5.5	0.0	0.0			
16:00	6.0	0.0	0.0			
16:30	6.5	0.0	0.0			
17:00	7.0	0.0	0.0			
17:30	7.5	0.0	0.0			
18:00	8.0	0.0	0.0			
19:00	9.0	0.0	0.0			
20:00	10.0	0.0	0.0			
21:00	11.0	0.0	0.0			
22:00	12.0	0.0	0.0			
23:00	13.0	0.0	0.0			
3/5/2019 - 0:00	14.0	0.0	0.0			
8:00	22.0	0.0	0.0			
9:00	23.0	0.0	0.0			
10:00	24.0	0.0	0.0			
12:00	26.0	0.0	0.0			
14:00	28.0	0.0	0.0			
16:00	30.0	0.0	0.0			
18:00	32.0	0.0	0.0			
20:00	34.0	0.0	0.0			
22:00	36.0	0.0	0.0			
3/6/2019 - 0:00	38.0	0.0	0.0			
8:00	46.0	0.0	0.0			
10:00	48.0	0.0	0.0			
12:00	50.0	0.0	0.0			
14:00	52.0	0.0	0.0			
16:00	54.0	0.0	0.0			
18:00	56.0	0.0	0.0			
20:00	58.0	0.0	0.0			
22:00	60.0	0.0	0.0			
3/7/2019 - 0:00	62.0	0.0	0.0			
8:00	70.0	0.0	0.0			
10:00	72.0	0.0	0.0			
12:00	74.0	0.0	0.0			
14:00	76.0	0.0	0.0			
16:00	78.0	0.0	0.0			
18:00	80.0	0.0	0.0			
20:00	82.0	0.0	0.0			
22:00	84.0	0.0	0.0			
3/8/2019 - 0:00	92.0	0.0	0.0			
8:00	94.0	0.0	0.0			
10:00	96.0	0.0	0.0			
Maximum Change:		0.0	0.0			

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-6	MW-1			
Time	Elapsed Time	Depth to Liquid (feet below of casing):				
Prior to AFVR	0 hours	4.12	4.93			
	24 hours	4.12	4.93			
	48 hours	4.15	4.94			
	72 hours	4.15	4.94			
	96 hours	4.16	4.94			
Maximum Change:		0.04	0.01			

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: CIRCLE K
4315 SAVANAH HWY
RAVENAL SC
Phone ( )
P O #:

3. Agent of Generator and Mailing Address: VERCO
Phone ( )
P O #:

4. Transporter Company Name: Goodsell TRANSPORT
Phone ( )
Truck & Trailer License Number: Goose Creek SC.

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	107	UT	GAL	3145

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: PAUL Goodsell Signature: AS AGENT FOR VERCO Date: 3-5-19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: [signature] Date: 3-5-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: [signature] Date 3-5-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21421

56776675

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-05-19

08:19
56776675

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: #54
LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE	10580 lb
DRIVE AXLE	23720 lb
TRAILER AXLE	23360 lb
* GROSS WEIGHT	57660 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 09 TRAILER # 107

WEIGH NUMBER 6675

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE Don

TINA

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

Load 1 - 3/5/19

57,660 - Full
31,460 - Empty
26,200 / 8.33 = 3,145 gallons

56776680

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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* 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: 5-05-19

SCALE: 564

LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE 10240 lb

DRIVE AXLE 12160 lb

TRAILER AXLE 9060 lb

* GROSS WEIGHT 31460 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 09 TRAILER # 107

WEIGH NUMBER 6675

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE DON

TICKET # OF FULL $ WEIGH (IF REWEIGH) 56776675

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: Phone ( )
Circle K
Savannah Hwy
Ravenel, SC
P O #:

3. Agent of Generator and Mailing Address: Phone ( )
Verco Environmental
Lexington, SC
P O #:

4. Transporter Company Name: Phone ( )
Goodsell Transport
511 old Mt Holly Rd
Goose Creek, SC
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	108	Blk	Gal	4,804

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: P. Berry Signature: Paul Berry Date: 3-6-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Paul Goodsell Date 3-6-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20325

56293363
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH WHAT WE SAY OR WE PAY®

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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3) **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 5-06-19

12:13
56293363

SCALE 593
LOCATION PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10720	lb
DRIVE AXLE	32200	lb
TRAILER AXLE	30720	lb
* GROSS WEIGHT	73640	lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 08 TRAILER # 108

WEIGH NUMBER 3363

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE SABRINA SANFORD

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

Load 2 - 3/6/19
73640 Full
33620 Empty
40,020 / 8.33 = 4,804 gallons

56293373
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH WHAT WE SAY OR WE PAY®

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3) **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: 5-06-19

STEER AXLE 10640 lb
DRIVE AXLE 13900 lb
TRAILER AXLE 9080 lb
*GROSS WEIGHT 33620 lb

13:39
56293373
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 693
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL
TRACTOR #: 08
TRAILER #: 108

WEIGH NUMBER
3363

FEE: $2.00

WEIGHMASTER OR WEIGHER SIGNATURE: Sabrina Sanford
SABRINA SANFORD

TICKET # OF FULL $ WEIGH (IF REWEIGH): 56293363

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
Savannah Hwy
Ravenel, SC

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:
Verco
Lexington

Phone ( )

P O #:

4. Transporter Company Name:
Goodsell Transport
516 Old Mt Holly Rd
Goose Creek, SC

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	101	VT	GAL	5,789

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Robert Udics Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: P. Berry Signature: Carl Berry Date: 3-7-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Paul Goodsell Date 3-7-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20326

56293409
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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®

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-07-19

08:49
56293409
SCALE: 593
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10640	lb
DRIVE AXLE	38380	lb
TRAILER AXLE	37680	lb
* GROSS WEIGHT	86700	lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL TRACTOR #: 08 TRAILER #: 107

WEIGH NUMBER 3363

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE: FATIMAH CARN

TICKET # OF FULL $ WEIGH (IF REWEIGH): 56293363

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

Load 3 - 3/7/19

86700 - Full
38480 - Empty
48,220 / 8.33 = 5,789 gallons

56177442
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6283
www.catscale.com

THE CAT SCALE GUARANTEE

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* The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. [illegible]ghts are guaranteed by CAT Scale.

DATE: 2-19-19

12:59
56177442
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 329
LOCATION: PILOT
I-26 EXIT 159
BOWMAN SC

STEER AXLE	10900 lb
DRIVE AXLE	16820 lb
TRAILER AXLE	10760 lb
* GROSS WEIGHT	38480 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOOD SELL TRACTOR # 08 TRAILER # 101

WEIGH NUMBER
7442

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE BRANDY JEFFCOAT

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
SAVANNAH Hwy
Ravenel, SC

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:
Verco
Lexington SC

Phone ( )

P O #:

4. Transporter Company Name:
Goodsell Transport
511 old mt holly rd
Goose Creek, SC

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	70823	Blk	Gal	4989

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: ROSHINA BENNETT Signature: Roshina Bennett Date: 3-8-19

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Date: 3-8-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: Date 3-8-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20329

58628951
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

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DATE: 3-08-19

13:03
58628951

SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10660 lb
DRIVE AXLE	33680 lb
TRAILER AXLE	31240 lb
* GROSS WEIGHT	75580 lb

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IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL TRACTOR #: 08 TRAILER #: 70823

WEIGH NUMBER
8951

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: B MacBay
BRITTANY M

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

Load 4 - 3/8/19

75580 - Full
34020 - Empty
41,560 / 8.33 = 4,989 gallons

56177784
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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DATE: 3-13-19

SCALE: 329

LOCATION: PILOT
I-26 EXIT 159
BOWMAN SC

STEER AXLE 10800 lb

DRIVE AXLE 14260 lb

TRAILER AXLE 8960 lb

* GROSS WEIGHT 34020 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 69 TRAILER # 70833

WEIGH NUMBER 7784

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE SHERELL WHITE

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

DRIVER IN TRUCK UNLESS CHECKED HERE:

© CAT Scale® Reg 3067 7/18

3/4/19
4.8hr

A&D Environmental Services

A member of The RossWay Group®

THE ROSSWAY GROUP®
Family Owned. Future Focused®

PO Box 484
High Point, NC 27261
www.adenviro.com

Jeff Albano, PG
Project Manager
jalbano@adenviro.com
Direct Phone: (336) 804-0824

March 18, 2019

Mr. Fred Lyke
ATC
Columbia, SC
Office: (803) 767-0826

RE: 48-Hour MMPE Event
Circle K
4315 Savannah Hwy
Ravenel, SC
A&D Job #1230

Mr. Fred Lyke:

A&D Environmental Services (SC) LLC (A&D) performed a 48-Hour AFVR event at the subject facility located at 1105 S Main St in Darlington, SC. The event was performed for 48 hours starting on Monday, March 4, 2019 at 10:00am and ended Wednesday, March 6, 2019 at 10:00 am. The event was conducted on RW-1. During the event vacuum was measured at -17 to -19 inches of mercury at RW-1. Vacuum influence was measured at MW-1 and MW-2 but no vacuum influence was detected. Airflow was registered at 70 SCFM and the system temperature ranged from 185.3 degrees F to 225 degrees F. Humidity ranged from a high of 1.7 percent to a low of 0.5 percent. Field gauged volatile organic compounds (VOC's) emissions ranged from 1,762 parts per-million (PPM) to 3,812 (PPM) throughout the event.

Groundwater / Product Mix Recovered

During the event a total of 1,450 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. Total fluids recovered were measured based on weight. Based on 48 hours of operation and a total of gallons recovered, the average groundwater recovery rate was calculated to be approximately 30.21 gallons per hour.

Event Results

Based on mass-removal calculations, 160.41 pounds or 25.67 gallons of VOC's were removed as vapor. Attached are the calculation spreadsheets and the disposal manifest.

A&D appreciates the opportunity to assist you with this project. If you have any questions or need further information please contact either Dan Martin at (803) 309-4657 or me at (336) 804-0824.

Sincerely,
A&D Environmental Services (SC) LLC

Jeff Albano, PG
Project Manager
jalbano@adenviro.com

3/4/19
48hr

AFVR Field Data Sheet

Client: ATC	Site: Circel K, 4315 Savannah Hwy, Ravenel SC	3/4/19-3/6/19	Job # 1230
Technician: Green	MMPE Operator:Green		

Time (hh:mm)	Stinger Depth (ft)	Extraction Well-head Vacuum (in Hg)										Influence On Surrounding Wells Vacuum (in water)								Influence On Surrounding Wells Depth to Water Below Top of Casing (ft)							
		RW-1										MW-1	MW-2	MW	MW	MW-	MW-	MW-	MW-	MW-1	MW-2	MW-	MW-	MW-	MW-	MW-	MW-
3/4/19 1030	4	-18																									
1100	4	-18																									
1130	4.5	-18																									
1200	4.5	-18										0.00	0.00							4.93	3.96						
1230	5	-18																									
1300	5	-18																									
1330	6	-18																									
1400	6	-18										0.00	0.00							5.16	3.99						
1430	6.5	-18																									
1500	6.5	-18																									
1530	7	-18										0.00	0.00							5.31	4.01						
1600	7	-18																									
1630	7.5	-18																									
1700	7.5	-17																									
1730	8	-17																									
1800	8	-17										0.00	0.00							5.46	4.05						
1900	9	-17																									
2000	9	-17										0.00	0.00							5.6	4.06						
2100	9	-17																									
2200	9	-17										0.00	0.00							5.71	4.07						
2300	9	-17																									
2400	9	-17										0.00	0.00							5.73	4.07						
3/5/19 0800	9	-17										0.00	0.00							5.79	4.07						
0900	9	-17																									
1000	9	-17										0.00	0.00							6.04	4.11						
1200	9	-17										0.00	0.00							6.04	4.15						
1400	9	-17										0.00	0.00							6.04	4.14						
1600	9	-17										0.00	0.00							6.04	4.12						
1800	9	-19										0.00	0.00							6.04	4.12						
2000	9	-19										0.00	0.00							6.04	4.13						
2200	9	-19										0.00	0.00							6.05	4.14						
2400	9	-19										0.00	0.00							6.05	4.14						

AFVR Field Data Sheet

Client: ATC	Site: Circel K, 4315 Savannah Hwy, Ravenel SC	3/4/19-3/6/19	Job # 1230
Technician: Green	MMPE Operator:Green		

Time (hh:mm)	Stinger Depth (ft)	Extraction Well-head Vacuum (in Hg)										Influence On Surrounding Wells Vacuum (in water)								Influence On Surrounding Wells Depth to Water Below Top of Casing (ft)							
		RW-1										MW-1	MW-2	MW	MW	MW-	MW-	MW-	MW-	MW-1	MW-2	MW-	MW-	MW-	MW-	MW-	MW-
3/6/19 0800	9	-19										0.00	0.00							6.07	4.14						
1000	9	-19										0.00	0.00							6.07	4.14						

Extraction Wells	MW-1	MW-2	RW-1	MW-	MW-	MW-	MW-	MW-	Weather
Depth Below Top of Casing (ft)	4.25	3.89	4.33						Depth to groundwater pre-AFVR/EFR
	6.07	4.17	8.71						Depth to groundwater post-AFVR/EFR
									Depth to groundwater 20 minutes post-AFVR/EFR
	0.00	0.00	3.79						Depth to free product pre-AFVR/EFR
	0.00	0.00	0.00						Depth to free product post-AFVR/EFR
									Depth to free product 20 minutes post-AFVR/EFR

AFVR Data Sheet - Emissions Data & Calculation

				Site: Circel K, 4315 Savannah Hwy, Ravenel SC								3/4/19-3/6/19		Job#	1230
				Meters: MiniRae 2000-10.6 eV PID, TESTO 445-Vane, %RH, Temp							Response Factor:	1		Stack Dia(in):	4
Time (h:m)	Delta Time (min)	Pre PPMmea (PPMv)	Post PPMmea (PPMv)	Temp (^{0}F)	RH (%)	Flow (acfm)	Specific Humidity (lbW / lbDA)	Water Vapor (vol %)	Flow Qstd (dscfm)	Dry Conc (PPMv)	Response Factor	Corrected Conc (PPMv)	Mass Conc (mg/m^3)	Mass Conc (lb/ft^3)	Mass Removed (lb)
	Start														
3/4/19 1030	30	1762.0	0.0	185.3	1.5	70	0.100	0.138	50	2044	1	2044	10871	0.000679	1.01
1100	30	1819.0	0.0	191.9	1.7	70	0.100	0.138	49	2110	1	2110	11223	0.000701	1.03
1130	30	2031.0	0.0	200.0	0.9	70	0.100	0.138	48	2356	1	2356	12531	0.000782	1.14
1200	30	2662.0	0.0	225.0	0.9	70	0.100	0.138	47	3089	1	3089	16424	0.001025	1.44
1230	30	2538.0	0.0	225.0	1.0	70	0.100	0.138	47	2945	1	2945	15659	0.000978	1.37
1300	30	2316.0	0.0	225.0	0.7	70	0.100	0.138	47	2687	1	2687	14289	0.000892	1.25
1330	30	2209.0	0.0	225.0	0.7	70	0.100	0.138	47	2563	1	2563	13629	0.000851	1.19
1400	30	2614.0	0.0	225.0	0.5	70	0.100	0.138	47	3033	1	3033	16128	0.001007	1.41
1430	30	2712.0	0.0	225.0	0.6	70	0.100	0.138	47	3147	1	3147	16733	0.001045	1.46
1500	30	3113.0	0.0	220.0	0.9	70	0.100	0.138	47	3612	1	3612	19207	0.001199	1.69
1530	30	2631.0	0.0	220.0	0.5	70	0.100	0.138	47	3053	1	3053	16233	0.001013	1.43
1600	30	2316.0	0.0	220.0	0.5	70	0.100	0.138	47	2687	1	2687	14289	0.000892	1.26
1630	30	2209.0	0.0	220.0	0.7	70	0.100	0.138	47	2563	1	2563	13629	0.000851	1.20
1700	30	2310.0	0.0	220.0	0.9	70	0.100	0.138	47	2680	1	2680	14252	0.000890	1.26
1730	30	1990.0	0.0	220.0	1.0	70	0.100	0.138	47	2309	1	2309	12278	0.000767	1.08
1800	30	2510.0	0.0	220.0	0.9	70	0.100	0.138	47	2912	1	2912	15486	0.000967	1.36
1900	60	3634.0	0.0	220.0	0.8	70	0.100	0.138	47	4216	1	4216	22421	0.001400	3.95
2000	60	3526.0	0.0	220.0	1.0	70	0.100	0.138	47	4091	1	4091	21755	0.001358	3.83
2100	60	3812.0	0.0	220.0	1.1	70	0.100	0.138	47	4423	1	4423	23519	0.001468	4.14
2200	60	3788.0	0.0	220.0	0.6	70	0.100	0.138	47	4395	1	4395	23371	0.001459	4.12
2300	60	3676.0	0.0	215.0	0.9	70	0.100	0.138	47	4265	1	4265	22680	0.001416	4.02
2400	60	3730.0	0.0	215.0	0.7	70	0.100	0.138	47	4328	1	4328	23014	0.001437	4.08
3/5/19 0800	480	3555.0	0.0	215.0	1.7	70	0.100	0.138	47	4125	1	4125	21934	0.001369	31.14
0900	60	3491.0	0.0	215.0	1.3	70	0.100	0.138	47	4050	1	4050	21539	0.001345	3.82
1000	60	3029.0	0.0	215.0	1.1	70	0.100	0.138	47	3514	1	3514	18688	0.001167	3.32
1200	120	3165.0	0.0	220.0	0.9	70	0.100	0.138	47	3672	1	3672	19528	0.001219	6.88
1400	120	3212.0	0.0	220.0	0.7	70	0.100	0.138	47	3727	1	3727	19818	0.001237	6.98
1600	120	3180.0	0.0	220.0	1.0	70	0.100	0.138	47	3690	1	3690	19620	0.001225	6.91
1800	120	3365.0	0.0	220.0	1.0	70	0.100	0.138	47	3904	1	3904	20762	0.001296	7.31
2000	120	3241.0	0.0	220.0	1.1	70	0.100	0.138	47	3760	1	3760	19997	0.001248	7.04
2200	120	3212.0	0.0	220.0	0.9	70	0.100	0.138	47	3727	1	3727	19818	0.001237	6.98
2400	120	3246.0	0.0	220.0	1.0	70	0.100	0.138	47	3766	1	3766	20027	0.001250	7.06
3/6/19 0800	480	2562.0	0.0	215.0	1.2	70	0.100	0.138	47	2972	1	2972	15807	0.000987	22.44
1000	120	2630.0	0.0	210.0	1.0	70	0.100	0.138	48	3051	1	3051	16227	0.001013	5.80

Total emissions, pounds	160.41
Total emissions, gallons (6.25 lb/gal)	25.67

PPMmea = Measured VOC concentration from OVA/TVA (PPMv)
Velocity = Measured velocity (fpm)
Temp = Measured temperature (^{0}F)
RH = Measured relative humidity (%)

AFVR Data Sheet - Emissions Data & Calculation

				Site: Circel K, 4315 Savannah Hwy, Ravenel SC									3/4/19-3/6/19		Job#	1230
				Meters: MiniRae 2000-10.6 eV PID, TESTO 445-Vane, %RH, Temp								Response Factor:	1		Stack Dia(in):	4
Time (h:m)	Delta Time (min)	Pre PPMmea (PPMv)	Post PPMmea (PPMv)	Temp (^{0} F)	RH (%)	Flow (acfm)	Specific Humidity (lbW / lbDA)	Water Vapor (vol %)	Flow Qstd (dscfm)	Dry Conc (PPMv)	Response Factor	Corrected Conc (PPMv)	Mass Conc (mg/m^3)	Mass Conc (lb/ft^3)	Mass Removed (lb)	
	Start															

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 70^0 F = (1-Water Vapor) (Flow) [530^{0}R / (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/m^3) = Mass concentration VOC as gasoline dry basis at standard temperature = (Corrected Conc) (128 mg/mg-mole / 24.07 m3/mg-mole)

Mass Conc (lb/ft^3) = [Mass Conc (mg/m3)] [(6.243 * 10^{-8})(lb/ft3)/(mg/m3)]

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

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address: CIRCLE K
4315 SAVANNAH HWY
RAVENEL

Phone ( )
P O #:

3. Agent of Generator and Mailing Address: AD Env.

Phone ( )
P O #:

4. Transporter Company Name: Hodges TRANSPORT

Phone ( )

Truck & Trailer License Number: Goose Creek SC

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	107	VT	Gal	14500

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Jerry Brewer Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Paul Goodsell Date: 3-6-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: Paul Goodsell Signature: Paul Goodsell Date 3-6-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21439

56776681

TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
PO BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 5-06-19

10:08
56776681

SCALE: 254

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE	10320	lb
DRIVE AXLE	17080	lb
TRAILER AXLE	16140	lb
* GROSS WEIGHT	43540	lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL TRACTOR #: 09 TRAILER #: 107

WEIGH NUMBER 6681

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: TINA

TICKET # OF FULL $ WEIGH (IF REWEIGH):

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

56776680

TICKET NUMBER

CAT SCALE®

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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 5-05-19

13:04
56776680

SCALE 254

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

LOCATION KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE 10240 lb

DRIVE AXLE 12160 lb

TRAILER AXLE 9060 lb

* GROSS WEIGHT 31460 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL

TRACTOR # 09

TRAILER # 107

WEIGH NUMBER
6675

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE DON

TICKET # OF FULL $ WEIGH (IF REWEIGH) 56776675

STOMER COPY

© CAT Scale® Reg 3067 7/18

AFVR MONITORING DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 3/18/2019 - 3/22/2019

Date	Time (hh:mm)	Extraction Well Head Vacuum (in. Hg)				Vacuum Truck Exhaust						
		RW-5	RW-9	RW-6	RW-10	Relative Humidity	Temp (°F)	Pretreatment Conc. (PPM)	Post Treatment Conc. (PPM)	Offgas Velocity FU/Min	Water Vapor (%)	Flow Rate (DSCFM)
3/18/2019	8:00	2.0	4.0	2.0	2.0							
	8:30	2.0	4.0	2.0	2.0	10.3	151	15000	40	2300	0.02	95.41
	9:00	2.0	4.0	2.0	2.0	9.6	160	15000	68	2300	0.02	94.03
	9:30	2.0	4.0	2.0	2.0	9.4	162	15000	90	2300	0.02	93.72
	10:00	2.0	4.0	2.0	2.0	9.2	172	15000	106	2300	0.02	92.24
	10:30	2.0	4.0	2.0	2.0	8.8	171	15000	121	2300	0.02	92.39
	11:00	2.0	4.0	2.0	2.0	8.4	181	15000	157	2300	0.03	90.02
	11:30	2.0	4.0	2.0	2.0	8.0	183	15000	174	2300	0.03	89.74
	12:00	2.0	4.0	2.0	2.0	7.7	184	15000	195	2300	0.03	89.60
	12:30	2.0	4.0	2.0	2.0	7.8	192	15000	209	2300	0.03	88.50
	13:00	2.0	4.0	2.0	2.0	6.4	194	15000	237	2300	0.03	88.23
	13:30	2.0	4.0	2.0	2.0	6.1	196	15000	255	2300	0.03	87.96
	14:00	2.0	4.0	2.0	2.0	5.8	195	15000	279	2300	0.03	88.09
	14:30	2.0	4.0	2.0	2.0	5.4	187	15000	302	2300	0.02	90.10
	15:00	2.0	4.0	2.0	2.0	5.2	186	15000	343	2300	0.02	90.24
	15:30	2.0	4.0	2.0	2.0	5.3	187	15000	378	2300	0.02	90.10
	16:00	2.0	4.0	2.0	2.0	5.2	185	12841	412	2300	0.02	90.38
	17:00	2.0	4.0	2.0	2.0	5.1	186	10691	465	2300	0.02	90.24
	18:00	2.0	4.0	2.0	2.0	5.2	187	6266	517	2300	0.02	90.10
	19:00	2.0	4.0	2.0	2.0	5.0	188	5199	547	2300	0.02	89.96
	20:00	2.0	4.0	2.0	2.0	5.6	187	5246	607	2300	0.02	90.10
	21:00	2.0	4.0	2.0	2.0	5.7	188	5624	654	2300	0.02	89.96
	22:00	2.0	4.0	2.0	2.0	5.4	172	5678	730	2300	0.02	92.24
	23:00	2.0	4.0	2.0	2.0	5.9	162	6431	829	2300	0.01	94.68
3/19/2019	0:00	2.0	4.0	2.0	2.0	6.4	160	6872	917	2300	0.01	94.89
	8:00	2.0	4.0	2.0	2.0	9.7	156	7956	20	2400	0.02	96.75
	10:00	2.0	4.0	2.0	2.0	9.8	155	8514	38	2400	0.02	96.91
	12:00	2.0	4.0	2.0	2.0	8.4	160	9568	72	2400	0.02	96.11
	14:00	2.0	4.0	2.0	2.0	7.6	164	9862	85	2400	0.02	97.49
	16:00	2.0	4.0	2.0	2.0	7.2	173	10541	98	2400	0.02	96.10
	18:00	2.0	4.0	2.0	2.0	6.9	174	11542	115	2400	0.02	95.95
	20:00	2.0	4.0	2.0	2.0	6.8	175	12179	141	2400	0.02	95.80
	22:00	2.0	4.0	2.0	2.0	5.2	174	11656	155	2400	0.02	95.95
3/20/2019	0:00	2.0	4.0	2.0	2.0	5.1	173	10651	189	2400	0.02	96.10
	8:00	2.0	4.0	2.0	2.0	9.0	160	8418	307	2300	0.02	94.03
	10:00	2.0	4.0	2.0	2.0	9.1	162	8315	341	2300	0.02	93.72
	12:00	2.0	4.0	2.0	2.0	8.6	164	8132	423	2300	0.02	93.42
	14:00	2.0	4.0	2.0	2.0	8.4	165	5641	511	2300	0.02	93.27
	16:00	2.0	4.0	2.0	2.0	8.3	164	5368	566	2300	0.02	93.42
	18:00	2.0	4.0	2.0	2.0	8.2	165	5348	619	2300	0.02	93.27
	20:00	2.0	4.0	2.0	2.0	7.8	168	5862	640	2300	0.02	93.13
	22:00	2.0	4.0	2.0	2.0	7.4	164	5924	717	2300	0.02	93.42
3/21/2019	0:00	2.0	4.0	2.0	2.0	7.6	163	7561	753	2400	0.02	97.64
	8:00	2.0	4.0	2.0	2.0	7.7	165	7812	936	2400	0.02	97.33
	10:00	2.0	4.0	2.0	2.0	8.8	162	6684	22	2400	0.03	93.79
	12:00	2.0	4.0	2.0	2.0	7.6	164	6531	36	2400	0.03	93.49
	14:00	2.0	4.0	2.0	2.0	6.3	165	6359	51	2400	0.03	93.35
	16:00	2.0	4.0	2.0	2.0	5.8	164	6321	69	2400	0.03	93.49
	18:00	2.0	4.0	2.0	2.0	5.2	164	6245	88	2400	0.03	93.49
	20:00	2.0	4.0	2.0	2.0	5.3	176	6023	102	2400	0.02	95.35
	22:00	2.0	4.0	2.0	2.0	5.1	174	5483	135	2400	0.02	95.95
3/22/2019	0:00	2.0	4.0	2.0	2.0	5.0	185	5321	159	2400	0.02	97.33
	8:00	2.0	4.0	2.0	2.0	5.3	182	5216	405	2300	0.02	93.72

Well No.	Diameter (in)	Total well depth (ft)	Target Stinger Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
RW-5	4.00	13.00	5.0 - 8.0	2.49	4.40	1.91	6.23	6.29	0.06
RW-9	4.00	13.00	4.5 - 8.0	3.00	4.00	1.00	0.00	6.03	0.00
RW-6	4.00	13.00	4.5 - 8.0	2.35	4.03	1.68	0.00	6.12	0.00
RW-10	4.00	13.00	4.5 - 8.0	2.39	4.09	1.70	6.02	6.13	0.11

AFVR Information		
Client	ATC	
Equipment Operator	DR	
Blower Discharge D	3 inches	

Notes: Pipe ID - The inside diameter of the blower discharge piping (from vacuum truck)
Velocity - The rate at which air flows is measured at the blower discharge piping
Temperature - The temperature of the air stream exiting the blower discharge piping
Relative humidity - The % relative humidity of the air stream exiting the blower discharge piping
Water Vapor in % - Pounds of water per pound of dry air (derived from a Psychrometric chart of temp. vs relative humidity)
Flow rate = (1 - water vapor)*velocity*(Pipe Diameter/24)^2*3.14*60*29.92/Temp + 460)

Total Gallons Extracted
15,550

3월 18일 ~ 3월 22일

EMISSION CALCULATION
SITE NAME: Circle K
SITE LOCATION: 4315 Savannah Highway, Ravenel, SC
DATES: 3/4/2019 - 3/8/2019

Date/Time	Elapsed Time (hr)	Flow Rate (DSCFM)	Concentration (ppm)	K (#C - gas)	PPMg (ppm)	Cg:m (mg/dsm³)	Cg (lbs/dscf)	PMRg (lb/hr)	PMR (lb)
3/18/2019 - 8:00	0.0								
8:30	0.5	95.41	15000	4	60000	319200	0.019927656	114.0796916	57.0398458
9:00	1.0	94.03	15000	4	60000	319200	0.019927656	112.4236961	56.21184803
9:30	1.5	93.72	15000	4	60000	319200	0.019927656	112.0622051	56.03110254
10:00	2.0	92.24	15000	4	60000	319200	0.019927656	110.2890689	55.14453446
10:30	2.5	92.39	15000	4	60000	319200	0.019927656	110.4638535	55.23192675
11:00	3.0	90.02	15000	4	60000	319200	0.019927656	107.630951	53.81547551
11:30	3.5	89.74	15000	4	60000	319200	0.019927656	107.2961736	53.64808679
12:00	4.0	89.60	15000	4	60000	319200	0.019927656	107.1295646	53.5647823
12:30	4.5	88.50	15000	4	60000	319200	0.019927656	105.8150914	52.90754571
13:00	5.0	88.23	15000	4	60000	319200	0.019927656	105.4914979	52.74574894
13:30	5.5	87.96	15000	4	60000	319200	0.019927656	105.1698775	52.58493873
14:00	6.0	88.09	15000	4	60000	319200	0.019927656	105.3304422	52.66522108
14:30	6.5	90.10	15000	4	60000	319200	0.019927656	107.7321353	53.86606767
15:00	7.0	90.24	15000	4	60000	319200	0.019927656	107.8989033	53.94945167
15:30	7.5	90.10	15000	4	60000	319200	0.019927656	107.7321353	53.86606767
16:00	8.0	90.38	12841	4	51364	273256.48	0.017059402	92.51186174	46.25593087
17:00	9.0	90.24	10691	4	42764	227504.48	0.014209105	76.90314505	76.90314505
18:00	10.0	90.10	8266	4	33064	175900.48	0.010981467	59.36758871	59.36758871
19:00	11.0	89.96	5199	4	20796	110634.72	0.006906926	37.28233472	37.28233472
20:00	12.0	90.10	5246	4	20984	111634.88	0.006969366	37.6775188	37.6775188
21:00	13.0	89.96	5624	4	22496	119678.72	0.007471542	40.33003471	40.33003471
22:00	14.0	92.24	5678	4	22712	120827.84	0.007543282	41.74808889	41.74808889
23:00	15.0	94.68	6431	4	25724	136851.68	0.00854365	48.53505582	48.53505582
3/19/2019 - 0:00	16.0	94.99	6872	4	27488	146236.16	0.009129523	52.03060429	52.03060429
8:00	24.0	98.75	7956	4	31824	169303.68	0.010569629	62.6261563	501.0092504
10:00	26.0	98.91	8514	4	34056	181177.92	0.011310938	67.12746169	134.2549234
12:00	28.0	98.11	9568	4	38272	203607.04	0.012711188	74.8292121	149.6584242
14:00	30.0	97.49	9862	4	39448	209863.36	0.01310177	76.63410749	153.268215
16:00	32.0	96.10	10541	4	42164	224312.48	0.014003828	80.74577339	161.4915468
18:00	34.0	95.95	11542	4	46168	245613.76	0.015333667	88.27414248	176.548285
20:00	36.0	95.80	12179	4	48716	259169.12	0.016179928	92.99928305	185.9985661
22:00	38.0	95.95	11658	4	46632	248082.24	0.015487774	89.16131979	178.3226396
3/20/2019 - 0:00	40.0	96.10	10651	4	42604	226653.28	0.014149964	81.58839127	163.1767825
8:00	48.0	94.03	8416	4	33664	179092.48	0.011180744	63.07718841	504.6175073
10:00	50.0	93.72	8315	4	33260	176943.2	0.011046564	62.11981569	124.2396314
12:00	52.0	93.42	6132	4	24528	130488.96	0.008146426	45.66419922	91.32839843
14:00	54.0	93.27	5641	4	22564	120040.48	0.007494127	41.9405742	83.8811484
16:00	56.0	93.42	5368	4	21472	114231.04	0.007131444	39.97479149	79.94958297
18:00	58.0	93.27	5346	4	21384	113762.88	0.007102217	39.74726284	79.49452567
20:00	60.0	93.13	5862	4	23448	124743.36	0.007787728	43.51407646	87.02815292
22:00	62.0	93.42	5924	4	23696	126062.72	0.007870096	44.11525052	88.23050103
3/21/2019 - 0:00	64.0	97.64	7561	4	30244	160898.08	0.010044867	58.84815978	117.6963196
8:00	72.0	97.33	7812	4	31248	166239.36	0.010378323	60.60715704	484.8572563
10:00	74.0	93.79	6684	4	26736	142235.52	0.008879764	49.96763184	99.93526368
12:00	76.0	93.49	6531	4	26124	138979.68	0.008676501	48.67222167	97.34444333
14:00	78.0	93.35	6359	4	25436	135319.52	0.008447998	47.31691966	94.63383932
16:00	80.0	93.49	6321	4	25284	134510.88	0.008397514	47.10719846	94.21439692
18:00	82.0	93.49	6245	4	24980	132893.6	0.008296547	46.54080911	93.08161822
20:00	84.0	95.35	6023	4	24092	128169.44	0.008001618	45.77558253	91.55116506
22:00	86.0	95.95	5463	4	21852	116252.64	0.007257652	41.78146252	83.56292503
3/22/2019 - 0:00	88.0	97.33	5321	4	21284	113230.88	0.007069004	41.28144938	82.56289877
8:00	96.0	93.72	5216	4	20864	110996.48	0.00692951	38.96776412	311.7421129
						Total Emissions in pounds			5847.083266
						Equivalent Gallons (vapor)			949.2018288

3

Equations: PPMg = PPM (measured) x K Mg = 128 mg/mg-mole (molecular weight of gasoline)

Cg:m = PPMg x (Mg/K_3) mass conc. of gasoline emission

Cg = (Cg:m)(62.43×10^{-9} lb-m^3/mg-ft^3) mass concentration of gasoline emission

PMRg = (Cg)(Q_{std})(60 min/hr) mass removal rate of gasoline emission

PMR = PMRg {(T2-T1)/60} (mass removal rate of gasoline over time)

K = Number of carbons in calibration gas

K_3 = 24.07 dsm^3/1 x 10^6 mg-mole (mass to volume conversion factor)

STINGER DEPTHS
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 3/18/2019 - 3/22/2019

Date/Time	Elapsed Time	RW-5	RW-9	RW-6	RW-10
3/18/2019 - 8:00	0.0	5.00	4.50	4.50	4.50
8:30	0.5	5.00	4.50	4.50	4.50
9:00	1.0	5.00	4.50	4.50	4.50
9:30	1.5	5.00	4.50	4.50	4.50
10:00	2.0	5.00	4.50	4.50	4.50
10:30	2.5	5.50	5.00	5.00	5.00
11:00	3.0	5.50	5.00	5.00	5.00
11:30	3.5	5.50	5.00	5.00	5.00
12:00	4.0	5.50	5.50	5.50	5.50
12:30	4.5	5.50	5.50	5.50	5.50
13:00	5.0	6.00	6.00	6.00	6.00
13:30	5.5	6.00	6.00	6.00	6.00
14:00	6.0	6.00	6.00	6.00	6.00
14:30	6.5	6.00	6.00	6.00	6.00
15:00	7.0	6.00	6.00	6.00	6.00
15:30	7.5	6.00	6.00	6.00	6.00
16:00	8.0	6.00	6.00	6.00	6.00
17:00	9.0	5.50	5.50	5.50	5.50
18:00	10.0	5.50	5.50	5.50	5.50
19:00	11.0	5.50	5.50	5.50	5.50
20:00	12.0	6.00	6.00	6.00	6.00
21:00	13.0	5.00	5.00	5.00	5.00
22:00	14.0	5.00	5.00	5.00	5.00
23:00	15.0	5.00	5.00	5.00	5.00
3/19/2019 - 0:00	16.0	5.00	5.00	5.00	5.00
8:00	24.0	5.00	5.00	5.00	5.00
10:00	26.0	5.00	5.00	5.00	5.00
12:00	28.0	5.00	5.00	5.00	5.00
14:00	30.0	5.00	5.00	5.00	5.00
16:00	32.0	5.00	5.00	5.00	5.00
18:00	34.0	5.00	5.00	5.00	5.00
20:00	36.0	5.00	5.00	5.00	5.00
22:00	38.0	5.00	5.00	5.00	5.00
3/20/2019 - 0:00	40.0	5.00	5.00	5.00	5.00
8:00	48.0	5.00	5.00	5.00	5.00
10:00	50.0	5.00	5.00	5.00	5.00
12:00	52.0	5.00	5.00	5.00	5.00
14:00	54.0	5.00	5.00	5.00	5.00
16:00	56.0	5.00	5.00	5.00	5.00
18:00	58.0	5.00	5.00	5.00	5.00
20:00	60.0	5.00	5.00	5.00	5.00
22:00	62.0	5.00	5.00	5.00	5.00
3/21/2019 - 0:00	64.0	5.00	5.00	5.00	5.00
8:00	72.0	5.00	5.00	5.00	5.00
10:00	74.0	5.00	5.00	5.00	5.00
12:00	76.0	5.00	5.00	5.00	5.00
14:00	78.0	5.00	5.00	5.00	5.00
16:00	80.0	5.00	5.00	5.00	5.00
18:00	82.0	5.00	5.00	5.00	5.00
20:00	84.0	5.00	5.00	5.00	5.00
22:00	86.0	5.00	5.00	5.00	5.00
3/22/2019 - 0:00	88.0	5.00	5.00	5.00	5.00
8:00	96.0	5.00	5.00	5.00	5.00

DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
SITE NAME: Circle K
SITE LOCATION: 4315 Savanna Highway, Ravenel, SC
DATES: 3/18/2019 - 3/22/2019

		Well Designation:				
		MW-6	RW-8	RW-1		
Date/Time	Elapsed Time	Differential Pressure Readings (inches of water)				
3/18/2019 - 8:00	0.0					
8:30	0.5	0.0	0.0	0.0		
9:00	1.0	0.0	0.0	0.0		
9:30	1.5	0.0	0.0	0.0		
10:00	2.0	0.0	0.0	0.0		
10:30	2.5	0.0	0.0	0.0		
11:00	3.0	0.0	0.0	0.0		
11:30	3.5	0.0	0.0	0.0		
12:00	4.0	0.0	0.0	0.0		
12:30	4.5	0.0	0.0	0.0		
13:00	5.0	0.0	0.0	0.0		
13:30	5.5	0.0	0.0	0.0		
14:00	6.0	0.0	0.0	0.0		
14:30	6.5	0.0	0.0	0.0		
15:00	7.0	0.0	0.0	0.0		
15:30	7.5	0.0	0.0	0.0		
16:00	8.0	0.0	0.0	0.0		
17:00	9.0	0.0	0.0	0.0		
18:00	10.0	0.0	0.0	0.0		
19:00	11.0	0.0	0.0	0.0		
20:00	12.0	0.0	0.0	0.0		
21:00	13.0	0.0	0.0	0.0		
22:00	14.0	0.0	0.0	0.0		
23:00	15.0	0.0	0.0	0.0		
3/19/2019 - 0:00	16.0	0.0	0.0	0.0		
8:00	24.0	0.0	0.0	0.0		
10:00	26.0	0.0	0.0	0.0		
12:00	28.0	0.0	0.0	0.0		
14:00	30.0	0.0	0.0	0.0		
16:00	32.0	0.0	0.0	0.0		
18:00	34.0	0.0	0.0	0.0		
20:00	36.0	0.0	0.0	0.0		
22:00	38.0	0.0	0.0	0.0		
3/20/2019 - 0:00	40.0	0.0	0.0	0.0		
8:00	48.0	0.0	0.0	0.0		
10:00	50.0	0.0	0.0	0.0		
12:00	52.0	0.0	0.0	0.0		
14:00	54.0	0.0	0.0	0.0		
16:00	56.0	0.0	0.0	0.0		
18:00	58.0	0.0	0.0	0.0		
20:00	60.0	0.0	0.0	0.0		
22:00	62.0	0.0	0.0	0.0		
3/21/2019 - 0:00	64.0	0.0	0.0	0.0		
8:00	72.0	0.0	0.0	0.0		
10:00	74.0	0.0	0.0	0.0		
12:00	76.0	0.0	0.0	0.0		
14:00	78.0	0.0	0.0	0.0		
16:00	80.0	0.0	0.0	0.0		
18:00	82.0	0.0	0.0	0.0		
20:00	84.0	0.0	0.0	0.0		
22:00	86.0	0.0	0.0	0.0		
3/22/2019 - 0:00	88.0	0.0	0.0	0.0		
8:00	96.0	0.0	0.0	0.0		
Maximum Change:		0.0	0.0	0.0		

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-6	RW-8	RW-1		
Time	Elapsed Time	Depth to Liquid (feet below of casing):				
Prior to AFVR	0 hours	3.23	4.10	4.09		
	24 hours	3.23	4.02	4.10		
	48 hours	3.24	4.03	4.11		
	72 hours	3.25	4.03	4.12		
	96 hours	3.26	4.04	4.13		
Maximum Change:		0.03	0.06	0.04		

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: Phone ( )
VERCO
BP GAS STATION
RAVENEL, SC
P O #:

3. Agent of Generator and Mailing Address: Phone ( )
P O #:

4. Transporter Company Name: Phone ( )
GOODSELL TRANSPORT
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7. Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8.

U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	105	VT	GAL	4896

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted and approved by the Designated Facility.

Printed/Typed Name: Robert Udics Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Date: 3-19-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL GOODSELL Signature: Date 3-19-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20409

58629347
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-19-19

07:29
58629347

SCALE: 1871
LOCATION: PILOT TRAVEL CENTERS
5714 N RHETT AVE
N CHARLSTON SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10600 lb
DRIVE AXLE	35040 lb
TRAILER AXLE	33120 lb
* GROSS WEIGHT	78760 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOOD SELL TRANS TRACTOR #: 05 TRAILER #: 105

WEIGH NUMBER
9347

FEE: $11.50 WEIGHMASTER OR WEIGHER SIGNATURE: JAMES MURRAY TICKET # OF FULL $ WEIGH (IF REWEIGH):

JSTOMER COPY

© CAT Scale® Reg 3067 7/15

78760 Full
37980 Empty
40,780 Net
/8.33 = 4896 gallon

47199288
TICKET NUMBER

CERTIFIED
AUTOMATED
TRUCK
SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

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 [illegible]

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 **WITH** the driver as an expert witness if we believe our scale was correct.

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CATSCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 1-05-19

SCALE: 1033

LOCATION: LOVES COUNTRY STORE
I-26 EXIT 154 A
ORANGEBURG SC

STEER AXLE	10320 lb
DRIVE AXLE	15540 lb
TRAILER AXLE	12120 lb
*GROSS WEIGHT	37980 lb

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IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODCELL TRANS

TRACTOR #: 05 TRAILER #: 105

WEIGH NUMBER: 9288

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: Carrie Rindeikis 326 CARRIE RINDEIKIS

TICKET # OF FULL WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3063 11

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
Savannah Hwy
Ravenel, SC

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:
Verco Environmental
Lexington, SC

Phone ( )

P O #:

4. Transporter Company Name:
Goodsell Transport
511 Old Mt Holly Rd
Goose Creek, SC

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	101	VT	GR	4874

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Robert Udic Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Date: 3-20-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials

Printed/Typed Name: PAUL Goodsell Signature: Date 3-20-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20346

58333083
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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**
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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-20-19

07:10
58333083

SCALE: 893
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10680 lb
DRIVE AXLE	35040 lb
TRAILER AXLE	33620 lb
* GROSS WEIGHT	79340 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL

TRACTOR #: 08 TRAILER #: 101

WEIGH NUMBER 3051

FEE: $2.00

WEIGHMASTER OR WEIGHER SIGNATURE: SHERRY YARBERT

TICKET # OF FULL $ WEIGH (IF REWEIGH): 58333051

DRIVER IN TRUCK UNLESS OTHERWISE NOTED

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

79340 Full
38740 Empty
40,600 Net
/8.33 = 4,844 gallons

56177827

TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER 7827

CUSTOMER COPY

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.®

WE FASTE WITH OUR A FIND OUT MORE A WEIGHMYTRUCK.COM

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

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IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-15-19

SCALE: 329

LOCATION: PILOT
I-26 EXIT 159
BOWMAN SC

STEER AXLE	10920 lb
DRIVE AXLE	16940 lb
TRAILER AXLE	10880 lb
*GROSS WEIGHT	38740 lb

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 FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # _____ TRAILER # _____

FEE $11.50 WEIGHMASTER OR WEIGHER SIGNATURE SHERELL WHITE TICKET # OF FULL $ WEIGH (IF REWEIGH) _____

© CAT Scale® Reg 3097 7/18

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums

Number:

1. Generator's EPA ID# (if applicable):

Waste ID Number:

2. Generator's Name and Mailing Address:
Circle K
Savannah Hwy
Ravenel, SC

Phone ( )

P O #:

3. Agent of Generator and Mailing Address:
Verco
Lexington, SC

Phone ( )

P O #:

4. Transporter Company Name:
Goodsell Transport
511 old mt Holly Rd
Goose Creek, SC

Phone ( )

Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	60	VT	GAL	4,888

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Robert Weiss Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Date: 3-21-19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials

Printed/Typed Name: PAUL Goodsell Signature: Date 3-21-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

20350

58333130
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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**
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WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

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3) **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: 3-21-19

06:39
58333130

SCALE: 893
LOCATION: PILOT
I 26 EXIT 199
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10760 lb
DRIVE AXLE	35060 lb
TRAILER AXLE	33640 lb
*GROSS WEIGHT	79460 lb

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 facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE (IF APPLICABLE)

DRIVER IN TRUCK UNLESS CHECKED HERE

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOOD SALE

TRACTOR #: 08 TRAILER #: 101

WEIGH NUMBER 3130

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: JODECI

TICKET # OF FULL $ WEIGH (IF REWEIGH):

USTOMER COPY

© CAT Scale® Reg 3067 7/18

79,460 Full
38,740 Empty
40,720 Net
/8.33 = 4888 gallons

55177827

TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
POB BOX 830
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

[redacted]

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

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DATE:

SCALE:

LOCATION:

STEER AXLE	
DRIVE AXLE	
TRAILER AXLE	
GROSS WEIGHT	38740

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

COMPANY _____ TRACTOR # _____ TRAILER # _____

FEE _____ WEIGHMASTER OR WEIGHER SIGNATURE _____ TICKET # OF FULL & WEIGH (IF REWEIGH) _____

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

US Water Recovery

Non-Hazardous Manifest: Waste Water or Drums **Number:**

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address: BP GAS STATION
RAVENEL, SC
Phone ( )
P O #:

3. Agent of Generator and Mailing Address: VERCO
Phone ( )
P O #:

4. Transporter Company Name: GOODSELL TRANSPORT
Phone ( )
Truck & Trailer License Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Mailing Address:
US Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445

Phone: (843) 797-3111
Fax: (843) 797-1884

7 Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: Tank Number

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
a. Non-Hazardous, non-regulated waste water	189	T	GAL	3892

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Signature: Date:

10. Transporter Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Date: 3/22/19

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials
Printed/Typed Name: PAUL Goodsell Signature: Date 3-22-19

White - Facility Yellow - Office Pink - Transporter Blue - Generator

21358

56776814
TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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WEIGH WHAT WE SAY OR WE PAY©

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3) **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: 3-22-19

10:57
56776813
PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 254
LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

STEER AXLE	9980 lb
DRIVE AXLE	27680 lb
TRAILER AXLE	27680 lb
* GROSS WEIGHT	65340 lb

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 facie evidence of the accuracy of the weight shown as prescribed by law.

SOUTH CAROLINA PUBLIC WEIGHMASTER 3233 DIANA PARKER
IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: GOODSELL TRACTOR #: 06 TRAILER #: 100

WEIGH NUMBER
6813

FEE: $11.50 WEIGHMASTER OR WEIGHER SIGNATURE: TINA TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

DRIVER IN TRUCK UNLESS OTHERWISE NOTED

© CAT Scale® Reg 3067 7/18

65340 Full
32920 Empty
32420 Net
/8.33 = 3892 gallons

56776815

TICKET NUMBER

CAT SCALE

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

THE CAT SCALE GUARANTEE

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1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 3-22-19

11:43

56776814

SCALE: 254

LOCATION: KANGAROO EXPRESS
I 26 EXIT 199B
SUMMERVILLE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10380 lb
DRIVE AXLE	13140 lb
TRAILER AXLE	9400 lb
*GROSS WEIGHT	32920 lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED FREIGHT ALL KINDS

COMPANY GOODSELL TRACTOR # 06 TRAILER # 108

WEIGH NUMBER 6813

FEE $2.00

WEIGHMASTER OR WEIGHER SIGNATURE TINA

TICKET # OF FULL $ WEIGH (IF REWEIGH) 56776813

DRIVER IN TRUCK UNLESS CHECKED HERE

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

4/8/19
96hr

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
BEFORE AND AFTER DATA

Project Name:	Circle K 2720886	UST Permit No:	01589
Project No:	DHEC088604	ATC Field Rep. 1:	Joe Bavarso
Start Date:	4/8/2019	ATC Field Rep. 2:	Various
End Date:	4/12/2019		

AFVR Measurements Prior to and After Event

Measurements Prior to AFVR Event

Blower Model	Dekker Vmax 3030		
Water Tank Storage Capacity:	0	gallons	Zebra ( )
Inside Diameter of Blower Outlet Stack	3.068	inches	
Is Tank Empty & Clean (Y/N)	Y		

Measurements Before AFVR Event

Tanker Product volume	0	gallons
Tanker Water volume	0	gallons
Transfer Pump Flow Meter	NA	gallons

Measurements After AFVR Event

Tanker Product volume	0	gallons
Tanker Water volume	NA	gallons
Transfer Pump Flow Meter	NA	gallons

	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
Well ID	**Depth to Product**	**Depth to Water**	**Depth to Product**	**Depth to Water**	**Depth to Product**	**Depth to Water**
01589 -MW1	NA	4.90	NA	7.02	NA	6.41
01589 -MW2	NA	4.54	NA	4.68	NA	4.68
01589 -MW12	NA	4.70	NA	4.67	NA	4.65
01589 -RW1	NA	4.79	NA	8.77	NA	7.62
01589 -RW2	4.39	4.40	NA	11.44	NA	7.37

NP denotes no measurable free product.
NM denotes not measured.

Project Name	Circle K 2720886	APPENDIX L		UST Permit No	01589
Project No	DHEC088604	AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA		ATC Field Rep 1	Joe Baversо
Date	April 8-12, 2019	AFVR EVENT FIELD DATA SHEETS		ATC Field Rep 2	Various

Measurements During 88-hr AFVR Event

Elapsed Time (Hours)	Reading Interval (Mins)	Date & Time	Stack Outlet					Blower	AFVR Wells				Non-AFVR Wells					
			Air Flow (fpm)	Temperature (°F)	R H (%)	PID (ppm) Pre-Treatment	PID (ppm) Post-Treatment	Vacuum (in Hg)	01589-RW1 Vacuum (in Hg)	01589-RW1 Stinger Depth (ft)	01589 -RW2 Vacuum (in Hg)	01589 -RW2 Stinger Depth (ft)	01589-MW1 DTW (ft)	01589-MW1 Vacuum (in Hg)	01589-MW2 DTW (ft)	01589-MW2 Vacuum (in Hg)	01589-MW12 DTW (ft)	01589-MW12 Vacuum (in Hg)
		4/8/19 11 00 AM	← Start time							4 79		4 40	4 90		4 54		4 70	
1 hr	30	4/8/19 11 30	212	120 2	100 0	15,000	--	26 0	0 00	4 79	0 00	4 40	4 90	0 00	4 54	0 00	4 70	0 00
	30	4/8/19 12 00	216	126 4	100 0	15,000	--	26 0	4 00	5 29	5 00	4 90	4 90	0 50	4 54	0 08	4 70	0 02
2 hr	30	4/8/19 12 30	247	125 9	100 0	15,000	--	26 0	6 00	5 79	7 00	5 40	4 90	1 00	4 54	0 08	4 70	0 02
	30	4/8/19 13 00	144	125 9	100 0	15,000	--	26 0	6 50	6 29	8 00	5 90	6 74	1.00	4 57	0 10	4 69	0 01
3 hr	30	4/8/19 13 30	165	125 3	100 0	15,000	--	25 5	7 00	6 79	8 00	6 40	6 74	1 00	4.57	0 09	4 69	0 01
	30	4/8/19 14 00	264	116 5	100 0	15,000	--	25 5	6 00	7 29	8 00	6 90	6 74	1 00	4 57	0 09	4 69	0 02
4 hr	30	4/8/19 14 30	353	123 3	100 0	15,000	--	25 5	6 00	7 79	8 00	7 40	6 74	1 00	4 57	0 09	4 69	0 02
	30	4/8/19 15 00	254	124 5	100 0	15,000	--	25 5	6 00	8 29	8 00	7 90	6 89	1 00	4 59	0 10	4 68	0 01
5 hr	30	4/8/19 15 30	256	123 5	100 0	15,000	--	25 5	6 00	8 79	8 00	8 40	6 89	1 00	4 59	0 00	4 68	0 01
	30	4/8/19 16 00	366	116 2	100 0	15,000	--	25 5	6 00	9 29	8 00	8 90	6 89	1 00	4 59	0 10	4 68	0 01
6 hr	30	4/8/19 16 30	260	119 7	100 0	15,000	--	25 5	6 00	9 79	8 00	9 40	6 89	1 00	4 59	0 10	4 68	0 05
	30	4/8/19 17 00	279	117 6	100 0	15,000	--	25 5	6 00	10 00	8 00	9 90	7 04	1 00	4 61	0 10	4 69	0 04
7 hr	30	4/8/19 17 30	306	118 0	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 04	1 00	4 61	0 10	4 69	0 05
	30	4/8/19 18 00	242	117 2	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 04	1 00	4 61	0 10	4 69	0 02
8 hr	30	4/8/19 18 30	262	115 7	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 04	1 00	4 61	0 10	4 69	0 05
	30	4/8/19 19 00	240	112 9	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 11	1 00	4 63	0 10	4 69	0 02
9 hr	60	4/8/19 20 00	357	112 5	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 11	1 00	4 63	0 10	4 69	0 06
10 hr	60	4/8/19 21 00	157	104 5	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 20	1 00	4 64	0 40	4 73	0 01
11 hr	60	4/8/19 22 00	137	112 7	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 20	1 00	4 64	0 40	4 73	0 00
12 hr	60	4/8/19 23 00	150	112 7	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 24	1 00	4 65	0 43	4 71	0 01
13 hr	60	4/9/19 0 00	240	114 6	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 26	1 00	4 65	0 40	4 68	0 20
14 hr	60	4/9/19 1 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
15 hr	60	4/9/19 2 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
16 hr	60	4/9/19 3 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
17 hr	60	4/9/19 4 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
18 hr	60	4/9/19 5 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
19 hr	60	4/9/19 6 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0.40	4 68	0 35
20 hr	60	4/9/19 7 00	265	113 3	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 27	1 50	4 65	0 40	4 68	0 35
21 hr	60	4/9/19 8 00	289	111 9	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 28	2.00	4 65	0 40	4 67	0 50
22 hr	60	4/9/19 9 00	242	113 4	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 28	2 00	4 65	0 30	4 67	0 02
23 hr	60	4/9/19 10 00	131	106 4	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 29	5 50	4 67	0 70	4 69	0 02
24 hr	60	4/9/19 11 00	241	113 4	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 29	6 00	4 67	0 70	4 69	0 39
26 hr	120	4/9/19 13 00	224	117 7	100.0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 29	3 50	4 68	0 20	4 69	0 26
28 hr	120	4/9/19 15 00	294	120 2	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 47	7 50	4 67	0 20	4 68	0 20
30 hr	120	4/9/19 17 00	328	110 1	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 41	5 00	4 66	0 82	4 68	0 25
32 hr	120	4/9/19 19 00	347	113 5	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 57	3 50	4 69	0 22	4 68	0 70
34 hr	120	4/9/19 21 00	649	110 9	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 52	6 50	4 70	0 87	4 70	0 00
36 hr	120	4/9/19 23 00	379	114 6	100 0	15,000	--	25 5	6 00	10 00	8 00	10 00	7 49	7 00	4 72	1 00	4 71	0 00

Project Name	Circle K 2720886	UST Permit No	01589
Project No	DHEC088604	ATC Field Rep 1	Joe Baverso
Date	April 8-12, 2019	ATC Field Rep 2	Various

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
AFVR EVENT FIELD DATA SHEETS

Measurements During 96-hr AFVR Event

Elapsed Time (Hours)	Reading Interval (Mins)	Date & Time	Stack Outlet					Blower	AFVR Wells				Non-AFVR Wells					
			Air Flow (fpm)	Temperature (°F)	R H (%)	PID (ppm) Pre-Treatment	PID (ppm) Post-Treatment	Vacuum (in Hg)	01589-RW1 Vacuum (in Hg)	01589-RW1 Stinger Depth (ft)	01589 -RW2 Vacuum (in Hg)	01589 -RW2 Stinger Depth (ft)	01589-MW1 DTW (ft)	01589-MW1 Vacuum (in Hg)	01589-MW2 DTW (ft)	01589-MW2 Vacuum (in Hg)	01589-MW12 DTW (ft)	01589-MW12 Vacuum (in Hg)
		4/8/19 11 00 AM	← Start time							4 79		4 40	4 90		4 54		4 70	
38 hr	120	4/10/19 1 00	365	113 8	100 0	15,000	–	25 5	6 00	10 00	8 50	10 00	7 57	5 50	4 70	0 75	4 66	0 00
40 hr	120	4/10/19 3 00	365	113 8	100 0	15,000	–	25 5	6 00	10 00	8 50	10 00	7 57	5 50	4 70	0 75	4 66	0 00
42 hr	120	4/10/19 5 00	365	113 8	100 0	15,000	–	25 5	6 00	10 00	8 50	10 00	7 57	5 50	4 70	0 75	4 66	0 00
44 hr	120	4/10/19 7 00	365	113 8	100 0	15,000	–	25 5	6 00	10 00	8 50	10 00	7 57	5 50	4 70	0 75	4 66	0 00
46 hr	120	4/10/19 9 00	351	112 9	100 0	15,000	–	25 5	6 00	10 00	9 00	10 00	7 64	4 00	4 68	0 50	4 60	0 00
48 hr	120	4/10/19 11 00	228	118 4	100 0	15,000	–	25 5	6 00	10 00	9 00	10 00	7 65	4 50	4 65	0 35	4 61	0 70
50 hr	120	4/10/19 13 00	441	119 6	100 0	15,000	–	25 5	6 00	10 00	9 00	10 00	7 56	4 50	4 67	0 32	4 63	0 80
52 hr	120	4/10/19 15 00	225	108 5	84 2	15,000	–	25 5	6 00	10 00	11 00	10 00	7 94	9 00	4 59	0 33	4 65	6 50
54 hr	120	4/10/19 17 00	263	120 6	64 6	15,000	–	25 5	6 00	10 00	11 00	10 00	7 57	7 50	4 66	0 42	4 68	6 20
56 hr	120	4/10/19 19 00	271	118 6	78 1	15 000	–	25 5	6 00	10 00	9 00	10 00	7 56	7 00	4 79	0 14	4 69	6 50
58 hr	120	4/10/19 21 00	283	111 4	62.3	15,000	–	25 5	6 00	10 00	9 00	10 00	7 63	6 00	4 67	0 00	4 69	7 00
60 hr	120	4/10/19 23 00	277	113 7	71 6	15,000	–	25 5	6 00	10 00	9 00	10 00	7 66	6 40	4 64	0 00	4 69	7 00
62 hr	120	4/11/19 1 00	258	113 6	76 4	15,000	–	25 5	6 00	10 00	10 00	10 00	7 65	5 20	4 64	0 06	4 66	4 00
64 hr	120	4/11/19 3 00	258	113 6	76 4	15,000	–	25 5	6 00	10 00	10 00	10 00	7 65	5 20	4 64	0 06	4 66	4 00
66 hr	120	4/11/19 5 00	258	113 6	76 4	15,000	–	25 5	6 00	10 00	10 00	10 00	7 65	5 20	4 64	0 06	4 66	4 00
68 hr	120	4/11/19 7 00	258	113 6	76 4	15,000	–	25 5	6 00	10 00	10 00	10 00	7 65	5 20	4 64	0 06	4 66	4 00
70 hr	120	4/11/19 9 00	239	113 4	81 2	15,000	–	25 5	6 00	10 00	11 00	10 00	7 63	4 00	4 73	0 13	4 62	1 00
72 hr	120	4/11/19 11 00	232	115 9	84 6	15,000	–	25 5	6 00	10 00	11 00	10 00	7 67	4 00	4 72	0 15	4 62	7 60
74 hr	120	4/11/19 13 00	249	121 7	100 0	15,000	–	25 5	6 00	10 00	11 00	10 00	7 68	4 50	4 72	0 21	4 62	0 13
76 hr	120	4/11/19 15 00	296	121 3	97 2	15,000	–	25 5	6 00	10 00	11 00	10 00	7 59	4 00	4 70	0 25	4 65	0 11
78 hr	120	4/11/19 17 00	283	122 7	98 3	15,000	–	25 5	6 00	10 00	11 00	10 00	7 64	4 50	4 73	0 25	4 67	0 10
80 hr	120	4/11/19 19 00	291	116 3	97 6	15,000	–	25 5	6 00	10 00	11 00	10 00	7.50	4 50	4 73	0 25	4 66	0 06
82 hr	120	4/11/19 21 00	257	113 4	87 4	15,000	–	25 5	6 00	10 00	11 00	10 00	7 63	4 00	4 73	0 25	4 68	0 18
84 hr	120	4/11/19 23 00	289	112 7	93 6	15,000	–	25 5	6 00	10 00	11 00	10 00	7 64	4 00	4 72	0 25	4 66	0 20
86 hr	120	4/12/19 1 00	287	112 8	96 8	15,000	–	25 5	6 00	10 00	11 00	10 00	7 61	3 50	4 70	0 24	4 64	0 45
88 hr	120	4/12/19 3 00	287	112 8	96 8	15,000	–	25 5	6 00	10 00	11 00	10 00	7 61	3 50	4 70	0 24	4 64	0 45
90 hr	120	4/12/19 5 00	287	112 8	96 8	15,000	–	25 5	6 00	10 00	11 00	10 00	7 61	3 50	4 70	0 24	4 64	0 45
92 hr	120	4/12/19 7 00	287	112 8	96 8	15,000	–	25 5	6 00	10 00	11 00	10 00	7 61	3 50	4 70	0 24	4 64	0 45
94 hr	120	4/12/19 9 00	284	112 9	100 0	15,000	–	25 5	6 00	10 00	11 00	10 00	7 57	3 00	4 68	0 22	4 62	0 70
96 hr	120	4/12/19 11 00	232	117 5	100 0	15,000	–	25 5	6 00	10 00	11 00	10 00	6 41	3 00	4 68	0 23	4 65	0 90

NOTES

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
AIR FLOW CALCULATIONS

SITE NAME Circle K 2720886
UST PERMIT NUMBER: 01589
AVERAGE DEPTH TO GROUNDWATER: 4.66
DESCRIBE SOIL IN THE SATURATED ZONE Unknown
INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known) Unknown
IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR 01589-RW1 , 01589-RW2
PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg) 275cfm @ 25 in Hg

AIR FLOW CALCULATIONS

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B_{wsw} (Wt/Wt)	B_{ws} (vol/vol)	Q_{std} (DSCFM)
Start	11:00								
04/08/19	11:30	26.00	212	3	120.2	100.0	0.08159068295	0.1156	9
04/08/19	12 00	26.00	216	3	126.4	100.0	0.09912697251	0.1371	9
04/08/19	12 30	26.00	247	3	125.9	100.0	0.09758212911	0.1352	10
04/08/19	13 00	26.00	144	3	125.9	100.0	0.09758212911	0.1352	6
04/08/19	13:30	25.50	165	3	125.3	100.0	0.09576041239	0.1330	7
04/08/19	14.00	25.50	264	3	116.5	100.0	0.07263265726	0.1042	11
04/08/19	14:30	25.50	353	3	123.3	100.0	0.08993175784	0.1259	14
04/08/19	15:00	25.50	254	3	124.5	100.0	0.09338469911	0.1301	10
04/08/19	15:30	25.50	256	3	123.5	100.0	0.09049822344	0.1266	10
04/08/19	16:00	25.50	260	3	116.2	100.0	0.07195020570	0.1034	11
04/08/19	16 30	25.50	279	3	119.7	100 0	0.08031930065	0.1140	12
04/08/19	17.00	25.50	306	3	117.6	100.0	0.07518964987	0.1075	13
04/08/19	17 30	25.50	242	3	118.0	100.0	0.07614119664	0.1087	10
04/08/19	18:00	25.50	262	3	117.2	100.0	0.07424978346	0.1063	11
04/08/19	18 30	25.50	240	3	115.7	100.0	0.07082669011	0.1019	10
04/08/19	19:00	25.50	357	3	112.9	100.0	0.06484380361	0.0941	15
04/08/19	20:00	25.50	157	3	112.5	100.0	0.06403019013	0.0930	7
04/08/19	21:00	25.50	137	3	104.5	100.0	0.04967424013	0.0737	6
04/08/19	22:00	25.50	150	3	112.7	100.0	0.06443575441	0.0936	6
04/08/19	23:00	25.50	240	3	112.7	100.0	0.06443575441	0.0936	10
04/09/19	0:00	25.50	265	3	114.6	100.0	0.06841486696	0.0988	11
04/09/19	1:00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	2 00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	3:00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	4 00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	5.00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	6 00	25.50	265	3	113.3	100.0	0.06566742153	0.0952	11
04/09/19	7:00	25.50	289	3	113.3	100.0	0.06566742153	0.0952	12
04/09/19	8:00	25.50	242	3	111 9	100.0	0.06282824722	0.0915	10
04/09/19	9:00	25.50	131	3	113.4	100.0	0.06587490447	0.0955	6
04/09/19	10:00	25.50	241	3	106.4	100.0	0.05277530067	0.0780	11
04/09/19	11 00	25.50	224	3	113.4	100.0	0.06587490447	0.0955	10
04/09/19	13 00	25.50	294	3	117.7	100.0	0.07542643540	0.1078	12
04/09/19	15:00	25.50	328	3	120.2	100.0	0.04615107966	0.0689	14
04/09/19	17 00	25.50	347	3	110.1	100.0	0.05935153216	0.0868	15
04/09/19	19 00	25.50	649	3	113.5	100.0	0.06608302292	0.0957	28
04/09/19	21 00	25.50	379	3	110.9	100.0	0.06087323610	0.0889	16
04/09/19	23 00	25.50	365	3	114.6	100.0	0.06841486696	0.0988	16
04/10/19	1.00	25.50	365	3	113.8	100.0	0.06671121200	0.0966	16
04/10/19	3:00	25.50	365	3	113.8	100.0	0.06671121200	0.0966	16
04/10/19	5:00	25.50	365	3	113.8	100.0	0.06671121200	0.0966	16
04/10/19	7 00	25.50	351	3	113.8	100.0	0.06671121200	0.0966	15
04/10/19	9.00	25.50	228	3	112.9	100.0	0 06484380361	0.0941	10

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
AIR FLOW CALCULATIONS

SITE NAME: Circle K 2720886
UST PERMIT NUMBER: 01589
AVERAGE DEPTH TO GROUNDWATER: 4.66
DESCRIBE SOIL IN THE SATURATED ZONE: Unknown
INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): Unknown
IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR 01589-RW1 , 01589-RW2
PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg). 275cfm @ 25 in Hg

AIR FLOW CALCULATIONS

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B_{wsw} (Wt/Wt)	B_{ws} (vol/vol)	Q_{std} (DSCFM)
04/10/19	11 00	25.50	441	3	118.4	100.0	0.07710458172	0.1100	18
04/10/19	13 00	25.50	225	3	119.6	100.0	0.08006738608	0.1137	9
04/10/19	15:00	25.50	263	3	108.5	84.2	0.04575710841	0.0683	12
04/10/19	17 00	25.50	271	3	120.6	64.6	0.05097681458	0.0755	12
04/10/19	19.00	25.50	283	3	118.6	78.1	0.05898692647	0.0863	12
04/10/19	21.00	25.50	277	3	111.4	62.3	0.03713636080	0.0562	12
04/10/19	23:00	25.50	258	3	113.7	71.6	0.04621167524	0.0689	11
04/11/19	1:00	25.50	258	3	113.6	76.4	0.04940427763	0.0734	11
04/11/19	3:00	25.50	258	3	113.6	76.4	0.04940427763	0.0734	11
04/11/19	5:00	25.50	258	3	113.6	76.4	0.04940427763	0.0734	11
04/11/19	7:00	25.50	239	3	113.6	76.4	0.04940427763	0.0734	10
04/11/19	9 00	25.50	232	3	113.4	81.2	0.05244618003	0.0775	10
04/11/19	11:00	25.50	249	3	115.9	84.6	0.05925222313	0.0867	11
04/11/19	13 00	25.50	296	3	121.7	100.0	0.08552580204	0.1205	12
04/11/19	15 00	25.50	283	3	121.3	97.2	0.08178259648	0.1159	12
04/11/19	17 00	25.50	291	3	122.7	98.3	0.08654450431	0.1218	12
04/11/19	19 00	25.50	257	3	116.3	97.6	0.07024910076	0.1012	11
04/11/19	21:00	25.50	289	3	113.4	87.4	0.05681648270	0.0834	13
04/11/19	23:00	25.50	287	3	112.7	93.6	0.05991462941	0.0876	12
04/12/19	1:00	25.50	287	3	112.8	96.8	0.06236361404	0.0908	12
04/12/19	3:00	25.50	287	3	112.8	96.8	0.06236361404	0.0908	12
04/12/19	5:00	25.50	287	3	112.8	96.8	0.06236361404	0.0908	12
04/12/19	7:00	25.50	284	3	112.8	96.8	0.06236361404	0.0908	12
04/12/19	9:00	25.50	232	3	112 9	100.0	0.06484380361	0.0941	10
04/12/19	11 00	25.50	0	3	117.5	100.0	0.07495359434	0.1072	0
Average		**25.53**	**269.85**	**3.07**	**115.63**	**95.49**	**0.0675**	**0.10**	**11.48**

NOTES

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)
Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Murcury (in.Hg)
Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)
Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)
Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Farenheight (°F)
Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping
B_{wsw} = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.
B_{ws} = water vapor % by volume

EQUATIONS

$B_{ws} = (B_{wsw}/18 \text{ lb-mole } H_2O)/[(1/28.84 \text{ lb-mole dry air}) + (B_{wsw}/18 \text{ lb-mole } H_2O)]$

Q_{std} = (1-Water Vapor) * velocity * (PI * (diameter/24)^2) * (528°R/(Temp + 460))

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
PRE-TREATMENT EMISSION CALCULATIONS

SITE NAME: Circle K 2720886 AFVR EVENT DATE: April 8-12, 2019

Elapsed Time (min)	Flow (DSCFM)	$PPM_{measured}$ (ppm)	PPM_{wet} (ppm)	PPM_{dry} (ppm)	CF	PPM_{conc} (ppm)	$C_{c:m}$ (mg/dsm^3)	C_c (lb/dscf)	PMR_c (lb/hr)	PMR_g (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	9	15,000	15,000	16,961	0.47	7,972	3,978	0.00025	0.13	0.15	0.08
60	9	15,000	15,000	17,382	0.47	8,170	4,076	0.00025	0.13	0.16	0.08
90	10	15,000	15,000	17,345	0.47	8,152	4,068	0.00025	0.15	0.18	0.09
120	6	15,000	15,000	17,345	0.47	8,152	4,068	0.00025	0.09	0.10	0.05
150	7	15,000	15,000	17,301	0.47	8,132	4,057	0.00025	0.10	0.12	0.06
180	11	15,000	15,000	16,746	0.47	7,870	3,927	0.00025	0.16	0.19	0.10
210	14	15,000	15,000	17,161	0.47	8,066	4,025	0.00025	0.22	0.26	0.13
240	10	15,000	15,000	17,244	0.47	8,105	4,044	0.00025	0.16	0.18	0.09
270	10	15,000	15,000	17,175	0.47	8,072	4,028	0.00025	0.16	0.19	0.09
300	11	15,000	15,000	16,729	0.47	7,863	3,923	0.00024	0.16	0.19	0.10
330	12	15,000	15,000	16,930	0.47	7,957	3,970	0.00025	0.17	0.20	0.10
360	13	15,000	15,000	16,807	0.47	7,899	3,941	0.00025	0.19	0.22	0.11
390	10	15,000	15,000	16,830	0.47	7,910	3,947	0.00025	0.15	0.18	0.09
420	11	15,000	15,000	16,784	0.47	7,889	3,936	0.00025	0.16	0.19	0.10
450	10	15,000	15,000	16,702	0.47	7,850	3,917	0.00024	0.15	0.18	0.09
480	15	15,000	15,000	16,558	0.47	7,782	3,883	0.00024	0.22	0.26	0.13
540	7	15,000	15,000	16,539	0.47	7,773	3,879	0.00024	0.10	0.12	0.12
600	6	15,000	15,000	16,194	0.47	7,611	3,798	0.00024	0.09	0.10	0.10
660	6	15,000	15,000	16,549	0.47	7,778	3,881	0.00024	0.09	0.11	0.11
720	10	15,000	15,000	16,549	0.47	7,778	3,881	0.00024	0.15	0.18	0.18
780	11	15,000	15,000	16,644	0.47	7,823	3,903	0.00024	0.16	0.19	0.19
840	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
900	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
960	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
1020	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
1080	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
1140	11	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.17	0.20	0.20
1200	12	15,000	15,000	16,578	0.47	7,792	3,888	0.00024	0.18	0.21	0.21
1260	10	15,000	15,000	16,510	0.47	7,760	3,872	0.00024	0.15	0.18	0.18
1320	6	15,000	15,000	16,583	0.47	7,794	3,889	0.00024	0.08	0.10	0.10
1380	11	15,000	15,000	16,268	0.47	7,646	3,815	0.00024	0.15	0.18	0.18
1440	10	15,000	15,000	16,583	0.47	7,794	3,889	0.00024	0.14	0.17	0.17
1560	12	15,000	15,000	16,813	0.47	7,902	3,943	0.00025	0.18	0.22	0.43
1680	14	15,000	15,000	16,109	0.47	7,571	3,778	0.00024	0.20	0.24	0.48
1800	15	15,000	15,000	16,426	0.47	7,720	3,852	0.00024	0.22	0.26	0.52
1920	28	15,000	15,000	16,588	0.47	7,796	3,890	0.00024	0.40	0.48	0.96
2040	16	15,000	15,000	16,463	0.47	7,738	3,861	0.00024	0.24	0.28	0.56
2160	16	15,000	15,000	16,644	0.47	7,823	3,903	0.00024	0.23	0.27	0.54
2280	16	15,000	15,000	16,603	0.47	7,804	3,894	0.00024	0.23	0.27	0.54
2400	16	15,000	15,000	16,603	0.47	7,804	3,894	0.00024	0.23	0.27	0.54
2520	16	15,000	15,000	16,603	0.47	7,804	3,894	0.00024	0.23	0.27	0.54
2640	15	15,000	15,000	16,603	0.47	7,804	3,894	0.00024	0.22	0.26	0.52
2760	10	15,000	15,000	16,558	0.47	7,782	3,883	0.00024	0.14	0.17	0.34
2880	18	15,000	15,000	16,853	0.47	7,921	3,952	0.00025	0.27	0.32	0.65
3000	9	15,000	15,000	16,924	0.47	7,954	3,969	0.00025	0.14	0.16	0.33
3120	12	15,000	15,000	16,100	0.47	7,567	3,776	0.00024	0.17	0.20	0.39
3240	12	15,000	15,000	16,225	0.47	7,626	3,805	0.00024	0.17	0.20	0.40

APPENDIX L
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA
PRE-TREATMENT EMISSION CALCULATIONS

SITE NAME: Circle K 2720886 AFVR EVENT DATE: April 8-12, 2019

Elapsed Time (min)	Flow (DSCFM)	$PPM_{measured}$ (ppm)	PPM_{wet} (ppm)	PPM_{dry} (ppm)	CF	PPM_{conc} (ppm)	$C_{c:m}$ (mg/dsm^3)	C_c (lb/dscf)	PMR_c (lb/hr)	PMR_g (lb/hr)	PMR (lb)
3360	12	15,000	15,000	16,418	0.47	7,716	3,850	0.00024	0.17	0.21	0.41
3480	12	15,000	15,000	15,893	0.47	7,469	3,727	0.00023	0.17	0.21	0.41
3600	11	15,000	15,000	16,111	0.47	7,572	3,778	0.00024	0.16	0.19	0.38
3720	11	15,000	15,000	16,187	0.47	7,608	3,796	0.00024	0.16	0.19	0.38
3840	11	15,000	15,000	16,187	0.47	7,608	3,796	0.00024	0.16	0.19	0.38
3960	11	15,000	15,000	16,187	0.47	7,608	3,796	0.00024	0.16	0.19	0.38
4080	10	15,000	15,000	16,187	0.47	7,608	3,796	0.00024	0.15	0.18	0.35
4200	10	15,000	15,000	16,260	0.47	7,642	3,813	0.00024	0.14	0.17	0.34
4320	11	15,000	15,000	16,424	0.47	7,719	3,852	0.00024	0.15	0.18	0.37
4440	12	15,000	15,000	17,055	0.47	8,016	4,000	0.00025	0.18	0.22	0.43
4560	12	15,000	15,000	16,966	0.47	7,974	3,979	0.00025	0.17	0.21	0.41
4680	12	15,000	15,000	17,080	0.47	8,028	4,005	0.00025	0.18	0.21	0.42
4800	11	15,000	15,000	16,688	0.47	7,844	3,914	0.00024	0.16	0.19	0.38
4920	13	15,000	15,000	16,365	0.47	7,692	3,838	0.00024	0.18	0.21	0.43
5040	12	15,000	15,000	16,440	0.47	7,727	3,855	0.00024	0.18	0.21	0.42
5160	12	15,000	15,000	16,499	0.47	7,754	3,869	0.00024	0.18	0.21	0.42
5280	12	15,000	15,000	16,499	0.47	7,754	3,869	0.00024	0.18	0.21	0.42
5400	12	15,000	15,000	16,499	0.47	7,754	3,869	0.00024	0.18	0.21	0.42
5520	12	15,000	15,000	16,499	0.47	7,754	3,869	0.00024	0.18	0.21	0.42
5640	10	15,000	15,000	16,558	0.47	7,782	3,883	0.00024	0.14	0.17	0.34
5760	0	15,000	15,000	16,801	0.47	7,897	3,940	0.00025	0.00	0.00	0.00
Average	**11**	**15000**	**15000**	**16623**	**0.47**	**7813**	**3898**	**0.00024**	**0.17**	**0.20**	**0.29**

Total Pretreatment emissions in pounds: 19.84
Total Pretreatment emissions in gallons: 3.30

NOTES

$PPM_{measured}$ = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)
100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)
PPM_{wet} = "wet" concentration
PPM_{dry} = "dry" concentration
CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.
K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)
PPM_c= PPM_v, Volumetric concentration of VOC emissions as carbon, dry basis at STP
$C_{c\,m}$ = mg/dsm^3, mass concentration of VOC emissions as carbon
M_c = 12.01 mg/mg-mole, molecular weight of carbon
K_3 = 24.07 dsm^3/10^6 mg-mole, mass to volume conversion factor at STP
C_c = lb/dcsf, mass concentration of VOC emissions as carbon, dry basis at STP
PMR_c = lb/hr, pollutant mass removal rate of VOC's as carbon
PMR_g = lb/hr, pollutant mass removal rate of of VOC's as gasoline
PMR = lb, pollutant mass removal of VOC's as gasoline

EQUATIONS

$PPM_{wet} = PPM_{measured}$
$PPM_{dry} = (PPM_{wet})/(1-B_{ws})$
$PPM_c = (PPM_d)(K)$
$C_{c\,m} = (PPM_c)(M_c / K_3)$
$C_c = (C_{c\,m})(62.43\times10^{-9}\ lb\text{-}m^3/mg\text{-}ft^3)$
$PMR_c = (C_c)(Q_{std})(60\ min/hr)$
$PMR_g = (PMR_c)(M_g/M_{cg})$
$PMR = (PMR_g)(\#minutes/60)$

MATERIAL MANIFEST

Zebra Environmental & Industrial Services

EMERGENCY PHONE NO.
(336) 841-5276

POST OFFICE BOX 357
HIGH POINT, NC 27261

TEL (336) 841-5276
FAX (336) 841-5509

Manifest Document No. 01

Page 1 of 1

Zebra Job No. 90761

GENERATOR INFORMATION

Name: DHEC 088604 / CINCLR (K) # 2720886

US EPA ID No.:

Street Address: 4315 Savannah Hwy, Ravenel S.C.

Mailing Address:

Phone No.: 1980 241-9222

Contact: Joe Baverso

DESCRIPTION OF MATERIALS

	HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.		Non Hazardous Liquid	N/A	N/A	N/A	1	TT	4055	G
b.									
c.									

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a. For Recycling / PCW MMPC/MFUR			
b.			
c.			

GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name: AS Agent For DHEC - Joe Baverso

Signature: AS Agent For DHEC

Mo. / Day / Yr.: 4-10-19

TRANSPORTER INFORMATION

Transporter: Zebra Environmental & Industrial Services Inc

Address: 901 East Springfield Road, High Point, NC 27263

Transporter or EPA ID No.: NCO991302669

Unit No.: RT-9 T-1

Phone: (336) 841-5276

I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.

Signature: Tony Pitts

Shipment Date: 4-10-19

I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.

Signature:

Delivery Date: 4-10-19

FACILITY INFORMATION

Facility: Zebra Environmental & Industrial Services, Inc.

Address: 901 East Springfield Road, High Point, NC 27263

Facility or EPA ID No.: NCO991302669

Phone: (336) 841-5276

Contact: David Tedder

I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.

Signature:

Receipt Date: 4/10/19

Discrepancies / Routing Codes / Handling Methods

a.

b.

c.

ORIGINAL - Facility Retain COPY 2 - Return to Generator COPY 3 - Transporter Retain COPY 4 - Generator Retain

59474272
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

X-IT 194

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 4-10-19

10:20
59474272

SCALE: 1976
LOCATION: FLYING J
I 26 EXIT 194
JEDBURG SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	10400	lb
DRIVE AXLE	14780	lb
TRAILER AXLE	12080	lb
*GROSS WEIGHT	37260	lb

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.

IMPRINT SEAL HERE (IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED: FREIGHT ALL KINDS

COMPANY: ZEBRA
TRACTOR #: RT9
TRAILER #: T1

WEIGH NUMBER
4272

FEE: $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: LAURA

TICKET # OF FULL $ WEIGH (IF REWEIGH):

CUSTOMER COPY

© CAT Scale® Reg 3067 7/18

RECEIVED IN TRUCK THIS DOC ACCEPTED HERE

59474294
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

13:21
59474294

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

IMPRINT SEAL HERE (IF APPLICABLE)

WEIGH NUMBER
4272

CUSTOMER COPY

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 **WITH** the driver as an expert witness if we believe our scale was correct.

WEIGH FASTER WITH OUR APP. FIND OUT MORE AT WEIGHMYTRUCK.COM

IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE, ext. 7 (Toll Free) or visit www.catscaleguarantee.com for instructions.
3) **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: 4-10-19

SCALE: 1976

LOCATION: FLYING J
I 26 EXIT 194
JEDBURG SC

STEER AXLE	10260	lb
DRIVE AXLE	31760	lb
TRAILER AXLE	31480	lb
* GROSS WEIGHT	73500	lb

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: FREIGHT ALL KINDS

COMPANY: ZEBRA

TRACTOR #: RT9 TRAILER #: T1

FEE: $2.00

WEIGHMASTER OR WEIGHER SIGNATURE: MEGHANN MOULTON

TICKET # OF FULL $ WEIGH (IF REWEIGH): 59474272

© CAT Scale® Reg 3067 7/16

MATERIAL MANIFEST

EMERGENCY PHONE NO.
(336) 841-5276

Zebra Environmental & Industrial Services

POST OFFICE BOX 357
HIGH POINT, NC 27261

TEL (336) 841-5276
FAX (336) 841-5509

Manifest Document No. 01

Page 1 of 1

Zebra Job No. 90761

GENERATOR INFORMATION

Name: ATC

US EPA ID No.:

Street Address: 43 15 Savannah Hwy. Ravenal, S.C. 29470

Mailing Address:

Phone No.: 1-980-241-9222

Contact: Joe Baverso

DESCRIPTION OF MATERIALS

	HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.		non hazardous liquids (NOS)	—	—	—	1	TT	41,184	Gallons
b.									
c.									

ADDITIONAL INFORMATION		ERG No.	Zebra Profile Code	Facility Use
a.				
b.				
c.				

GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name: AS Agent for DAECOSBOM Joe Baverso

Signature:

Mo. / Day / Yr.: 4-12-19

TRANSPORTER INFORMATION

Transporter: Zebra Environmental & Industrial Services Inc

Address: 901 East Springfield Road, High Point, NC 27263

Transporter or EPA ID No.: NCO991302669

Unit No.: RT-7, T-5

Phone: (336) 841-5276

I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.

Signature:

Shipment Date: 4-12-19

I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.

Signature: David McPhillips for Kevin Clewis

Delivery Date: 4-12-19

FACILITY INFORMATION

Facility: Zebra Environmental & Industrial Services, Inc.

Address: 901 East Springfield Road, High Point, NC 27263

Facility or EPA ID No.: NCO991302669

Phone: (336) 841-5276

Contact: David Tedder

I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.

Signature:

Receipt Date: 4/12/19

Discrepancies / Routing Codes / Handling Methods

a.

b.

c.

ORIGINAL - Facility Retain COPY 2 - Return to Generator COPY 3 - Transporter Retain COPY 4 - Generator Retain

CITY TRANSFER AND STORAGE COMPANY (336) 889-6155

1100 REDDING DRIVE
P.O. BOX 2122, HIGH POINT, NORTH CAROLINA 27260
— SINCE 1908 —

DATE

CUSTOMER'S NAME Zeba

ADDRESS

DRIVER

CARRIER

		DATE	TIME
lb GROSS			
lb TARE -	27600	04-16-19	07:29 AM
lb NET			

NORTH CAROLINA
PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30, 2019
JUSTIN LASSITER 39148
INVALID UNLESS SIGNED

WEIGHER

ORDER NUMBER

UNIT NUMBER RT 7 TS

Akzo Nobel Coatings, Inc.
1431 Progress Avenue
High Point, NC 27261
(336) 841-5111

AkzoNobel

ATC

001b15 Apr 2019
07:53:19am
GROSS 613201b

Ravenal, S.C.
90761

Tare Wt.

Carrier Zebra Environmental Industrial Services

Truck# RT-7

Carrier T-5

Material(s)

dhec

Healthy People. Healthy Communities.

UST 60 DOCKETING

MAY 22 2019

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT STE 100
RALEIGH NC 27606

Re: Site-Specific Work Plan Request for Additional Assessment and Groundwater Sampling
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589
Release #04 Reported August 2, 2018
Tier II Report received December 27, 2019
Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Report
Charleston County

Dear Ms. Carl:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report. The following comments are provided.

1) Additional monitoring wells to be used as compliance points in the deep downgradient direction between the plume and water supply wells WSW12, WSW13, & WSW 17 are requested.

2) Comprehensive groundwater sampling following additional monitoring well installation is requested.

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the additional assessment is necessary. The additional Assessment must be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP) and in compliance with all applicable regulations. A copy of the UST QAPP is available at:
http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

Your contractor must complete and submit the Site-Specific Work Plan (SSWP) and Cost Proposal within 30 days from the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from DHEC must be issued before work begins**.

DHEC should be notified a minimum of 4 days prior to any environmental work being conducted so that DHEC personnel may attend. On all correspondence regarding this site, please reference UST Permit #01589. Should you have any questions, please contact me by phone (803) 898-0671, email dunnra@dhec.sc.gov, or fax (803) 898-0673.

Sincerely,

Robert A. Dunn, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Cc: ATC Group Service, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223
Technical File

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

May 24, 2019

Mr. Robert A. Dunn, Hydrogeologist
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management –UST Program
Corrective Action Section
2600 Bull Street
Columbia, South Carolina 29201

UST MAY 24 2019 PROGRAM

7499 Parklane Road
Suite 112
Columbia, SC 29223

Phone **+1 803 735 0003**
Fax +1 803 741 2444

www.atcgs.com

Re: Site Specific Work Plan – Telescoping well installation and Comprehensive Groundwater Sampling Event
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit No. 01589

UST DOCKETING 6/1

Dear Mr. Dunn:

As requested in the SSWP request Directive, dated May 22, 2019, please find attached the Site Specific Work Plan for the scope of work at the Circle K Store 2720886 facility located at 4315 Savannah Highway in Ravenel, South Carolina. This scope of work includes the installation of three (3) telescoping wells and a comprehensive groundwater sampling event. Also attached is the South Carolina Department of Health and Environmental Control (SCDHEC) fee schedule that details costs associated with the assessment activities along with a site topographic map and site map noting relative site features.

If you have any questions or require additional information, please contact me at 803-735-0003 or by email at jesse.keeffe@atcassociates.com.

Sincerely,
ATC Group Services, LLC

Jesse L. Keeffe, Jr.
Project Manager

Attachments

cc: Mr. Brent Puzak, Environmental Director, Circle K Stores, Inc. 1100 Situs Road, Suite 100, Raleigh, NC 27606

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

To: Robert A. Dunn, Hydrogeologist (SCDHEC Project Manager)
From: Fred Lyke (Contractor Project Manager)
Contractor: ATC Group Services UST Contractor Certification Number: 313

Facility Name: Circle K 2720886 UST Permit #: 01589
Facility Address: 4315 Savannah Highway, Ravenel, SC 29470
Responsible Party: Circle K Phone: 919-774-6700
RP Address: 1100 Situs Court, Suite 100, Raleigh, NC 27606
Property Owner (if different): _____
Property Owner Address: _____
Current Use of Property: Convenience store

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☑ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other _____
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☑ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Drinking Water Supply Wells:

- ☑ BTEXNMDCA (524.2)
- ☑ Oxygenates & Ethanol (8260B)
- ☐ Mecury (200.8 245.1 or 245.2)
- ☐ RCRA Metals (200.8)
- ☑ EDB (504.1)

Soil:

- ☐ BTEXNM
- ☐ Lead
- ☐ PAH
- ☐ RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☑ Grain Size
- ☑ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

	Soil	24	Water Supply Wells		Air	6	Field Blank
53	Monitoring Wells	9	Surface Water	5	Duplicate	5	Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: _____ Estimated Footage: _____ feet per point
# of deep wells: 3 Estimated Footage: 45 feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Comments, if warranted:

_____

_____

UST Permit #: 01589 Facility Name: Circle K 2720886

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: upon approval Field Work Completion: 30 days
Report Submittal: 60 # of Copies Provided to Property Owners: 1

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: 6 Tons Purge Water: 100 Gallons
Drilling Fluids: 200 Gallons Free-Phase Product: _____ 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.
Available potable wells and monitoring well sampling.
This scope of work includes installation of three (3) telescoping wells.

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: _____

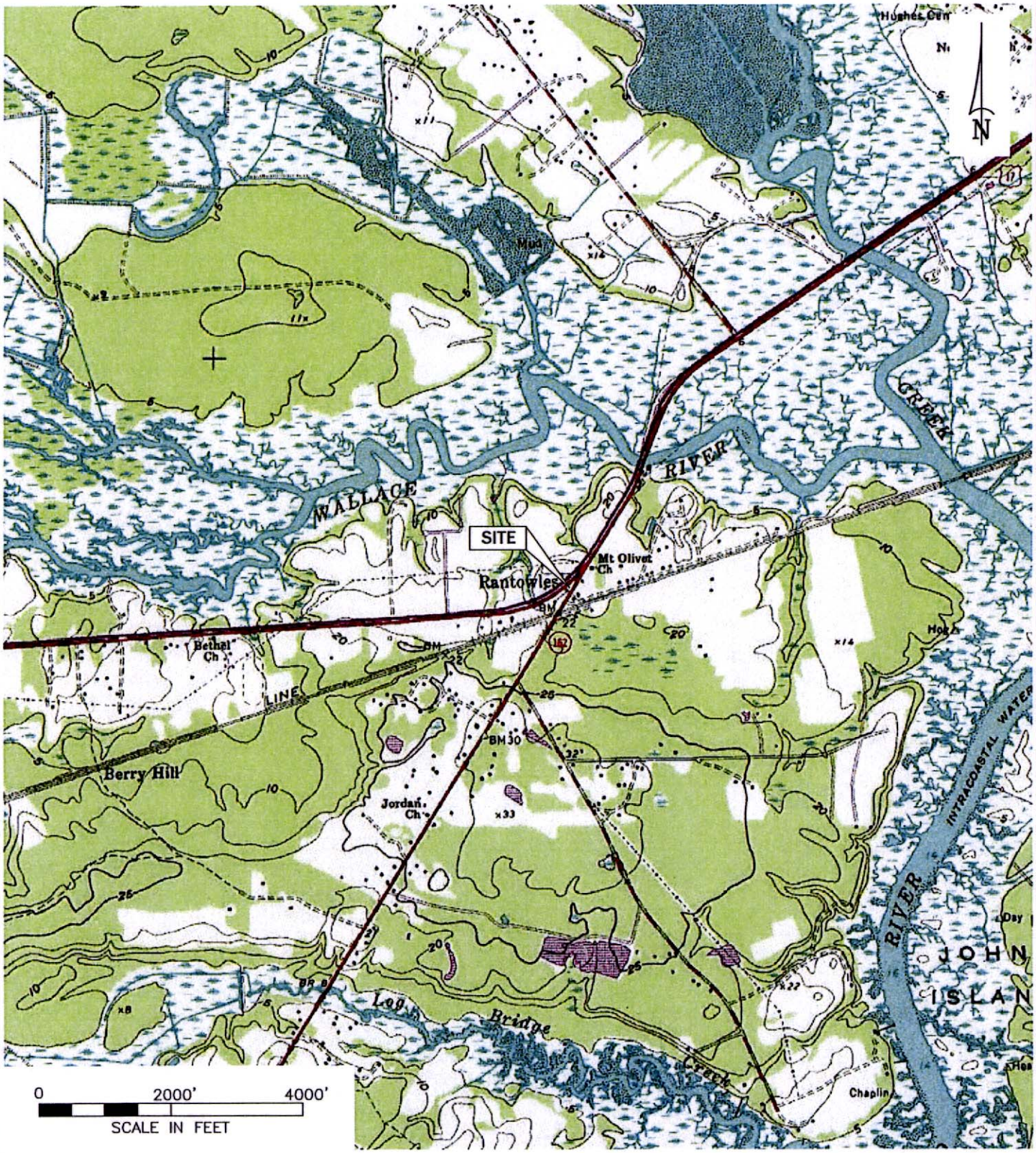
Yes Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: VERCO
SCLLR Certification Number: _____

Yes Other variations from ACQAP. Please describe below.
We will use VERCO for drilling activities, they are an approved vendor in our master QAPP.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. 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
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

08/14/2018 4:49pm – SThompson – H:\125 – ATC__1252215_a1-08-10-18.dwg

SOURCE FILE: USGS TOPOGRAPHIC MAP RAVENEL 1971



TITLE **FIGURE 1**

TOPOGRAPHIC MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

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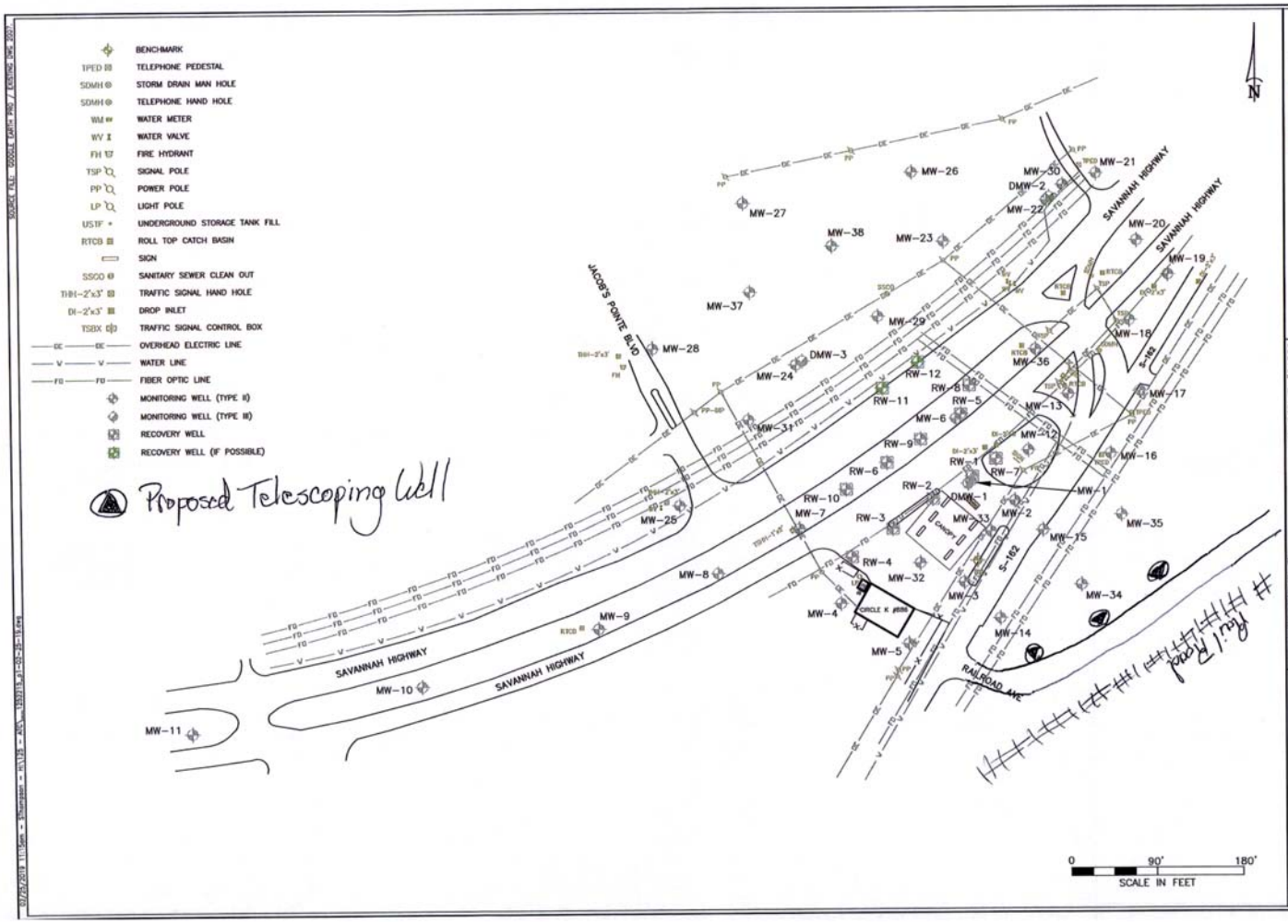
CAD FILE		PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		FL		1"=60'	08–10–18	CIRK088601



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7490 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

PROJECT NO.	DATE	SCALE	REV. BY	PREP. BY	TYPE CODE	CAD FILE
DHEC08602	12-10-18	1"=90'		WH		1252215.dwg

UST PERMIT #01589

TITLE FIGURE 5
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

NOTES:

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

Healthy People. Healthy Communities.

Facility Name: Circle K 2720886

UST Permit #: 01589 **Cost Agreement #:** Pending

ITEM		QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan Preparation**						
A1. Site-specific Work Plan		1	each	$150.00		$150.00
B1. Tax Map			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			each	$1,040.00		$0.00
B. Subsurface Geophysical Survey						
1B. < 10 meters below grade			each	$1,300.00		$0.00
2B. > 10 meters below grade			each	$2,310.00		$0.00
C1. Geophysical UST or Drum Survey			each	$910.00		$0.00
4. **Mob/Demob**						
A1. Equipment	9	1	each	$1,020.00		$1,020.00
B1. Personnel	9,10 (5x)	6	each	$423.00		$2,538.00
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 technology, etc)* or Field Screening (including water ssample, soil sample, soil gas sample, etc.)***						
AA. Standard			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			per foot	$3.10		$0.00
B1. Greater than 2" to 6" diameter			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	includes 3 stickups	135	per foot	$50.00		$6,750.00
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			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)			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 Product ***						
A1. Groundwater Purge		5	per well/receptor	$60.00		$300.00
B1. Air or Vapors			per receptor	$12.00		$0.00
C1. Water Supply		24	per well/receptor	$22.00		$528.00
D1. Groundwater No Purge or Duplicate		67	per well/receptor	$28.00		$1,876.00
E1. Gauge Well only			per well	$7.00		$0.00
F1. Sample Below Product			per well	$12.00		$0.00
G1. Passive Diffusion Bag			each	$26.00		$0.00
H1. Field Blank		6	each	$24.60		$147.60
I. Groundwater (low flow purge)			per well/receptor	$91.00		$0.00

11. Laboratory Analyses-Groundwater				
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	73	per sample	$122.00	$8,906.00
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
F1. EDB by EPA 8011	68	per sample	$45.20	$3,073.60
FF1. EDB by EPA Method 8011 Rush		per sample	$68.20	$0.00
G1. 8 RCRA Metals		per sample	$63.40	$0.00
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)	29	per sample	$124.05	$3,597.45
M. 7-OXYGENATES & ETHANOL (8260B)	29	per sample	$91.75	$2,660.75
N. EDB (504.1)	27	per sample	$79.50	$2,146.50
O. RCRA METALS (200.8)		per sample	$100.00	$0.00
11. **Analyses-Soil**				
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**				
Y1. BTEX + Naphthalene		per sample	$216.00	$0.00
11. **Analyses-Free Phase Product**				
Z1. Hydrocarbon Fuel Identification		per sample	$357.00	$0.00
12. **Aquifer Characterization**				
A1. Pumping Test*		per hour	$23.00	$0.00
B1. Slug Test*		per test	$191.00	$0.00
C1. Fractured Rock		per test	$100.00	$0.00
13. A1. **Free Product Recovery Rate Test***		each	$38.00	$0.00
14. **Fate/Transport Modeling**				
A1. Mathematical Model		each	$100.00	$0.00
B1. Computer Model		each	$100.00	$0.00
15. **Risk Evaluation**				
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
17. **Disposal (gallons or tons)***				
AA. Wastewater	100	gallon	$0.56	$56.00
BB. Free Product		gallon	$0.50	$0.00
C1. Soil Treatment/Disposal	6	ton	$60.00	$360.00
D1. Drilling fluids	200	gallon	$0.42	$84.00
18. **Miscellaneous (attach receipts)**				
		each	$0.00	$0.00
		each	$0.00	$0.00
		each	$0.00	$0.00
20. **Tier I Assessment (Use DHEC 3665 form)**		standard		$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)**					
A1. 8-hour Event*		each	$1,375.00		$0.00
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		per event	$122.50		$0.00
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		per event	$780.00		$0.00
D. Site Reconnaissance		each	$203.25		$0.00
E1. Additional Hook-ups		each	$25.75		$0.00
F1. Effluent Disposal		gallon	$0.44		$0.00
G. AFVR Mobilization/Demobilization		each	$391.50		$0.00
24. **Granulated Activated Carbon (GAC) filter system 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, & refurbishment*		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		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	$34,193.90		$4,103.27
TOTAL					$38,297.17

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

Healthy People Healthy Communities

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT STE 100
RALEIGH NC 27606

MAY 22 2019

Re: Site-Specific Work Plan Request for Additional Assessment and Groundwater Sampling
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589
Release #04 Reported August 2, 2018
Tier II Report received December 27, 2019
Multiple AFVR, Product Skimming, and Recovery & Monitoring Well Installation Report
Charleston County

Dear Ms. Carl:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report. The following comments are provided.

1) Additional monitoring wells to be used as compliance points in the deep downgradient direction between the plume and water supply wells WSW12, WSW13, & WSW 17 are requested.

2) Comprehensive groundwater sampling following additional monitoring well installation is requested.

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the additional assessment is necessary. The additional Assessment must be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP) and in compliance with all applicable regulations. A copy of the UST QAPP is available at:
http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

Your contractor must complete and submit the Site-Specific Work Plan (SSWP) and Cost Proposal within 30 days from the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from DHEC must be issued before work begins.**

DHEC should be notified a minimum of 4 days prior to any environmental work being conducted so that DHEC personnel may attend. On all correspondence regarding this site, please reference UST Permit #01589. Should you have any questions, please contact me by phone (803) 898-0671, email dunnra@dhec.sc.gov, or fax (803) 898-0673.

Sincerely,

Robert A. Dunn, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Cc: ATC Group Service, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223
Technical File

dhec
Healthy People. Healthy Communities.

UST DOCKETING 62T

JUN 0 5 2019

DEBRAH B CARL
CIRCLE K STORE INC
1100 SITUS COURT STE 100
RALEIGH NC 27606

Re: Recovery/Monitoring Well Installation Approval
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589; CA #59718; MWA #UMW-27577
Release #04 Reported August 2, 2018
Site-Specific Work Plan received May 24, 2019
Charleston County

Dear Ms. Carl:

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. The following comments are provided:

1) Telescoping wells are to be installed in the approved locations indicated on the enclosed site map. Locations are based on telephone discussion May 29, 2019.

2) Laboratory analysis for EDB is not required.

All scopes of work should be conducted in accordance with the submitted SSWP, your contractor's approved Annual Contractor Quality Assurance Plan (ACQAP), and in compliance with all applicable regulations. The assessment should begin immediately upon receipt of this letter. The Monitoring Well Approval is enclosed. Cost agreement #59718 is approved for the amount shown on the enclosed cost agreement form.

Please contact the UST Management Division prior to well installation for concurrence regarding the final well locations. 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.

Weekly status reports of the project should be provided by email to dunnra@dhec.sc.gov. If any quality assurance problems arise, you must contact me within 24 hours via telephone or email. 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 DHEC.

Groundwater sampling should be performed after monitoring well installation. The Well Installation and Groundwater Monitoring Report, as well as the invoice, should be submitted to the UST Management Division within 90 days of the date of this correspondence. The report submitted at the completion of these activities should include the required information outlined in the most revision of the UST Quality Assurance Program Plan available at:
http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/

Your contractor may submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The SUPERB Act (S.C. Code Ann. § 44-2-110(4) and 44-2-130) states no costs will be allowed unless prior approval is obtained from DHEC. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by DHEC 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. 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 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 SUPERB Site Rehabilitation and Fund Access Regulation (R. 61-98).

If unnecessary dilutions are completed resulting in reporting limits of individual CoC in excess of RBSL, the data cannot be used. In those cases, DHEC may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. DHEC 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. 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.

DHEC should be notified a minimum of 4 days prior to any environmental work being conducted so that DHEC personnel may attend. On all correspondence regarding this site, please reference UST Permit #01589 and Circle K 2720886 Site. Should you have any questions, please contact me by phone (803) 898-0671, email dunnra@dhec.sc.gov, or fax (803) 898-0673.

Sincerely,

Robert A. Dunn, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Enc: Approved Cost Agreement #59718
MWA #UMW-27577
Revised Proposed Well Location Map

Cc: ATC Group Services, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223 (w/ Enc)
Technical File (w/ Enc)

Healthy People. Healthy Communities.

Monitoring Well Approval

Approval is hereby granted to:	ATC Group Services, LLC
(on behalf of):	Circle K Stores, Inc.
Facility:	Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
Site ID Number:	01589
County:	Charleston

This approval is for the installation of up to two permanent 2-inch telescoping groundwater monitoring wells. The monitoring wells are to be installed in the approved locations 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 DHEC shall be completed and submitted to DHEC within 30 days after well completion or abandonment unless another schedule has been approved by DHEC. 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 DHEC within 30 days of receipt of laboratory results unless another schedule has been approved by DHEC as required by R.61-71.H.1.d.
5. If any of the information provided to DHEC changes, notification to Robert A. Dunn (tel: (803) 898-0671 or e-mail: dunnra@dhec.sc.gov) shall be provided a minimum of twenty-four (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. DHEC 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 May 27, 2016. A copy of this approval should be on site during well installation.

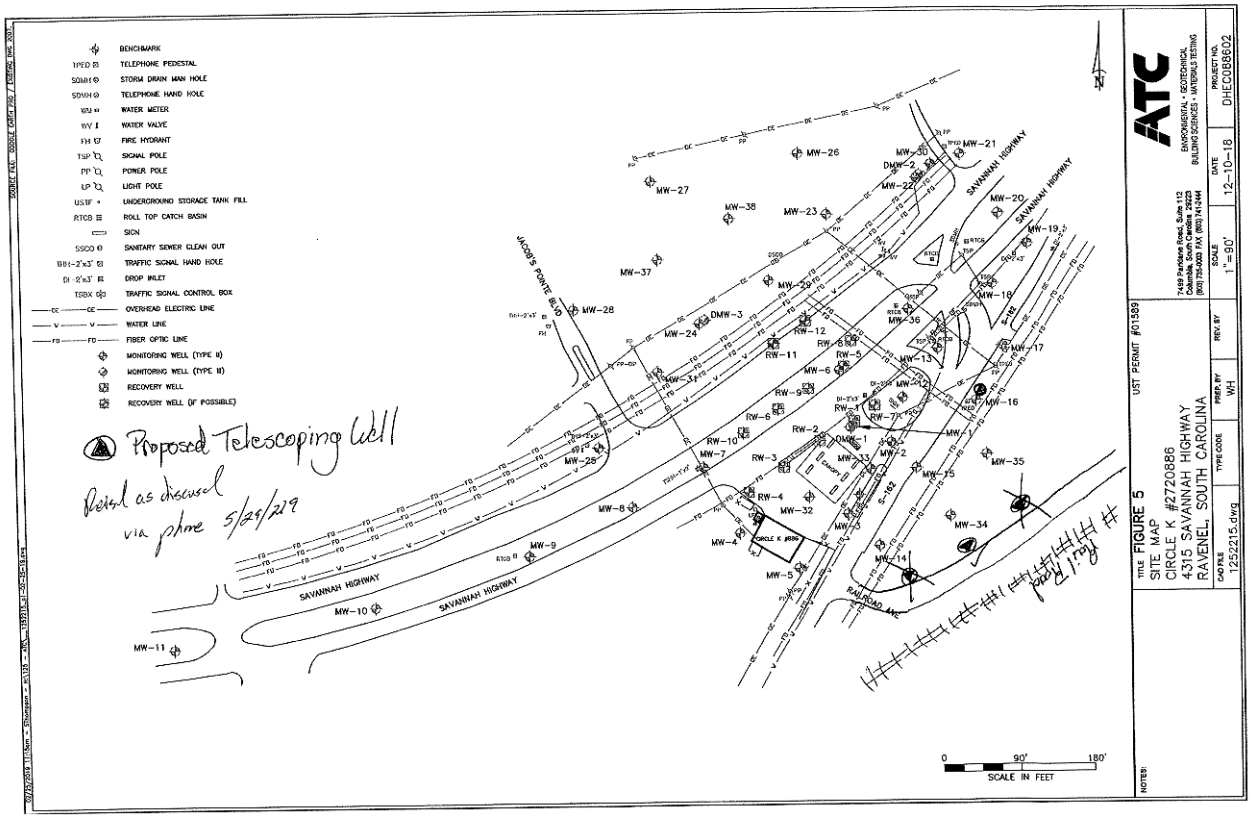
Date of Issuance: May 29, 2019 **Approval #: UMW-27577**

Robert A. Dunn, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 59718

Facility: 01589 CIRCLE K 2720886
DUNNRA
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						
		A1	EQUIPMENT	1.0000	$1,020.000	1,020.00
		B1	PERSONNEL	6.0000	$423.000	2,538.00
09 WELL INSTALLATION						
		CC	TELESCOPING	90.0000	$50.000	4,500.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	5.0000	$60.000	300.00
		C1	WATER SUPPLY	24.0000	$22.000	528.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	67.0000	$28.000	1,876.00
		H1	FIELD BLANK	6.0000	$24.600	147.60
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	73.0000	$122.000	8,906.00
	WATER DRINKING WATER	L	BTEXNM+1,2 DCA (524.2)	29.0000	$124.050	3,597.45
		M	7-OXYGENATES & ETHANOL (8260B)	29.0000	$91.750	2,660.75
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0.1200	$26,223.800	3,146.86
				Total Amount		29,370.66


BENCHMARK
TELEPHONE PEDESTAL
STORM DRAIN MAN HOLE
TELEPHONE HAND HOLE
WATER METER
WATER VALVE
FIRE HYDRANT
SIGNAL POLE
POWER POLE
LIGHT POLE
UNDERGROUND STORAGE TANK FILL
ROLL TOP CATCH BASIN
SIGN
SANITARY SEWER CLEAN OUT
TRAFFIC SIGNAL HAND HOLE
DROP INLET
TRAFFIC SIGNAL CONTROL BOX
OVERHEAD ELECTRIC LINE
WATER LINE
FIBER OPTIC LINE
MONITORING WELL (TYPE II)
MONITORING WELL (TYPE III)
RECOVERY WELL
RECOVERY WELL (IF POSSIBLE)
Proposed Telescoping Well
Revised as discussed via phone 5/29/219
SAVANNAH HIGHWAY
JACOB'S POINTE BLVD
RAILROAD AVE
CIRCLE K #886
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
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MW-27
MW-28
MW-29
MW-30
MW-31
MW-32
MW-33
MW-34
MW-35
MW-36
MW-37
MW-38
DMW-1
DMW-2
DMW-3
RW-1
RW-2
RW-3
RW-4
RW-5
RW-6
RW-7
RW-8
RW-9
RW-10
RW-11
RW-12
0
90'
180'
SCALE IN FEET
ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
7449 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0000 FAX (803) 741-3444
UST PERMIT #01589
TITLE FIGURE 5
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA
CAD FILE 1252215.dwg
TYPE CODE
PREP. BY WH
REV. BY
SCALE 1"=90'
DATE 12-10-18
PROJECT NO. DHEC088602
NOTES:

Healthy People. Healthy Communities.

JUL 10 2019

MR BRENT PUZAK
CIRCLE K STORE INC
1100 SITUS COURT STE 100
RALEIGH NC 27606

UST 63 Techs DOCKETING

Re: Corrective Action Options
Circle K 2720886, 4315 Savannah Hwy, Ravenel, SC
UST Permit #01589
Release #04 reported August 02, 2018
Conference Call discussion June 24, 2019
Charleston County

Dear Mr. Puzak:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) expressed in the referenced conference call discussion 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. While Circle K Store Inc., as the owner/operator, is ultimately responsible for cleanup actions taken in response to this release, funds from the State Underground Environmental Response Bank (SUPERB) Account and SUPERB Financial Responsibility Fund (SFRF) shall provide combined coverage for site rehabilitation and third party claims not to exceed one million dollars.

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 a DHEC certified site rehabilitation contractor. The selected technology must reduce the petroleum chemicals of concern concentrations to site-specific target levels that are determined by DHEC. As the owner/operator for the above-referenced release, you may choose one of two options discussed below to proceed toward meeting this requirement.

Option 1: Owner/Operator Lead
You may continue to use your existing DHEC Certified Site Rehabilitation Contractor of choice or select another contractor from the list found at, http://www.scdhec.gov/Environment/LW/UST/VendorsRecyclersContractors/CertifiedContractors/, to perform the corrective action. To assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, DHEC will develop and provide you copies of a technical specifications package to send to DHEC certified contractors you may wish to utilize for this corrective action.

The maximum amount of allowable costs for the active correction action work that may be reimbursed by the SUPERB fund will be determined through a solicitation process. DHEC will post the technical specifications package for the active corrective action on the DHEC website, http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentCleanup/CorrectiveActionSection, and will solicit bids from DHEC certified contractors to conduct the work by publishing a notice in the South Carolina Business Opportunities, a biweekly state government publication. This process is intended to ensure an adequate solicitation response is obtained so that a fair and competitive price for the work can be established. The lowest corrective action cost submitted in response to the solicitation will determine the reasonable or SUPERB-allowable cost. Except for the limitations specified in the solicitation, the reasonable or SUPERB-allowable cost is the maximum amount the SUPERB Account will pay for this active corrective action.

You may consider entering a written contract with your selected contractor following completion of the solicitation process to address any costs more than the reasonable or SUPERB-allowable costs and not approved by DHEC for reimbursement from the SUPERB Account. DHEC would not be a party to the contract; however, we will monitor and ensure you are making progress with corrective action activities. If the selected contractor is not able to complete the required activities, you will be required to find another certified contractor to complete the required activities.

To utilize the owner/operator lead option, please sign and return the enclosed Owner/Operator Lead Form for Site Rehabilitation within 15 days of the date of this letter.

Option 2: State Lead

If you choose the state lead option, DHEC will procure a DHEC Certified Site Rehabilitation Contractor to perform active corrective action. The contractor for this work will enter into a contract with DHEC and will be subject to the terms and conditions of the bid document for which he or she was awarded the work. You would not be a party to the contract.

The awarded contractor will only be authorized to perform the active corrective action as defined by the bid document. Any work to be completed prior to the scope of work as defined by the bid document will be performed by your current contractor. Any work to be performed after the completion of this active corrective action may be performed by your current contractor or by another DHEC certified contractor of your choosing.

As long as you do not interfere with or prohibit the work at your site, you will not be responsible for this active corrective action in the event the contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals.

To utilize the state lead option, please sign and return the enclosed State Lead Form for Site Rehabilitation within 15 days of the date of this letter.

We appreciate your prompt attention to this important matter. Please reference UST Permit #01589 on all correspondence or inquiries regarding this project. If you have any questions, please contact me at (803) 898-0671 or dunnra@dhec.sc.gov.

Sincerely,

Robert A. Dunn, Hydrogeologist
Corrective Action & Field Support
UST Management Division
Bureau of Land and Waste Management

Enc: Active Corrective Action Options form

Cc: ATC Group Services, LLC, 7499 Parklane Rd, Suite 112, Columbia, SC 29223 (w/ Enc)
Technical File (w /Enc)

Owner/Operator Lead Form for Active Corrective Action

Only complete this form if: You are the legal owner of the existing or former underground storage tanks, **OR** are the legal owner's designated authorized representative.

I certify that I am the legal owner of record for the underground storage tanks identified below for the release date reported below or serve as the authorized representative for the owner. I wish for DHEC to post the technical specifications package for the active corrective action on the DHEC website and solicit bids from DHEC certified contractors to conduct the work by publishing a notice in the South Carolina Business Opportunities and to select my own corrective action contractor after bid solicitation results are received. **I understand the lowest corrective action cost submitted in response to the solicitation will determine the reasonable or SUPERB-allowable cost. I understand if the selected contractor is not able to complete the required activities, I will be required to find another certified contractor to complete the required activities. Except for the limitations specified in the solicitation, the reasonable or SUPERB-allowable cost is the maximum amount the SUPERB Account will pay for the active corrective action.**

UST Permit #	01589	**Release Report Date:**	08/02/2018
Facility Name:		Circle K 2720886	
Facility Address:		4315 Sunset Hwy. Rural, SC	
Facility Phone Number:			

Name of UST owner/former owner or authorized representative (Print):		
Signature of UST owner/former owner or authorized representative:		**Date**
Affiliation (if applicable)		
Signature of Witness		**Date**

Contact Info

Phone Numbers:	**Home:**	**Cell:**
Email Address:		

State Lead Option Permission Form for Active Corrective Action

Only complete this form if: You are the legal owner of the existing or former underground storage tanks, **OR** are the legal owner's designated authorized representative.

I certify that I am the legal owner of the existing or former underground storage tanks located identified below and for the release reported the date listed below or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (DHEC) to post the technical specifications package for the active corrective action on the DHEC website and solicit bids from DHEC certified contractors to conduct the work by publishing a notice in the South Carolina Business Opportunities and to select a corrective action contractor, on my behalf, after bid solicitation results are received. The contractor will be designated as my contractor for only the required environmental site rehabilitation activities. I understand that DHEC or its contractor will be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report.

UST Permit #	01589	**Release Report Date:**	08/02/2018
Facility Name:		Circle K 2720886	
Facility Address:		4315 Savannah Hwy, Ravenel, SC	
Facility Phone Number:			
Is facility within city limits? (check yes/no)		☐ **Yes**	☐ **No**
Name of nearest intersecting street/road/highway:			
Does public water/sewer utility service this facility?		☐ **Yes**	☐ **No**

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

Name:	**Phone Number:**

Were USTs previously removed from the ground at this facility?	☐ **Yes**	☐ **No**

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

Name:	**Phone Number:**

Is the facility currently leased to someone?	☐ **Yes**	☐ **No**

*If yes, notify them of the pending work scope, and please provide their name/contact number:

Name:	**Phone Number:**

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

Name of UST owner/former owner or authorized representative (Print):		
Signature of UST owner/former owner or authorized representative:		**Date**
Affiliation (if applicable)		
Signature of Witness		**Date**

Contact Info

Phone Numbers:	**Home:**	**Cell:**
Email Address:		

01589

Water Well Record
Bureau of Water

DHEC — PROMOTE PROTECT PROSPER

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

UST PROGRAM JUL 17 2019 Robert

1. WELL OWNER INFORMATION:
Name: Circle K Stores (last) (first)
Address: 4315 Savannah Highway
City: Ravenel State: SC Zip: 29470-0000
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Highway
City: Ravenel Zip: 29470-0000
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:
01589

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from ______ ft. to ______ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See ATC Group Services, LLC		
Final Report		
6" / 2" Telescoping Well		

UST DOCKETING 64 tech

RECEIVED JUL 12 2019 Water Monitoring, Assessment & Protection Division

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

5. REMARKS:
DMW-4

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-27577

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 45 ft. Date Started: 7/1/19 Date Completed: 7/2/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 6" / 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 30 ft. depth
0 in. to 40 ft. depth
Height: Above/Below Surface ______ ft.
Weight ______ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 45 ft. and 40 ft. NOTE: MULTIPLE SCREENS
______ ft. and ______ ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ______ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
______ 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 45 ft. to 35 ft.
Effective size #2 Uniformity Coefficient

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other Bentonite 35-27
Depth: From 35 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ______ 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: Dearal Rodgers **CERT. NO.:** 1461
Address: (Print) Level: A ✓ B C D (circle one)
Elite Techniques, Inc., 1817 Bishopville Hwy. Camden, SC 29020
Telephone No.: Fax No.: Phone 803-425-7324

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: Dearal Rodgers Date: 7/10/19
Well Driller

If D Level Driller, provide supervising driller's name:
Dearal Rodgers #1461-A

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

UST JUL 17 2019 PROGRAM

1. WELL OWNER INFORMATION:
Name: Circle K Stores (last) (first)
Address: 4315 Savannah Highway
City: Ravenel State: SC Zip: 29470-0000
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Highway
City: Ravenel Zip: 29470-0000
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** 01589

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See ATC Group Services, LLC		
Final Report		
6" / 2" Telescoping Well		

RECEIVED
JUL 12 2019
Water Monitoring, Assessment & Protection Division

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

5. REMARKS:
DMW-5

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-27577

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7/1/19
43 ft. Date Completed: 7/1/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 6" / 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 30 ft. depth
0 in. to 38 ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 43 ft. and 38 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 43 ft. to 34 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other Bentonite 34-30
Depth: From 34 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Dearal Rodgers **CERT. NO.:** 1461
Address: (Print) Level: A ✓ B C D (circle one)
Elite Techniques, Inc., 1817 Bishopville Hwy. Camden, SC 29020
Telephone No.: Fax No.: Phone 803-425-7324

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: Dearal Rodgers Date: 7/10/19
Well Driller

If D Level Driller, provide supervising driller's name:
Dearal Rodgers #1461-A

dhec

Owner/Operator Lead Form for Active Corrective Action

Only complete this form if: You are the legal owner of the existing or former underground storage tanks, **OR** are the legal owner's designated authorized representative.

I certify that I am the legal owner of record for the underground storage tanks identified below for the release date reported below or serve as the authorized representative for the owner. I wish for DHEC to post the technical specifications package for the active corrective action on the DHEC website and solicit bids from DHEC certified contractors to conduct the work by publishing a notice in the South Carolina Business Opportunities and to select my own corrective action contractor after bid solicitation results are received. **I understand the lowest corrective action cost submitted in response to the solicitation will determine the reasonable or SUPERB-allowable cost. I understand if the selected contractor is not able to complete the required activities, I will be required to find another certified contractor to complete the required activities. Except for the limitations specified in the solicitation, the reasonable or SUPERB-allowable cost is the maximum amount the SUPERB Account will pay for the active corrective action.**

UST Permit #	01589	**Release Report Date:**	08/02/2018
Facility Name:		Circle K 2720886	
Facility Address:		8315 Savannah Hwy. Ravenel, SC	
Facility Phone Number:			

Name of UST owner/former owner or authorized representative (Print):	Alan Cubberley, Env. Mgr.	
Signature of UST owner/former owner or authorized representative:	[signature]	7/23/19 **Date**
Affiliation (if applicable)		
Signature of Witness	[signature]	7/23/19 **Date**

Contact Info

Phone Numbers:	**Home:**	**Cell:**	330-814-4032
Email Address:	acubberley@circlek.com		

DHEC 3989 (01/2019)

UST DOCKETING 65 Tech

rec'd via email 07/24/2019 RDD

UST
JUL 31 2019
PROGRAM

UST
DOCKETING

Additional Assessment Report
Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
UST Permit ID #01589; CA #59718
ATC Project No. DHEC088605

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTI

July 31, 2019

7499 Parklane Road
Suite 112
Columbia, SC 29223

Phone **+1 803 735 0003**
Fax +1 803 741 2444

www.ATCAssociates.com

Mr. Robert A. Dunn, Hydrogeologist
South Carolina Department of Health and Environmental Control
UST Assessment Section
Bureau of Land and Waste Management
UST Management Division
2600 Bull Street
Columbia, South Carolina 29201

RE: Additional Assessment Report
Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
UST Permit ID #01589; CA #59718
ATC Project No. DHEC088605

Dear Mr. Dunn:

On behalf of *Circle K Stores, Inc.*, *ATC Group Services, LLC* is submitting the enclosed Additional Assessment Report for the **Circle K 2720886** facility. This report has been written in accordance with the South Carolina Department of Health and Environmental Control (SCDHEC) directive letter dated June 5, 2019. This assessment has been conducted to horizontally delineate petroleum Chemicals of Concern in the lower extent of the surficial aquifer between the source and potable wells identified as WSW-12, WSW-13 and WSW-17, southeast of the subject property. If you have any questions or require additional information, please contact me at (803) 223-0797.

Sincerely,
ATC Group Services, LLC

William R. Hays, P.G. #2568
Staff Geologist
Direct Line +1 803 223 0797
Email: william.hays@atcassociates.com

cc: Mr. Brent Puzak, Environmental Director, *Circle K Stores, Inc.*

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Additional Assessment Report
Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
UST Permit ID #01589; CA #59718
ATC Project No. DHEC088605

Prepared By:

William R. Hays, P.G. #2568
Staff Geologist

WILLIAM R. HAYS
REGISTERED
No. 2568
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

Submitted To:

State of South Carolina
Department of Health and Environmental Control
Bureau of Land and Waste Management
UST Management Division
UST Assessment Section
2600 Bull Street
Columbia, South Carolina 29201

On Behalf Of:

Circle K Stores, Inc.
Attn: Brent Puzak, Environmental Director
305 Gregson Drive
Post Office Box 8019
Cary, North Carolina 27512
Phone: (919) 774-6700

Submitted By:

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC 29223
Phone: (803) 735-0003
Fax: (803) 741-2444

Underground Storage Tank Site Rehabilitation
Contractor Certification No. 313

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1.0 INTRODUCTION

ATC Group Services, LLC (ATC) was retained by *Circle K Stores, Inc.* to perform environmental consulting services at the **Circle K 2720886** facility located at 4315 Savannah Highway in Ravenel (Charleston County), South Carolina (UST Permit #01589). A site topographic map is presented as ***Figure 1*** and a site map depicting the site wells, utilities and well locations on the adjacent properties is presented as ***Figure 2***. The assessment was authorized by the SCDHEC in a Directive dated June 5, 2019. Environmental assessment activities included monitoring well installation and development, top of well casing survey to existing benchmark, potentiometric data compilation, investigation-derived waste disposal, groundwater sample collection and laboratory analysis, product baildown testing and data compilation and report preparation. The results of the assessment, along with recommendations, are included herein.

2.0 SITE DESCRIPTION

2.1 Site Description

The facility has historically transacted as a convenience store distributing retail gasoline and diesel fuel. The subject property is owned by the *Gregorie Land Company, LLC* (P.O. Box 248, Mount Pleasant, SC 29465- 0248; Telephone: (843) 884-4153). The site is located in the southwestern quadrant of the intersection between Savannah Highway (U.S. Highway 17) and S.C. Highway 162, east of Ravenel. The properties located immediately adjacent to the subject property have been commercially developed or remain wooded. According to the SCDHEC UST registry database, the release has a South Carolina Risk-Based Corrective Action (SCRBCA) risk classification score of 1E, based on the presence of free product on surface water in the immediate vicinity.

2.2 Site Background

Information available in the SCDHEC Underground Storage Tank (UST) Registry database indicates that four (4) USTs have been in operation at the site since January 1, 1990. Three (3) USTs exhibiting storage capacities of 10,000 gallons each, store regular unleaded gasoline, mid-grade unleaded gasoline and diesel fuel. A single 6,000 gallon UST stores premium unleaded gasoline. According to data available in the SCDHEC UST Registry, four (4) petroleum releases at the site have been documented. Petroleum release #1 was confirmed on December 31, 1991 and received a No Further

Action (NFA) designation on August 29, 1994. Petroleum release #2 was confirmed on February 10, 1994 and received an NFA designation on September 27, 2007. A third petroleum release at the site was assigned on February 26, 2018. This release received an NFA on November 2, 2018.

Following a significant precipitation event on August 2, 2018, suspected gasoline was identified in the median between northbound and southbound U.S. Highway 17 northwest of the subject property. Suspected gasoline was additionally observed filling cracks in the asphalt of both the southern and northern shoulders of the southbound lane of U.S. Highway 17. On August 8, 2018, tank tightness testing performed on the UST System operating at the site determined that the remote fill lines supplying the regular and mid-grade unleaded gasoline USTs and the diesel fuel UST had lost integrity. Previous assessment resulted in the installation of an extensive network of groundwater monitoring and recovery wells, product skimming from surface water exhibiting product and multiple Aggressive Fluid and Vapor Recovery (AFVR) Events. In a directive dated May 22, 2019, the SCDHEC requested development and submittal of a Site Specific Work Plan (SSWP) including telescoping well installation, a comprehensive groundwater monitoring and sampling event and product baildown and recharge measurement to determine true product thickness in targeted recovery wells. ATC submitted the SSWP on May 24, 2019 and the SCDHEC issued an Additional Assessment Directive on June 5, 2019. This report documents assessment activities performed between July 1 and 17, 2019.

3.0 MONITORING WELL INSTALLATION

On July 1 and 2, 2019, ATC personnel directed *Elite Techniques, Inc.* [1817 Bishopville Highway, Camden, SC 29020; telephone (803) 425-7324; SCDHEC Cert # 1461] in the installation of two telescoping groundwater monitoring wells identified as 01589 DMW-4 and 01589 DMW-5. These wells were installed to assess the lower extent of the surficial aquifer between the source of the release and potable water wells located east of the subject property across S.C. Highway 162. Telescoping wells were installed through 6-inch diameter PVC external casings advanced to a depth of 30 feet bgs, respectively, and grouted in place. The external casings were placed in order to isolate potential shallow soil and groundwater contamination in the upper extent of the surficial aquifer during well installation. Once the grout surrounding the external casing had hardened, well borings were advanced to terminal depths via mud rotary drilling methodology. Each telescoping

well was constructed with a 5 foot length of 2-inch diameter, Schedule 40, flush threaded PVC well screen (0.010-inch slot size). Soil cuttings generated during well installation were screened with a Photoionization Detector (PID) and spread on site since no elevated PID readings were observed. The locations of the newly-installed monitoring wells are presented on ***Figure 2***. Upon completion, the wells were fitted with water-tight, locking PVC caps and protected by flush-finished concrete pads incorporating 9-inch diameter steel, traffic rated vaults with bolt down covers. Following installation, each well was developed with a decontaminated centrifugal pump to remove any fine materials that may have impeded the flow of groundwater into the well. During well development, ATC personnel measured and recorded pH, specific conductivity, water temperature, turbidity measurements and water table drawdown. Monitoring well boring logs including lithologic descriptions and well construction details, Well Development Data Verification Forms and SCDHEC 1903 Forms are presented in ***Appendix A.*** Disposal manifests for investigative-derived waste are included in ***Appendix D***.

In order to assure potentiometric data continuity, ATC personnel surveyed the casings of the newly-installed wells into the plane of reference previously established at the site.

4.0 GROUNDWATER CHARACTERIZATION

4.1 Groundwater Levels

On July 8, 2019, ATC personnel gauged water levels in monitoring wells 01589 MW-1, 01589 MW-2, 01589 MW-3, 01589 MW-4, 01589 MW-5, 01589 MW-7, 01589 MW-8, 01589 MW-9, 01589 MW-10, 01589 MW-11, 01589 MW-12, 01589 MW-13, 01589 MW-14, 01589 MW-15, 01589 MW-16, 01589 MW-17, 01589 MW-18, 01589 MW-19, 01589 MW-20, 01589 MW-21, 01589 MW-22, 01589 MW-23, 01589 MW-24, 01589 MW-25, 01589 MW-26, 01589 MW-27, 01589 MW-28, 01589 MW-29, 01589 MW-30, 01589 MW-31, 01589 MW-32, 01589 MW-34, 01589 MW-35, 01589 MW-36, 01589 MW-37, 01589 MW-38, 01589 DMW-1, 01589 DMW-2, 01589 DMW-3, 01589 DMW-4 and 01589 DMW-5 and recovery wells 01589 RW-1, 01589 RW-4 and 01589 RW-12. Depths to water were measured from the top of each well casing with an electronic water level indicator. During gauging activities, ATC personnel utilized an interphase probe to measure free product thicknesses in groundwater monitoring wells 01589 MW-6 (0.09 feet) and 01589 MW-33 (0.11 feet) and recovery wells 01589 RW-2 (0.18 feet), 01589 RW-3 (1.56 feet), 01589 RW-5 (1.64 feet), 01589 RW-6 (2.00

feet), 01589 RW-7 (0.45 feet), 01589 RW-8 (0.30 feet), 01589 RW-9 (0.86 feet), 01589 RW-10 (1.37 feet) and 01589 RW-11 (1.50 feet) with an interphase probe. Groundwater in the upper extent of the surficial aquifer was determined to flow to the northwest with an average horizontal hydraulic gradient of 0.011 feet/feet. The gradient was calculated between 01589 MW-5 and 01589 MW-28, between 01589 MW-34 and 01589 MW-26 and between groundwater monitoring wells 01589 MW-35 and 01589 MW-21. Groundwater in the lower extent of the surficial aquifer was determined to flow to the north and northwest with an average horizontal hydraulic gradient of 0.008 feet/feet. The gradient was calculated between groundwater monitoring wells 01589 DMW-5 and 01589 DMW-3 and between groundwater monitoring wells 01589 DMW-5 and 01589 DMW-2. A positive vertical gradient of 0.009 was calculated between shallow groundwater monitoring well 01589 MW-1 and telescoping well 01589 DMW-1. A positive vertical gradient of 0.003 was calculated between shallow groundwater monitoring well 01589 MW-22 and telescoping well 01589 DMW-2. A downward vertical gradient of 0.02 was calculated between shallow groundwater monitoring well 01589 MW-24 and telescoping well 01589 DMW-3. A downward vertical gradient of 0.04 was calculated between shallow groundwater monitoring well 01589 MW-16 and telescoping well 01589 DMW-4. A downward vertical gradient of 0.004 was calculated between shallow groundwater monitoring well 01589 MW-34 and telescoping well 01589 DMW-5. Monitoring well construction details and current and historical groundwater elevation data are included in ***Table 1***. Groundwater elevation contour maps depicting the July 8, 2019 potentiometric data in the upper and lower extents of the surficial aquifer are presented as ***Figures 3A*** and ***3B,*** respectively.

4.2 Groundwater Quality

On July 8, 9 and 10, 2019, ATC personnel collected groundwater samples from monitoring wells 01589 MW-1, 01589 MW-2, 01589 MW-3, 01589 MW-4, 01589 MW-5, 01589 MW-7, 01589 MW-8, 01589 MW-9, 01589 MW-10, 01589 MW-11, 01589 MW-12, 01589 MW-13, 01589 MW-14, 01589 MW-15, 01589 MW-16, 01589 MW-17, 01589 MW-18, 01589 MW-19, 01589 MW-20, 01589 MW-21, 01589 MW-22, 01589 MW-23, 01589 MW-24, 01589 MW-25, 01589 MW-26, 01589 MW-27, 01589 MW-28, 01589 MW-29, 01589 MW-30, 01589 MW-31, 01589 MW-32, 01589 MW-34, 01589 MW-35, 01589 MW-36, 01589 MW-37, 01589 MW-38, 01589 DMW-1, 01589 DMW-2, 01589 DMW-3, 01589 DMW-4 and 01589 DMW-5 and recovery wells 01589 RW-1, 01589 RW-4 and 01589 RW-12. Newly-installed groundwater monitoring wells and those not exhibiting water table-bracketing screens were bailed of five (5) casing volumes or bailed dry and sampled following adequate recharge.

Well purging and groundwater sample collection were completed utilizing dedicated polyethylene disposable bailers. ATC personnel wore disposable nitrile gloves and changed them between each well during purging and groundwater sample collection activities to maintain sample integrity. ATC personnel recorded pH, specific conductivity, water temperature, dissolved oxygen and turbidity measurements from the initial bailer at each well and monitored these parameters during groundwater purging activities. These measurements are documented on the field data information sheets included in ***Appendix B***. Water samples were collected from private potable water supply wells located within 2,000 feet of the subject property. All potable water wells sampled during previous assessment events were sampled during this event. Potable water samples were collected from exterior spigots located at each property. A map of the nearby water supply well locations including sample identification is presented as ***Figure 5*** along with a table listing property owners. To examine laboratory accuracy, duplicate sets of groundwater samples were collected from groundwater monitoring wells 01589 MW-13 (identified as 01589 DUP-1), 01589 MW-12 (identified as 01589 DUP-2) and 01589 DMW-1 (identified as 01589 DUP-3) and from potable water wells 01589 WSW-5 (identified as DUP 1) and 01589 WSW-9 (identified as DUP 2). Field blanks were additionally collected during each day of the sampling event to provide data validation. The groundwater samples, potable well samples and the associated Quality Assurance/Quality Control (QA/QC) samples were transported under chain of custody to *Pace Analytical Services, LLC* (9800 Kincey Avenue, Suite 100, Huntersville, North Carolina 28078, (704) 875-9092; South Carolina laboratory Certification Number 99006001]. Groundwater samples collected from monitoring wells and recovery wells including field blanks were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tert butyl ether (MTBE), naphthalene, 1,2-dichloroethane (1,2-DCA) and the 8 SCDHEC-regulated oxygenates by EPA Method 8260B and ethylene dibromide (EDB) by EPA Analytical Method 8011. In accordance with Drinking Water standards, water samples collected from the potable water wells and additional field blanks were analyzed for BTEX, MTBE, naphthalene and 1,2 DCA by EPA Method 524.2 and the eight (8) SCDHEC-regulated gasoline oxygenates by EPA Method 8260B. The laboratory analytical report and chain-of-custody documentation is included in ***Appendix C.*** A disposal manifest for development water generated during well installation and purge water generated during sampling activities is included in ***Appendix D***.

Benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene and tert-Amyl alcohol were the Chemicals of Concern present above respective SCDHEC RBSLs in groundwater samples collected

and analyzed during this event. The benzene concentrations detected in groundwater samples collected from monitoring wells 01589 MW-1 (17,700 µg/l), 01589 MW-2 (10,000 µg/l), 01589 MW-7 (9,210 µg/l), 01589 MW-12 (410 µg/l), 01589 MW-13 (31.2 µg/l), 01589 MW-15 (2,840 µg/l), 01589 MW-32 (306 µg/l), 01589 MW-36 (14.5 µg/l), 01589 MW-38 (73.6 µg/l) and 015489 DMW-1 (7.1 µg/l) and recovery wells 01589 RW-1 (12,300 µg/l), and 01589 RW-12 (4,360 µg/l) exceeded the RBSL of 5.0 µg/l. The toluene level detected in groundwater monitoring wells 01589 MW-1 (40,400 µg/l), 01589 MW-2 (21,600 µg/l), 01589 MW-7 (34,100 µg/l) and 01589 MW-15 (7,910 µg/l) and recovery wells 01589 RW-1 (27,900 µg/l) and 01589 RW-12 (6,410 µg/l) exceeded the RBSL of 1,000 µg/l. The ethylbenzene concentrations detected in groundwater monitoring well wells 01589 MW-1 (2,290 µg/l), 01589 MW-2 (1,690 µg/l), 01589 MW-7 (2,390 µg/l) and 01589 MW-15 (982 µg/l) and recovery well 01589 RW-1 (1,700 µg/l) exceeded the RBSL of 700 µg/l. The xylenes concentrations detected in groundwater samples collected from monitoring wells 01589 MW-1 (11,400 µg/l) and 01589 MW-7 (12,700 µg/l) and recovery well 01589 RW-1 (11,800 µg/l) exceeded the RBSL of 10,000 µg/l. The MTBE levels detected in groundwater samples collected from monitoring wells 01589 MW-1 (1,850 µg/l) and 01589 MW-2 (559 µg/l) and recovery wells 01589 RW-1 (1,400 µg/l) and 01589 RW-12 (236 µg/l) exceeded the RBSL of 40.0 µg/l. Naphthalene was detected in groundwater samples collected from monitoring wells 01589 MW-2 (236 µg/l), 01589 MW-7 (271 µg/l), 01589 MW-13 (164 µg/l) and 01589 MW-15 (120 µg/l) and recovery wells 01589 RW-1 (283 µg/l) and 01589 RW-12 (170 µg/l) above the RBSL of 25.0 µg/l. The tert-Amyl alcohol concentrations detected in groundwater samples collected from 01589 MW-2 (16,200 µg/l), 01589 MW-12 (1,370 µg/l), 01589 MW-15 (6,950 µg/l) and 01589 MW-32 (284 µg/l) exceeded the RBSL of 240 µg/l. Groundwater analytical data for the July 8, 9 and 10, 2019 sampling event is summarized in ***Table 2*** and an historical summary is presented in ***Table 3.*** Potable water well analytical data for the July 8, 9 and 10, 2019 sampling event is summarized in ***Table 4*** and an hisorical summary is presented in ***Table 5.*** Chemical of Concern Distribution Maps presenting analytical results at each monitoring well and recovery well are presented as ***Figures 4A, 4B, 4C, 4D*** and ***4E.***

No Chemicals of Concern were detected above analytical method reporting limits in potable water well samples collected and analyzed during this event.

5.0 PRODUCT BAILDOWN TESTING

On July 17, 2019, ATC personnel performed product baildown tests in recovery wells exhibiting the greatest product thicknesses during pre-sample collection gauging activities. During each test, the static depths to product and water were gauged in the targeted monitoring wells, the wells were rapidly bailed to remove visible product and depress the water table and the subsequent product and water table recharge levels were gauged. True product thickness is measured at the water table recharge inflection point.

5.1 True Product Thickness

Pre-test product measurements in recovery wells 01589 RW-5 and 01589 RW-6 were 2.50 feet and 2.81 feet, respectively. Based on graphed recharge, the true product thickness in recovery well 015899 RW-5 is 0.39 feet and the true product thickness in recovery well 015899 RW-6 is 0.10 feet. The baildown test data and compiled graphs are presented in ***Appendix E.*** The extent and thickness of product gauged in monitoring wells and recovery wells during this event are presented on ***Figure 6***.

6.0 DATA VALIDATION AND USABILITY

6.1 Data Validation

To ensure adherence to the methodologies described in the QAPP, a contractor checklist was completed and is included in ***Appendix F.***

6.2 Quality Assurance Analysis

The project sample design, field procedures, and laboratory data were reviewed for quality assurance and data usability using the six data quality indicators (DQIs) described in Section A7 of the SCDHEC Programmatic QAPP requirements. The results of the quality assurance analysis are described below.

6.3 Precision

The precision of the laboratory data was evaluated by comparing the relative percent difference (RPD) between duplicated groundwater samples. The monitoring wells selected for sample duplication exhibited moderate petroleum odor during sample collection activities. Duplicate sets of

groundwater samples were collected from groundwater monitoring wells 01589 MW-13 (identified as 01589 DUP-1), 01589 MW-12 (identified as 01589 DUP-2) and 01589 DMW-1 (identified as 01589 DUP-3) and from potable water wells 01589 WSW-5 (identified as DUP 1) and 01589 WSW-9 (identified as DUP 2). Samples were analyzed for BTEX, MTBE, naphthalene, 1,2 DCA, the 8 SCDHEC-regulated oxygenates and EDB.

The RPD was calculated using the formula:

$$PD\ (\%) = Absolute\ value\ of \left(\frac{(C_S - C_D)}{((C_S - C_D)/2)}\right) x\ 100$$

Where: C_S = Concentration of the sample

C_D = Concentration of the duplicate sample

The RPDs were compared to the limits established in Appendix E of the SCDHEC Programmatic QAPP. The results of the Precision Analysis are included in ***Tables 6*** and ***7***.

6.4 Bias

Bias analysis of the data can indicate accuracy of the laboratory measurement system. The results of the analysis of the field blank and trip blank indicate that there were no sources of error in the sampling process, preservation, handling, sample preparation and analytical techniques. The results of the bias analysis of the field and trip blanks are included in ***Tables 6*** and ***7***.

6.5 Representativeness

The site monitoring well network was designed to allow representative samples to be collected from the site and the surrounding area. Field personnel have been instructed to log data, label containers, and enter samples on the chains-of-custody immediately upon collection to reduce potential for sample location or other representativeness errors. Proper preservation techniques, including preservative use and immediate icing of samples are also employed. Samples were collected and analyzed in accordance with the QAPP. The data collected and presented in this report meet the QAPP criteria for representativeness.

6.6 Completeness

The purpose of this sampling event was to monitor the petroleum release impact to groundwater beneath the facility. All groundwater monitoring wells and recovery wells installed to horizontally and vertically delineate, monitor and remediate the petroleum release were accessed during this event. Therefore, the dataset meets the completeness criteria.

6.7 Comparability

An historical summary of analytical data for the site dating to November 2018 is included in this report. Previous groundwater monitoring and sampling utilized the same collection protocol as employed during the current event, samples were analyzed using the same EPA Methods and the data is reported in micrograms per Liter (µg/L) to allow for direct comparison. The comparability criteria have generally been met.

6.8 Method Sensitivity

Laboratory method detection limits and reporting limits were reviewed and compared to the limits established in Appendix E of the SCDHEC Programmatic QAPP. The results of the Method Sensitivity analysis are included in ***Tables 6*** and ***7***. The analytical dataset met the QAPP sensitivity limits requirements. Discrepancies are addressed in the Project Status Update table presented in ***Appendix G***.

7.0 SUMMARY

ATC recently conducted Additional Assessment activities of the **Circle K 2720886** property in Ravenel, South Carolina. Based on field measurements and laboratory analytical results, ATC provides the following summary and recommendations:

- On July 1 and 2, 2019, ATC personnel directed the installation of telescoping groundwater monitoring wells 01589 DMW-4 and 01589 DMW-5 in order to horizontally delineate petroleum Chemicals of Concern in the lower extent of the surficial aquifer between the source and potable wells identified as WSW-12, WSW-13 and WSW-17, southeast of the subject property;

- Groundwater in the upper extent of the surficial aquifer was determined to flow to the northwest with an average horizontal hydraulic gradient of 0.011 feet/feet. The gradient was calculated between 01589 MW-5 and 01589 MW-28, between 01589 MW-34 and 01589 MW-26 and between groundwater monitoring wells 01589 MW-35 and 01589 MW-21;

- Groundwater in the lower extent of the surficial aquifer was determined to flow to the north and northwest with an average horizontal hydraulic gradient of 0.008 feet/feet. The gradient was calculated between groundwater monitoring wells 01589 DMW-5 and 01589 DMW-3 and between groundwater monitoring wells 01589 DMW-5 and 01589 DMW-2;

- A positive vertical gradient of 0.009 was calculated between shallow groundwater monitoring well 01589 MW-1 and telescoping well 01589 DMW-1. A positive vertical gradient of 0.003 was calculated between shallow groundwater monitoring well 01589 MW-22 and telescoping well 01589 DMW-2. A downward vertical gradient of 0.02 was calculated between shallow groundwater monitoring well 01589 MW-24 and telescoping well 01589 DMW-3. A downward vertical gradient of 0.04 was calculated between shallow groundwater monitoring well 01589 MW-16 and telescoping well 01589 DMW-4. A downward vertical gradient of 0.004 was calculated between shallow groundwater monitoring well 01589 MW-34 and telescoping well 01589 DMW-5;

- Benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene and tert-Amyl alcohol were the Chemicals of Concern present above respective SCDHEC RBSLs in groundwater samples collected and analyzed during this event;

- No Chemicals of Concern were detected above analytical method reporting limits in potable water well samples collected and analyzed during this event;

- Free product was measured in groundwater monitoring wells 01589 MW-6 (0.09 feet) and 01589 MW-33 (0.11 feet) and recovery wells 01589 RW-2 (0.18 feet), 01589 RW-3 (1.56 feet), 01589 RW-5 (1.64 feet), 01589 RW-6 (2.00 feet), 01589 RW-7 (0.45 feet), 01589 RW-8 (0.30 feet), 01589 RW-9 (0.86 feet), 01589 RW-10 (1.37 feet) and 01589 RW-11 (1.50 feet);

- Chemicals of Concern in groundwater have been vertically and horizontally delineated to below respective SCDHEC RBSLs.

Based on groundwater analytical data generated during this event and the presence of significant measured thicknesses of free product in multiple wells, ATC recommends that a series of AFVR Events be conducted at the site targeting groundwater monitoring wells 01589 MW-6 and 01589 MW-33 and recovery wells 01589 RW-2, 01589 RW-3, 01589 RW-5, 01589 RW-6, 01589 RW-7, 01589 RW-8, 01589 RW-9, 01589 RW-10 and 01589 RW-11. Subsequent comprehensive groundwater monitoring and sampling events conducted at the site will monitor AFVR effectiveness, chemical of concern migration and natural attenuation.

TABLES

Table 1
Groundwater Elevation Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-1	11/22/2018	21.62	2.0 - 12.0	12.0	NM	4.82	NA	16.80
	2/26/2019				NM	4.30	NA	17.32
	3/11/2019				NM	4.53	NA	17.09
	4/25/2019				NM	5.24	NA	16.38
	7/8/2019				NM	4.17	NA	17.45
01589 MW-2	11/22/2018	21.59	2.0 - 12.0	12.0	NM	4.93	NA	16.66
	2/12/2019				NM	3.37	NA	18.22
	2/26/2019				NM	3.83	NA	17.76
	3/11/2019				NM	4.07	NA	17.52
	4/25/2019				NM	4.99	NA	16.60
	7/8/2019				NM	3.78	NA	17.81
01589 MW-3	11/22/2018	22.94	2.0 - 12.0	12.0	NM	5.47	NA	17.47
	2/12/2019				NM	3.81	NA	19.13
	2/26/2019				NM	4.29	NA	18.65
	3/11/2019				NM	4.55	NA	18.39
	4/25/2019				NM	5.31	NA	17.63
	7/8/2019				NM	4.80	NA	18.14
01589 MW-4	11/22/2018	22.80	2.0 - 12.0	12.0	NM	4.70	NA	18.10
	2/26/2019				NM	4.46	NA	18.34
	3/11/2019				NM	4.67	NA	18.13
	4/25/2019				NM	5.33	NA	17.47
	7/8/2019				NM	3.77	NA	19.03
01589 MW-5	11/22/2018	23.57	2.0 - 12.0	12.0	NM	5.19	NA	18.38
	2/26/2019				NM	4.46	NA	19.11
	3/11/2019				NM	4.74	NA	18.83
	4/25/2019				NM	5.41	NA	18.16
	7/8/2019				NM	4.30	NA	19.27
01589 MW-6	11/22/2018	19.33	2.0 - 12.0	12.0	2.30	3.06	0.76	16.83
	2/12/2019				2.22	2.16	0.06	17.21
	2/26/2019				2.77	2.96	0.19	16.51
	3/11/2019				NM	3.02	0	16.31
	4/25/2019				3.66	3.72	0.06	15.65
	7/8/2019				2.62	2.71	0.09	16.69

btoc = below top of casing
NM = no measurable product present
NA = not applicable
corrected water table elevation = TOC elev - DTW + (0.74)(product thickness)
* = product thickness measured through use of a bailer

Table 1
Groundwater Elevation Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-7	11/22/2018	19.55	2.0 - 12.0	12.0	NM	2.98	NA	16.57
	2/12/2019				NM	2.45	NA	17.10
	2/26/2019				NM	2.84	NA	16.71
	3/11/2019				NM	2.99	NA	16.56
	4/25/2019				NM	3.61	NA	15.94
	7/8/2019				NM	2.44	NA	17.11
01589 MW-8	11/22/2018	19.14	2.0 - 12.0	12.0	NM	3.05	NA	16.09
	2/26/2019				NM	2.80	NA	16.34
	3/11/2019				NM	2.93	NA	16.21
	4/25/2019				NM	3.64	NA	15.50
	7/8/2019				NM	2.52	NA	16.62
01589 MW-9	11/22/2018	16.50	2.0 - 12.0	12.0	NM	2.32	NA	14.18
	2/26/2019				NM	2.77	NA	13.73
	3/11/2019				NM	2.82	NA	13.68
	4/25/2019				NM	3.33	NA	13.17
	7/8/2019				NM	2.30	NA	14.20
01589 MW-10	11/22/2018	17.63	2.0 - 12.0	12.0	NM	3.09	NA	14.54
	2/26/2019				NM	3.04	NA	14.59
	3/11/2019				NM	3.04	NA	14.59
	4/25/2019				NM	3.61	NA	14.02
	7/8/2019				NM	2.73	NA	14.90
01589 MW-11	11/22/2018	18.13	2.0 - 12.0	12.0	NM	2.85	NA	15.28
	2/26/2019				NM	3.03	NA	15.10
	3/11/2019				NM	3.09	NA	15.04
	4/25/2019				NM	3.76	NA	14.37
	7/8/2019				NM	2.74	NA	15.39
01589 MW-12	11/22/2018	21.38	2.0 - 12.0	12.0	NM	4.76	NA	16.62
	2/12/2019				NM	3.70	NA	17.68
	2/26/2019				NM	4.15	NA	17.23
	3/11/2019				NM	4.36	NA	17.02
	4/25/2019				NM	5.28	NA	16.10
	7/8/2019				NM	3.97	NA	17.41

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Table 1
Groundwater Elevation Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-13	11/22/2018	20.48	2.0 - 12.0	12.0	NM	4.07	NA	16.41
	2/12/2019				NM	3.11	NA	17.37
	2/26/2019				NM	3.54	NA	16.94
	3/11/2019				NM	3.71	NA	16.77
	4/25/2019				NM	4.70	NA	15.78
	7/8/2019				NM	3.26	NA	17.22
01589 MW-14	11/22/2018	23.45	2.0 - 12.0	12.0	NM	5.96	NA	17.49
	2/26/2019				NM	4.60	NA	18.85
	3/11/2019				NM	4.85	NA	18.60
	4/25/2019				NM	5.92	NA	17.53
	7/8/2019				NM	5.10	NA	18.35
01589 MW-15	11/22/2018	22.82	2.0 - 12.0	12.0	NM	5.48	NA	17.34
	2/26/2019				NM	4.41	NA	18.41
	3/11/2019				NM	4.89	NA	17.93
	4/25/2019				NM	5.95	NA	16.87
	7/8/2019				NM	4.70	NA	18.12
01589 MW-16	11/22/2018	21.18	2.0 - 12.0	12.0	NM	4.10	NA	17.08
	2/12/2019				NM	2.89	NA	18.29
	2/26/2019				NM	3.30	NA	17.88
	3/11/2019				NM	3.59	NA	17.59
	4/25/2019				NM	4.44	NA	16.74
	7/8/2019				NM	3.04	NA	18.14
01589 MW-17	11/22/2018	20.96	2.0 - 12.0	12.0	NM	4.04	NA	16.92
	2/26/2019				NM	3.40	NA	17.56
	3/11/2019				NM	3.68	NA	17.28
	4/25/2019				NM	4.75	NA	16.21
	7/8/2019				NM	3.09	NA	17.87
01589 MW-18	11/22/2018	20.05	2.0 - 12.0	12.0	NM	3.86	NA	16.19
	2/26/2019				NM	3.44	NA	16.61
	3/11/2019				NM	3.56	NA	16.49
	4/25/2019				NM	4.59	NA	15.46
	7/8/2019				NM	3.29	NA	16.76

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Ravenel, Charleston County, South Carolina
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Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-19	11/22/2018	19.82	2.0 - 12.0	12.0	NM	3.71	NA	16.11
	2/26/2019				NM	2.74	NA	17.08
	3/11/2019				NM	2.70	NA	17.12
	4/25/2019				NM	4.71	NA	15.11
	7/8/2019				NM	3.05	NA	16.77
01589 MW-20	11/22/2018	18.53	2.0 - 12.0	12.0	NM	2.71	NA	15.82
	2/26/2019				NM	2.60	NA	15.93
	3/11/2019				NM	2.76	NA	15.77
	4/25/2019				NM	3.74	NA	14.79
	7/8/2019				NM	2.19	NA	16.34
01589 MW-21	11/22/2018	16.16	2.0 - 12.0	12.0	NM	1.34	NA	14.82
	2/26/2019				NM	0.00	NA	16.16
	3/11/2019				NM	0.99	NA	15.17
	4/25/2019				NM	1.24	NA	14.92
	7/8/2019				NM	0.25	NA	15.91
01589 MW-22	11/22/2018	18.79	2.0 - 12.0	12.0	NM	3.96	NA	14.83
	2/26/2019				NM	3.97	NA	14.82
	3/11/2019				NM	4.10	NA	14.69
	4/25/2019				NM	5.03	NA	13.76
	7/8/2019				NM	3.56	NA	15.23
01589 MW-23	11/22/2018	22.36	5.0 - 15.0	15.0	NM	7.61	NA	14.75
	2/26/2019				NM	7.33	NA	15.03
	3/11/2019				NM	7.49	NA	14.87
	4/25/2019				NM	8.50	NA	13.86
	7/8/2019				NM	7.24	NA	15.12
01589 MW-24	11/22/2018	22.50	5.0 - 15.0	15.0	NM	6.96	NA	15.54
	2/12/2019				NM	6.46	NA	16.04
	2/26/2019				NM	6.81	NA	15.69
	3/11/2019				NM	6.99	NA	15.51
	4/25/2019				NM	7.97	NA	14.53
	7/8/2019				NM	6.61	NA	15.89
01589 MW-25	11/22/2018	16.46	2.0 - 12.0	12.0	NM	0.22	NA	16.24
	2/26/2019				NM	1.37	NA	15.09
	3/11/2019				NM	1.24	NA	15.22
	4/25/2019				NM	1.90	NA	14.56
	7/8/2019				NM	0.78	NA	15.68

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4315 Savannah Highway
Ravenel, Charleston County, South Carolina
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Monitoring Well Identification	Gauging Date	Top of Casing Elevation (feet)	Screened Interval (feet btoc)	Depth of Well (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Water Table Elevation* (feet)
01589 MW-26	11/22/2018	21.36	5.0 - 15.0	15.0	NM	6.96	NA	14.40
	2/26/2019				NM	6.96	NA	14.40
	3/11/2019				NM	7.15	NA	14.21
	4/25/2019				NM	8.37	NA	12.99
	7/8/2019				NM	6.38	NA	14.98
01589 MW-27	11/22/2018	20.77	5.0 - 15.0	15.0	NM	6.97	NA	13.80
	2/26/2019				NM	7.31	NA	13.46
	3/11/2019				NM	7.44	NA	13.33
	4/25/2019				NM	8.31	NA	12.46
	7/8/2019				NM	6.70	NA	14.07
01589 MW-28	11/22/2018	18.18	2.0 - 12.0	12.0	NM	5.02	NA	13.16
	2/26/2019				NM	4.93	NA	13.25
	3/11/2019				NM	5.01	NA	13.17
	4/25/2019				NM	5.69	NA	12.49
	7/8/2019				NM	4.81	NA	13.37
01589 MW-29	11/22/2018	22.35	5.0 - 15.0	15.0	NM	7.01	NA	15.34
	2/26/2019				NM	6.68	NA	15.67
	3/11/2019				NM	6.84	NA	15.51
	4/25/2019				NM	4.93	NA	17.42
	7/8/2019				NM	6.62	NA	15.73
01589 MW-30	11/22/2018	18.06	2.0 - 12.0	12.0	NM	3.27	NA	14.79
	2/26/2019				NM	3.30	NA	14.76
	3/11/2019				NM	3.44	NA	14.62
	4/25/2019				NM	4.38	NA	13.68
	7/8/2019				NM	2.89	NA	15.17
01589 MW-31	11/22/2018	23.28	2.0 - 12.0	12.0	NM	7.64	NA	15.64
	2/26/2019				NM	7.58	NA	15.70
	3/11/2019				NM	7.69	NA	15.59
	4/25/2019				NM	8.55	NA	14.73
	7/8/2019				NM	7.21	NA	16.07
01589 MW-32	2/26/2019	22.80	3.0-13.0	13.0	NM	4.64	NA	18.16
	3/11/2019				NM	4.97	NA	17.83
	4/25/2019				NM	5.59	NA	17.21
	7/8/2019				NM	4.97	NA	17.83

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Ravenel, Charleston County, South Carolina
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01589 MW-33	2/26/2019	22.26	3.0-13.0	13.0	NM	4.30	NA	17.96
	3/11/2019				NM	4.54	NA	17.72
	4/25/2019				NM	5.46	NA	16.80
	7/8/2019				4.37	4.48	0.11	17.86
01589 MW-34	2/26/2019	26.56	3.0-13.0	13.0	NM	8.08	NA	18.48
	3/11/2019				NM	8.35	NA	18.21
	4/25/2019				NM	9.43	NA	17.13
	7/8/2019				NM	8.11	NA	18.45
01589 MW-35	2/26/2019	25.15	3.0-13.0	13.0	NM	6.85	NA	18.30
	3/11/2019				NM	7.11	NA	18.04
	4/25/2019				NM	8.33	NA	16.82
	7/8/2019				NM	6.92	NA	18.23
01589 MW-36	2/26/2019	19.00	3.0-13.0	13.0	NM	2.60	NA	16.40
	3/11/2019				NM	2.76	NA	16.24
	4/25/2019				NM	3.66	NA	15.34
	7/8/2019				NM	2.21	NA	16.79
01589 MW-37	2/26/2019	23.01	3.0-13.0	13.0	NM	8.31	NA	14.70
	3/11/2019				NM	8.51	NA	14.50
	4/25/2019				NM	9.72	NA	13.29
	7/8/2019				NM	8.03	NA	14.98
01589 MW-38	2/26/2019	23.25	3.0-13.0	13.0	NM	8.19	NA	15.06
	3/11/2019				NM	8.36	NA	14.89
	4/25/2019				NM	9.50	NA	13.75
	7/8/2019				NM	8.01	NA	15.24
01589 DMW-1	11/22/2018	21.84	34.0 - 39.0	39.0	NM	5.11	NA	16.73
	2/26/2019				NM	4.87	NA	16.97
	3/11/2019				NM	4.94	NA	16.90
	4/25/2019				NM	5.81	NA	16.03
	7/8/2019				NM	4.13	NA	17.71
01589 DMW-2	11/22/2018	18.81	34.0 - 39.0	39.0	NM	8.25	NA	10.56
	2/26/2019				NM	3.81	NA	15.00
	3/11/2019				NM	3.89	NA	14.92
	4/25/2019				NM	4.91	NA	13.90
	7/8/2019				NM	3.49	NA	15.32

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01589 DMW-3	11/22/2018	23.33	35.0 - 40.0	40.0	NM	3.65	NA	19.68
	2/26/2019				NM	8.20	NA	15.13
	3/11/2019				NM	8.34	NA	14.99
	4/25/2019				NM	9.13	NA	14.20
	7/8/2019				NM	7.92	NA	15.41
01589 DMW-4	7/8/2019	21.13	40.0 - 45.0	45.0	NM	4.30	NA	16.83
01589 DMW-5	7/8/2019	26.38	38.0 - 43.0	43.0	NM	8.06	NA	18.32
01589 RW-1	11/22/2018	21.63	2.0 - 12.0	12.0	NM	4.68	NA	16.95
	2/26/2019				4.01	4.71	0.70	17.44
	3/11/2019				NM	4.43	NA	17.20
	4/25/2019				NM	5.15	NA	16.48
	7/8/2019				NM	4.05	NA	17.58
01589 RW-2	11/22/2018	21.51	2.0 - 12.0	12.0	NM	4.28	NA	17.23
	2/26/2019				3.91	3.95	0.04	17.59
	3/11/2019				4.20	4.24	0.04	17.30
	4/25/2019				NM	4.69	NA	16.82
	7/8/2019				3.60	3.78	0.18	17.73
01589 RW-3	11/22/2018	21.95	2.0 - 12.0	12.0	NM	4.60	NA	17.35
	2/26/2019				NM	4.36	NA	17.59
	3/11/2019				NM	4.58	NA	17.37
	4/25/2019				NM	5.14	NA	16.81
	7/8/2019				3.80	5.36	1.56	16.59
01589 RW-4	11/22/2018	21.80	2.0 - 12.0	12.0	NM	3.91	NA	17.89
	2/26/2019				NM	3.70	NA	18.10
	3/11/2019				NM	3.88	NA	17.92
	4/25/2019				NM	4.49	NA	17.31
	7/8/2019				NM	3.38	NA	18.42
01589 RW-5	11/22/2018	19.76	2.0 - 12.0	12.0	2.80	3.16	0.36	16.87
	2/26/2019				2.52	3.11	0.59	17.09
	3/11/2019				2.76	3.31	0.55	16.86
	4/25/2019				3.25	5.02	1.77	16.05
	7/8/2019				2.08	3.72	1.64	17.25
01589 RW-6	11/22/2018	19.20	2.0 - 12.0	12.0	3.11	4.42	1.31	15.75
	2/26/2019				1.91	4.09	2.18	16.72
	3/11/2019				2.52	2.98	0.46	16.56
	4/25/2019				2.95	4.67	1.72	15.80
	7/8/2019				1.70	3.70	2.00	16.98

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01589 RW-7	2/26/2019	21.53	3.0-13.0	13.0	NM	4.40	NA	17.13
	3/11/2019				NM	4.66	NA	16.87
	4/25/2019				NM	5.37	NA	16.16
	7/8/2019				4.12	4.57	0.45	17.29
01589 RW-8	2/26/2019	18.67	3.0-13.0	13.0	2.30	2.31	0.01	16.37
	3/11/2019				2.47	2.48	0.01	16.20
	4/25/2019				3.25	4.36	1.11	15.13
	7/8/2019				2.07	2.37	0.30	16.52
01589 RW-9	2/26/2019	19.36	3.0-13.0	13.0	2.90	3.14	0.24	16.40
	3/11/2019				3.11	3.21	0.10	16.22
	4/25/2019				3.42	5.15	1.73	-3.87
	7/8/2019				2.75	3.61	0.86	16.39
01589 RW-10	2/26/2019	17.00	3.0-13.0	13.0	2.00	3.99	1.99	14.48
	3/11/2019				2.28	2.61	0.33	14.63
	4/25/2019				3.00	4.57	1.57	13.59
	7/8/2019				2.07	3.44	1.37	14.57
01589 RW-11	2/26/2019	17.49	1.0-6.0	6.0	1.39	1.80	0.41	15.99
	3/11/2019				not gauged		0.50*	NM
	4/25/2019				not gauged		1.30*	NM
	7/8/2019				1.05	2.55	1.50	16.05
01589 RW-12	2/26/2019	17.05	1.0-6.0	6.0	NM	1.09	NA	15.96
	3/11/2019				NM	1.19	NA	15.86
	4/25/2019				NM	2.06	NA	14.99
	7/8/2019				NM	0.86	NA	16.19

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Table 2
Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
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Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-1	07/10/2019	**17700**	**40400**	**2290**	**11400**	**1850**	<250	<250	<25000	<250	<50000	<25000	<25000	<2500	<2500	<12500
01589 MW-2	07/10/2019	**10000**	**21600**	**1690**	9250	**559**	**236**	<125	<12500	<125	<25000	<12500	**16200**	<1250	<1250	<6250
01589 MW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-4	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-5	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-6	07/08/2019	no sample collected due to the presence of 0.09 feet of free product														
01589 MW-7	07/09/2019	**9210**	**34100**	**2390**	**12700**	<200	**271**	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000
01589 MW-8	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-9	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-10	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-11	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-12	07/10/2019	**410**	12.7	46.5	24.5	9.8	9.1	<2.5	<250	<2.5	<500	<250	**1370**	<25.0	25.9	<125
01589 MW-13	07/10/2019	**31.2**	19.5	490	1630	<5.0	**164**	<5.0	<500	<5.0	<1000	<500	<500	<50.0	<50.0	<250
01589 MW-14	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-15	07/10/2019	**2840**	**7910**	**982**	4850	<50.0	**120**	<50.0	<5000	<50.0	<10000	<5000	**6950**	<500	<500	<2500
01589 MW-16	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-17	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-18	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-19	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-20	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-21	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-22	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes:
Units = µg/L
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 SCDHEC Risk Based Screening Level
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Table 2
Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-23	07/09/2019	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<100	1.3	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-24	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-25	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-26	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-27	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-28	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-29	07/09/2019	2.2	<1.0	<1.0	<1.0	7.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-30	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-31	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-32	07/09/2019	**306**	9.3	9.7	17.1	11.4	<2.0	<2.0	<200	<2.0	<400	<200	**284**	<20.0	<20.0	<100
01589 MW-33	07/08/2019	no sample collected due to the presence of 0.11 feet of free product														
01589 MW-34	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	1.1	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-35	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-36	07/10/2019	**14.5**	102	113	223	<1.0	12.9	<1.0	<100	<1.0	<200	<100	148	<10.0	<10.0	<50.0
01589 MW-37	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-38	07/09/2019	**73.6**	<1.0	<1.0	2.1	11.2	<1.0	<1.0	<100	<1.0	<200	<100	138	<10.0	<10.0	<50.0
01589 DMW-1	07/10/2019	7.1	1.1	1.1	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 DMW-2	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 DMW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 DMW-4	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 DMW-5	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 RW-1	07/10/2019	**12300**	**27900**	**1700**	**11800**	**1400**	**283**	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000
01589 RW-2	07/08/2019	no sample collected due to the presence of 0.18 feet of free product														
01589 RW-3	07/08/2019	no sample collected due to the presence of 1.56 feet of free product														
01589 RW-4	07/10/2019	3.3	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

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Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Napthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 RW-5	07/08/2019	no sample collected due to the presence of 1.64 feet of free product														
01589 RW-6	07/08/2019	no sample collected due to the presence of 2.00 feet of free product														
01589 RW-7	07/08/2019	no sample collected due to the presence of 0.45 feet of free product														
01589 RW-8	07/08/2019	no sample collected due to the presence of 0.30 feet of free product														
01589 RW-9	07/08/2019	no sample collected due to the presence of 0.86 feet of free product														
01589 RW-10	07/08/2019	no sample collected due to the presence of 1.37 feet of free product														
01589 RW-11	07/08/2019	no sample collected due to the presence of 1.50 feet of free product														
01589 RW-12	07/10/2019	**4360**	**6410**	556	5080	**236**	**170**	<50.0	<5000	<50.0	<10000	<5000	**5030**	<500	<500	<2500
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

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Table 3
Historical Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-1	07/10/2019	**17700**	**40400**	**2290**	**11400**	**1850**	<250	<250	<25000	<250	<50000	<25000	<25000	<2500	<2500	<12500
	11/28/2018	**23000**	**62000**	**3600**	**18000**	**3100**	**440J**	<500	<10000	<500	**38000J**	**4100J**	**29000**	<5000	**880**	<2500
01589 MW-2	07/10/2019	**10000**	**21600**	**1690**	9250	**559**	**236**	<125	<12500	<125	<25000	<12500	**16200**	<1250	<1250	<6250
	11/28/2018	**11000**	**22000**	**2100**	9500	**680**	**200**	<200	<4000	<200	<20000	**2000J**	**20000**	<2000	**390**	<1000
01589 MW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	4.7	2.9	<1.0	0.94J	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	14J	<10	<1.0	<5.0
01589 MW-4	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-5	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-6	07/08/2019	no sample collected due to the presence of 0.09 feet of free product														
	11/28/2018	no sample collected due to the presence of 0.76 feet of free product														
01589 MW-7	07/09/2019	**9210**	**34100**	**2390**	**12700**	<200	**271**	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000
	11/29/2018	**12000**	**45000**	**2600**	**13000**	<200	**320**	<200	<4000	<200	<20000	<4000	**17000**	<2000	**98J**	<1000
01589 MW-8	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	9.8J	<10	<1.0	<5.0
01589 MW-9	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	14	<1.0	<1.0	<20	<1.0	<100	<20	15J	<10	0.58J	<5.0
01589 MW-10	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

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Table 3
Historical Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-11	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-12	07/10/2019	**410**	12.7	46.5	24.5	9.8	9.1	<2.5	<250	<2.5	<500	<250	**1370**	<25.0	25.9	<125
	11/28/2018	**700**	35	110	70	<20	19J	<20	<400	<20	<2000	<400	**330J**	<200	18J	<100
01589 MW-13	07/10/2019	**31.2**	19.5	490	1630	<5.0	**164**	<5.0	<500	<5.0	<1000	<500	<500	<50.0	<50.0	<250
	11/28/2018	**130**	80	**1300**	3900	<20	**470**	<20	<400	<20	<2000	<400	<400	<200	<20	<100
01589 MW-14	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-15	07/10/2019	**2840**	**7910**	**982**	4850	<50.0	**120**	<50.0	<5000	<50.0	<10000	<5000	**6950**	<500	<500	<2500
	11/29/2018	**2100**	**7400**	**930**	4600	<100	**100**	<100	<2000	<100	<10000	<2000	**5800**	<1000	**51J**	<500
01589 MW-16	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-17	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-18	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-19	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-20	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

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Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-21	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	0.57J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-22	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	**6.5**	<1.0	<1.0	0.41J	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-23	07/09/2019	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<100	1.3	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	5.1	<1.0	<1.0	<20	3.5	<100	31	**340**	<10	<1.0	<5.0
01589 MW-24	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	**29**	<1.0	<1.0	<1.0	0.68J	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	0.46J	<5.0
01589 MW-25	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-26	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	1.6	0.83J	3.9	0.88J	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-27	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-28	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	0.43J	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-29	07/09/2019	2.2	<1.0	<1.0	<1.0	7.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	**55**	<1.0	<1.0	<1.0	**84**	<1.0	<1.0	<20	1	<100	150	190	5.7J	27	<5.0
01589 MW-30	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 MW-31	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	4.4	2.6	<1.0	<20	<1.0	<100	<20	<20	<10	3.5	<5.0
01589 MW-32	07/09/2019	**306**	9.3	9.7	17.1	11.4	<2.0	<2.0	<200	<2.0	<400	<200	**284**	<20.0	<20.0	<100
01589 MW-33	07/08/2019	no sample collected due to the presence of 0.11 feet of free product														
01589 MW-34	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	1.1	<200	<100	<100	<10.0	<10.0	<50.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes:
Units = µg/L NE = Not established
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL

Table 3
Historical Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 MW-36	07/10/2019	**14.5**	102	113	223	<1.0	12.9	<1.0	<100	<1.0	<200	<100	148	<10.0	<10.0	<50.0
01589 MW-37	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 MW-38	07/09/2019	**73.6**	<1.0	<1.0	2.1	11.2	<1.0	<1.0	<100	<1.0	<200	<100	138	<10.0	<10.0	<50.0
01589 DMW-1	07/10/2019	**7.1**	1.1	1.1	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	**130**	16	14	48	12	1.3	<1.0	<20	<1.0	<100	24	190	<10	6.5	<5.0
01589 DMW-2	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 DMW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/29/2018	<1.0	1.2	<1.0	0.66J	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 DMW-4	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 DMW-5	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 RW-1	07/10/2019	**12300**	**27900**	**1700**	**11800**	**1400**	**283**	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000
	11/28/2018	**20000**	**47000**	**2100**	**10000**	**3400**	<500	<500	<10000	<500	<50000	**5100J**	**34000**	<5000	**750**	<2500
01589 RW-2	07/08/2019	no sample collected due to the presence of 0.18 feet of free product														
	11/28/2018	**21000**	**54000**	**3200**	**17000**	**2200**	**430J**	<500	<10000	<500	**55000000**	**13000**	**31000**	<5000	**760**	<2500
01589 RW-3	07/08/2019	no sample collected due to the presence of 1.56 feet of free product														
	11/28/2018	**15000**	**41000**	**2800**	**15000**	**530**	**360J**	<500	<10000	<500	<50000	<10000	**21000**	<5000	<500	<2500
01589 RW-4	07/10/2019	3.3	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	11/28/2018	**15**	5.6	2.8	6.9	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	77	<10	<1.0	<5.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes:
Units = µg/L NE = Not established
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL

Table 3
Historical Groundwater Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 RW-5	07/08/2019	no sample collected due to the presence of 1.64 feet of free product														
	11/28/2018	no sample collected due to the presence of 0.36 feet of free product														
01589 RW-6	07/08/2019	no sample collected due to the presence of 2.00 feet of free product														
	11/28/2018	no sample collected due to the presence of 1.31 feet of free product														
01589 RW-7	07/08/2019	no sample collected due to the presence of 0.45 feet of free product														
01589 RW-8	07/08/2019	no sample collected due to the presence of 0.30 feet of free product														
01589 RW-9	07/08/2019	no sample collected due to the presence of 0.86 feet of free product														
01589 RW-10	07/08/2019	no sample collected due to the presence of 1.37 feet of free product														
01589 RW-11	07/08/2019	no sample collected due to the presence of 1.50 feet of free product														
01589 RW-12	07/10/2019	**4360**	**6410**	556	5080	**236**	**170**	<50.0	<5000	<50.0	<10000	<5000	**5030**	<500	<500	<2500
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes:
Units = µg/L NE = Not established
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL

Table 4
Potable Water Well Analytical Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 WSW-1	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-2D	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-2	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-3	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-4	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-5	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-6	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-7	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-8	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-9	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-10	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-11	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-12	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-13	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-14	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-15	07/08/2019	sample collection permission was not granted														
01589 WSW-16	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-17	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-18	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-19	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01590 WSW-20	07/08/2019	sample collection permission was not granted														
01590 WSW-21	07/08/2019	sample collection permission was not granted														
01589 WSW-22	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-23	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-24	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-25	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-26	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
01589 WSW-27	07/08/2019	sample collection permission was not granted														
01589 WSW-28	07/08/2019	sample collection permission was not granted														
01589 WSW-29	07/08/2019	sample collection permission was not granted; the property is currently provided potable water from a municipal source														

Notes:
Units = µg/L
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 SCDHEC Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL
NE = Not established

Table 5
Historical Potable Water Well Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	1,2 - Dichloroethane (DCA)	ethyl tert-Butyl alcohol	Di isopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 WSW-1	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-2D	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-2	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-3	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/23/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-4	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/20/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-5	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-6	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-7	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	8/17/2018'0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-8	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-9	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0

Units = µg/L

"<" = Not detected at or above the laboratory reporting limit

RBSL = May 15, 2001 SCDHEC Risk Based Screening Level

Bold concentrations equal or exceed the corresponding RBSL

NE = Not established

Table 5
Historical Potable Water Well Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	1,2 - Dichloroethane (DCA)	ethyl tert-Butyl alcohol	Di isopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 WSW-10	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/20/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-11	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-12	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-13	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/29/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-14	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/17/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-15	07/08/2019	sample collection permission was not granted														
	08/23/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-16	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	09/27/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-17	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/31/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0

Units = µg/L
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 SCDHEC Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL
NE = Not established

Table 5
Historical Potable Water Well Data
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	1,2 - Dichloroethane (DCA)	ethyl tert-Butyl alcohol	Di isopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 WSW-18	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/22/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-19	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/23/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-20	07/08/2019	sample collection permission was not granted														
	08/23/2018	sample collection permission was not granted														
01589 WSW-21	07/08/2019	sample collection permission was not granted														
	08/23/2018	sample collection permission was not granted														
01589 WSW-22	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/22/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-23	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/27/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-24	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/22/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-25	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/23/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-26	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0
	08/27/2018	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
01589 WSW-27	07/08/2019	sample collection permission was not granted														
	08/23/2018	sample collection permission was not granted														
01589 WSW-28	07/08/2019	sample collection permission was not granted														
	08/23/2018	sample collection permission was not granted														
01589 WSW-29	07/08/2019	sample collection permission was not granted; the property is currently provided potable water from a municipal source														
	08/23/2018	sample collection permission was not granted; the property is currently provided potable water from a municipal source														

Units = µg/L
"<" = Not detected at or above the laboratory reporting limit
RBSL = May 15, 2001 SCDHEC Risk Based Screening Level
Bold concentrations equal or exceed the corresponding RBSL
NE = Not established

Table 6
Data Quality Indicator Analysis
(Monitoring and Recovery Wells)
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)								Comments / Notes
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate	
Precision Analysis																	
Precision Limit (RPD %)		**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	
01589 MW-13	07/10/2019	31.2	19.5	490	1630	<5.0	164	<5.0	<500	<5.0	<1000	<500	<500	<50.0	<50.0	<250	
01589 DUP-1	07/10/2019	32.6	19.3	505	1670	<4.0	172	<4.0	<400	<4.0	<800	<400	<400	<40.0	<40.0	<200	
RPD (%)		4%	1%	3%	2%	---	5%	---	---	---	---	---	---	---	---	---	
01589 MW-12	07/10/2019	410	12.7	46.5	24.5	9.8	9.1	<2.5	<250	<2.5	<500	<250	1370	<25.0	25.9	<125	the naphthalene analytical duplication equaled or exceeded 20% RPD
01589 DUP-2	07/10/2019	407	12.6	47.7	26.1	<4.0	14.7	<4.0	<400	<4.0	<800	<400	1310	<40.0	<40.0	<200	
RPD (%)		1%	1%	3%	6%	---	47%	---	---	---	---	---	4%	---	---	---	
01589 DMW-1	07/10/2019	7.1	1.1	1.1	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 DUP-3	07/10/2019	8.2	1.0	1.1	<1.0	1.1	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
RPD (%)		14%	10%	0%	---	---	---	---	---	---	---	---	---	---	---	---	
Bias Analysis																	
01589 FB-1	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	No Errors Indicated
01589 FB-2	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	No Errors Indicated
Method Sensitivity																	
Sensitivity Limits (GW - µg/L)		**<5**	**<5**	**<5**	**<5**	**<10**	**<5**	**<5**	**<100**	**<10**	**<1,000**	**<100**	**<100**	**<10**	**<100**	**<100**	
01589 MW-1	07/10/2019	17700	40400	2290	11400	1850	<250	<250	<25000	<250	<50000	<25000	<25000	<2500	<2500	<12500	mandatory laboratory dilution raised detection limits X250
01589 MW-2	07/10/2019	10000	21600	1690	9250	559	236	<125	<12500	<125	<25000	<12500	16200	<1250	<1250	<6250	mandatory laboratory dilution raised detection limits X125
01589 MW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-4	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-5	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-6	07/08/2019	no sample collected due to the presence of 0.09 feet of free product															
01589 MW-7	07/09/2019	9210	34100	2390	12700	<200	271	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000	mandatory laboratory dilution raised detection limits X200
01589 MW-8	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-9	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-10	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-11	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-12	07/10/2019	410	12.7	46.5	24.5	9.8	9.1	<2.5	<250	<2.5	<500	<250	1370	<25.0	25.9	<125	mandatory laboratory dilution raised detection limits X2.5
01589 MW-13	07/10/2019	31.2	19.5	490	1630	<5.0	164	<5.0	<500	<5.0	<1000	<500	<500	<50.0	<50.0	<250	mandatory laboratory dilution raised detection limits X5
01589 MW-14	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-15	07/10/2019	2840	7910	982	4850	<50.0	120	<50.0	<5000	<50.0	<10000	<5000	6950	<500	<500	<2500	mandatory laboratory dilution raised detection limits X50
01589 MW-16	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-17	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-18	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-19	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-20	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	

Notes:
Units = µg/L
"<" = Not detected above the laboratory reporting limit
NT = not tested for this parameter
*** = Relative Percent Difference (RPD) calculated between analytical method reporting limits; direct comparability is inconclusive should dilution create reporting limit discrepancy

Table 6
Data Quality Indicator Analysis
(Monitoring and Recovery Wells)
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)								
		Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate	
		Method Sensitivity															
Sensitivity Limits (GW - µg/L)		<5	<5	<5	<5	<10	<5	<5	<100	<10	<1,000	<100	<100	<10	<100	<100	
01589 MW-21	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-22	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-23	07/09/2019	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<100	1.3	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-24	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-25	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-26	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-27	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-28	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-29	07/09/2019	2.2	<1.0	<1.0	<1.0	7.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-30	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-31	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-32	07/09/2019	306	9.3	9.7	17.1	11.4	<2.0	<2.0	<200	<2.0	<400	<200	284	<20.0	<20.0	<100	mandatory la
01589 MW-33	07/08/2019	no sample collected due to the presence of 0.11 feet of free product															
01589 MW-34	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	1.1	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-35	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-36	07/10/2019	14.5	102	113	223	<1.0	12.9	<1.0	<100	<1.0	<200	<100	148	<10.0	<10.0	<50.0	
01589 MW-37	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 MW-38	07/09/2019	73.6	<1.0	<1.0	2.1	11.2	<1.0	<1.0	<100	<1.0	<200	<100	138	<10.0	<10.0	<50.0	
01589 DMW-1	07/10/2019	7.1	1.1	1.1	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 DMW-2	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 DMW-3	07/09/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 DMW-4	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 DMW-5	07/10/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 RW-1	07/10/2019	12300	27900	1700	11800	1400	283	<200	<20000	<200	<40000	<20000	<20000	<2000	<2000	<10000	mandatory lab
01589 RW-2	07/08/2019	no sample collected due to the presence of 0.18 feet of free product															
01589 RW-3	07/08/2019	no sample collected due to the presence of 1.56 feet of free product															
01589 RW-4	07/10/2019	3.3	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 RW-5	07/08/2019	no sample collected due to the presence of 1.64 feet of free product															
01589 RW-6	07/08/2019	no sample collected due to the presence of 2.00 feet of free product															
01589 RW-7	07/08/2019	no sample collected due to the presence of 0.45 feet of free product															
01589 RW-8	07/08/2019	no sample collected due to the presence of 0.30 feet of free product															
01589 RW-9	07/08/2019	no sample collected due to the presence of 0.86 feet of free product															
01589 RW-10	07/08/2019	no sample collected due to the presence of 1.37 feet of free product															
01589 RW-11	07/08/2019	no sample collected due to the presence of 1.50 feet of free product															
01589 RW-12	07/10/2019	4360	6410	556	5080	236	170	<50.0	<5000	<50.0	<10000	<5000	5030	<500	<500	<2500	mandatory lab

Notes:
Units = µg/L
"<" = Not detected above the laboratory reporting limit
NT = not tested for this parameter
*** = Relative Percent Difference (RPD) calculated between analytical method reporting limits; direct comparability is inconclusive should dilution create reporting limit discrepancy

Table 7
Data Quality Indicator Analysis
(Potable Water Wells)
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)								Comments / Notes
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	1,2 - Dichloroethane (DCA)	ethyl tert-Butyl alcohol	Di isopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl ethyl ether	ethyl tert-Butyl ether	tert-Butyl formate	
Precision Analysis																	
Precision Limit (RPD %)		**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	
01589 WSW-5	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
DUP 1	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	no analytical duplication exceeded 20% RPD
RPD (%)		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
01589 WSW-9	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
DUP 2	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
RPD (%)		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Bias Analysis																	
FB1	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	no errors indicated
FB2	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	no errors indicated
FB3	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	no errors indicated
Method Sensitivity																	
Sensitivity Limits (GW - µg/L)		**5.0**	**5.0**	**5.0**	**10.0**	**5.0**	**5.0**	**5.0**	**100**	**10.0**	**1,000**	**100**	**100**	**10.0**	**100**	**100**	
01589 WSW-1	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-2D	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-2	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-3	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-4	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-5	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	

Notes:
Units = µg/L
RBSL = May 15, 2001 Risk Based Screening Level
NE = not established
*** = Relative Percent Difference (RPD) calculated between analytical method reporting limits; direct comparability is inconclusive should dilution create reporting limit discrepancy

Table 7
Data Quality Indicator Analysis
(Potable Water Wells)
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Monitoring Well Identification	Sample Date	Petroleum Constituents (ug/L)							Oxygenates (ug/L)								Comments / Notes
		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	1,2 - Dichloroethane (DCA)	ethyl tert-Butyl alcohol	Di isopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl ethyl ether	ethyl tert-Butyl ether	tert-Butyl formate	
Method Sensitivity																	
Sensitivity Limits (GW - µg/L)		**5.0**	**5.0**	**5.0**	**10.0**	**5.0**	**5.0**	**5.0**	**100**	**10.0**	**1,000**	**100**	**100**	**10.0**	**100**	**100**	
01589 WSW-6	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-7	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-8	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-9	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-10	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-11	07/09/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-12	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-13	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-14	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-15	07/08/2019	sample collection permission was not granted															
01589 WSW-16	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-17	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-18	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-19	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-20	07/08/2019	sample collection permission was not granted															
01589 WSW-21	07/08/2019	sample collection permission was not granted															
01589 WSW-22	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-23	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-24	07/10/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-25	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-26	07/08/2019	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<100	<1.0	<200	<100	<100	<10.0	<10.0	<50.0	
01589 WSW-27	07/08/2019	sample collection permission was not granted															
01589 WSW-28	07/08/2019	sample collection permission was not granted															
01589 WSW-29	07/08/2019	sample collection permission was not granted															

Notes:

Units = µg/L

RBSL = May 15, 2001 Risk Based Screening Level

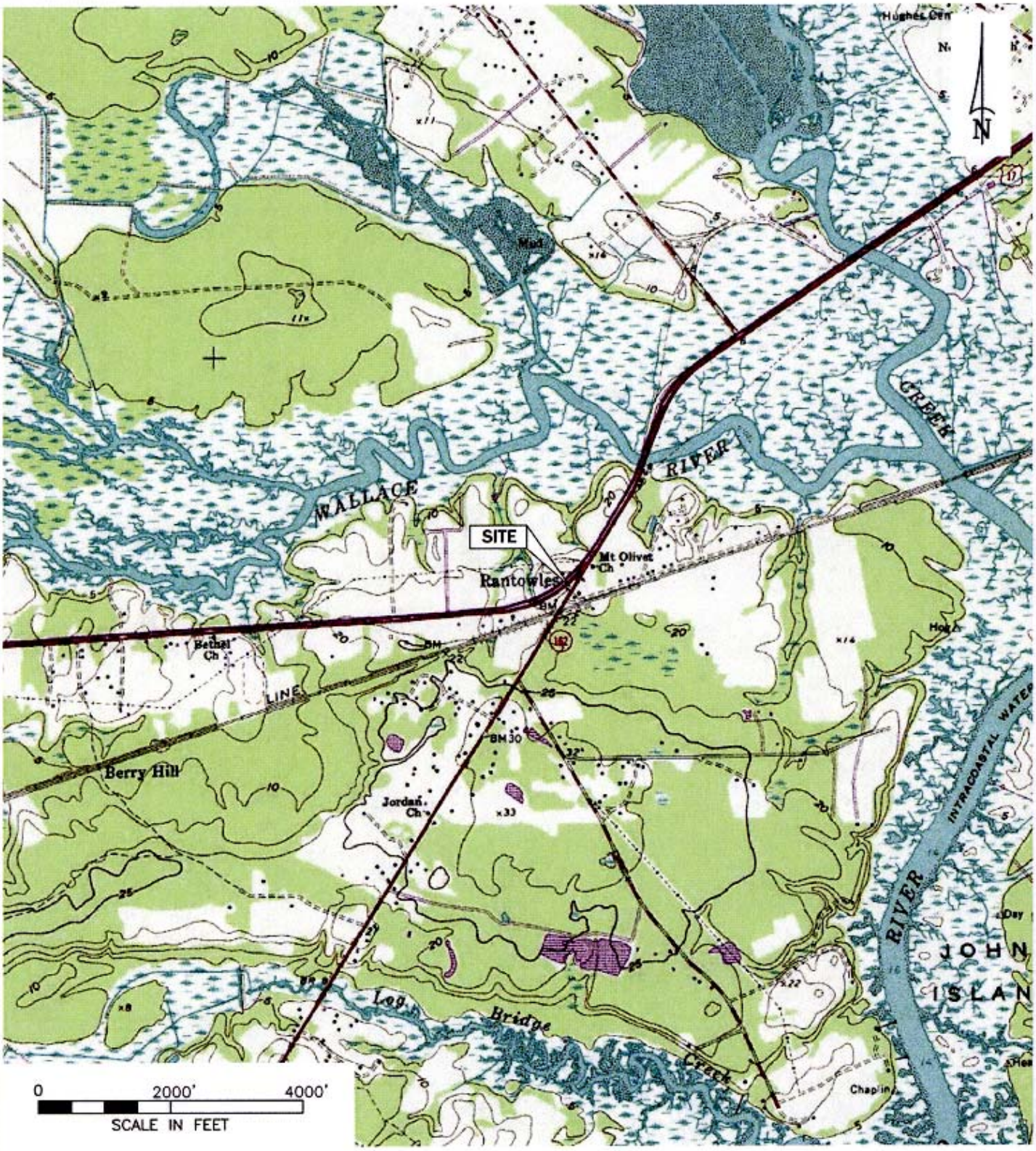
NE = not established

*** = Relative Percent Difference (RPD) calculated between analytical method reporting limits; direct comparability is inconclusive should dilution create reporting limit discrepancy

FIGURES

07/29/2019 1:42pm - SThompson - H:\125 - ATC__1252215_c1-08-10-18.dwg

SOURCE FILE: USGS TOPOGRAPHIC MAP RAVENEL 1971



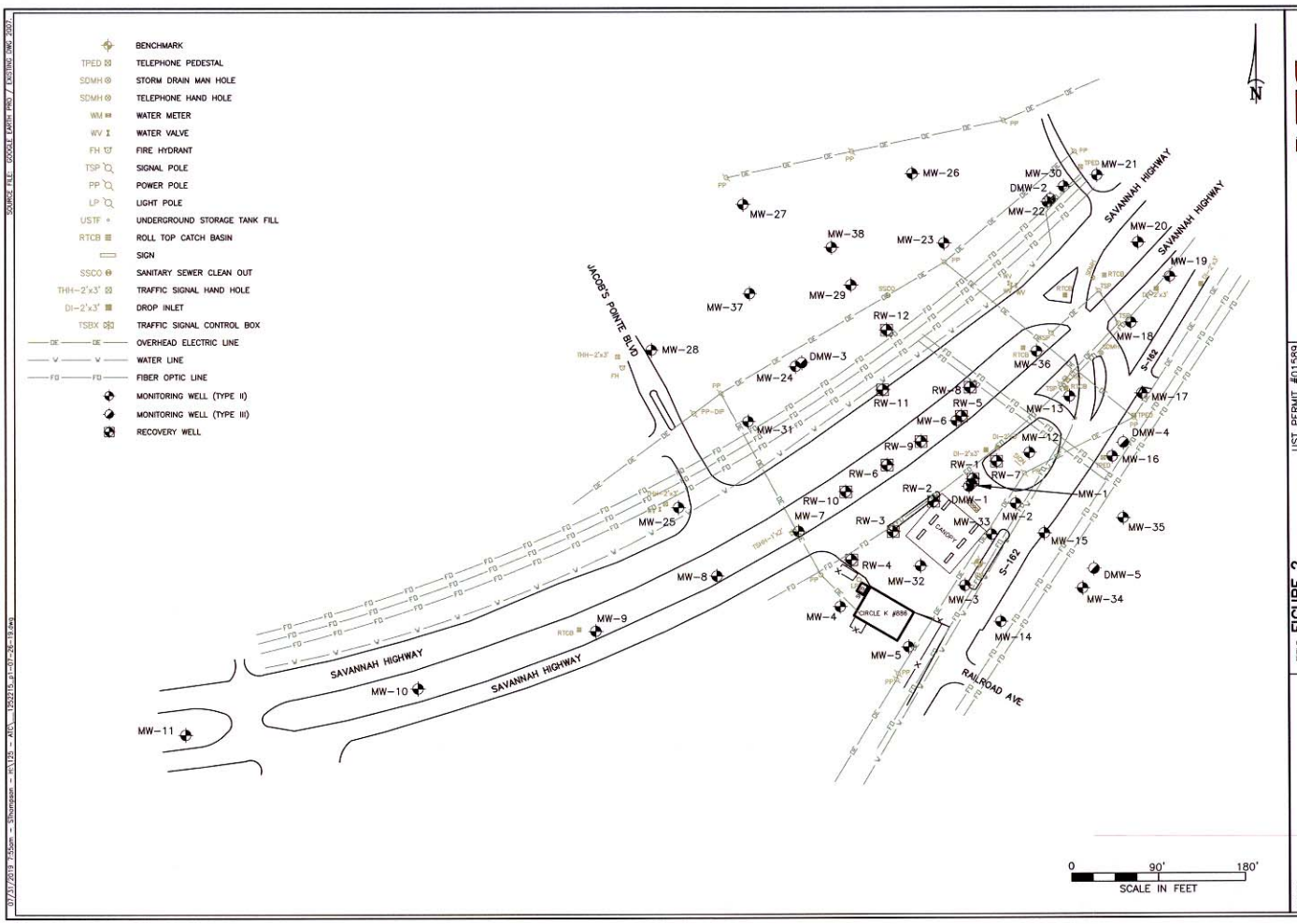
TITLE **FIGURE 1** UST PERMIT #01589

SITE TOPOGRAPHIC MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

CAD FILE		PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		WH		1"=60'	07-26-2019	DHEC088605



ATC
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BUILDING SCIENCES • MATERIALS TESTING
7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

SCALE	DATE	PROJECT NO.
1"=90'	07-26-2019	DHEC088605

REV. BY	PREP BY	TYPE CODE	CAD FILE
	WH		1252215.dwg

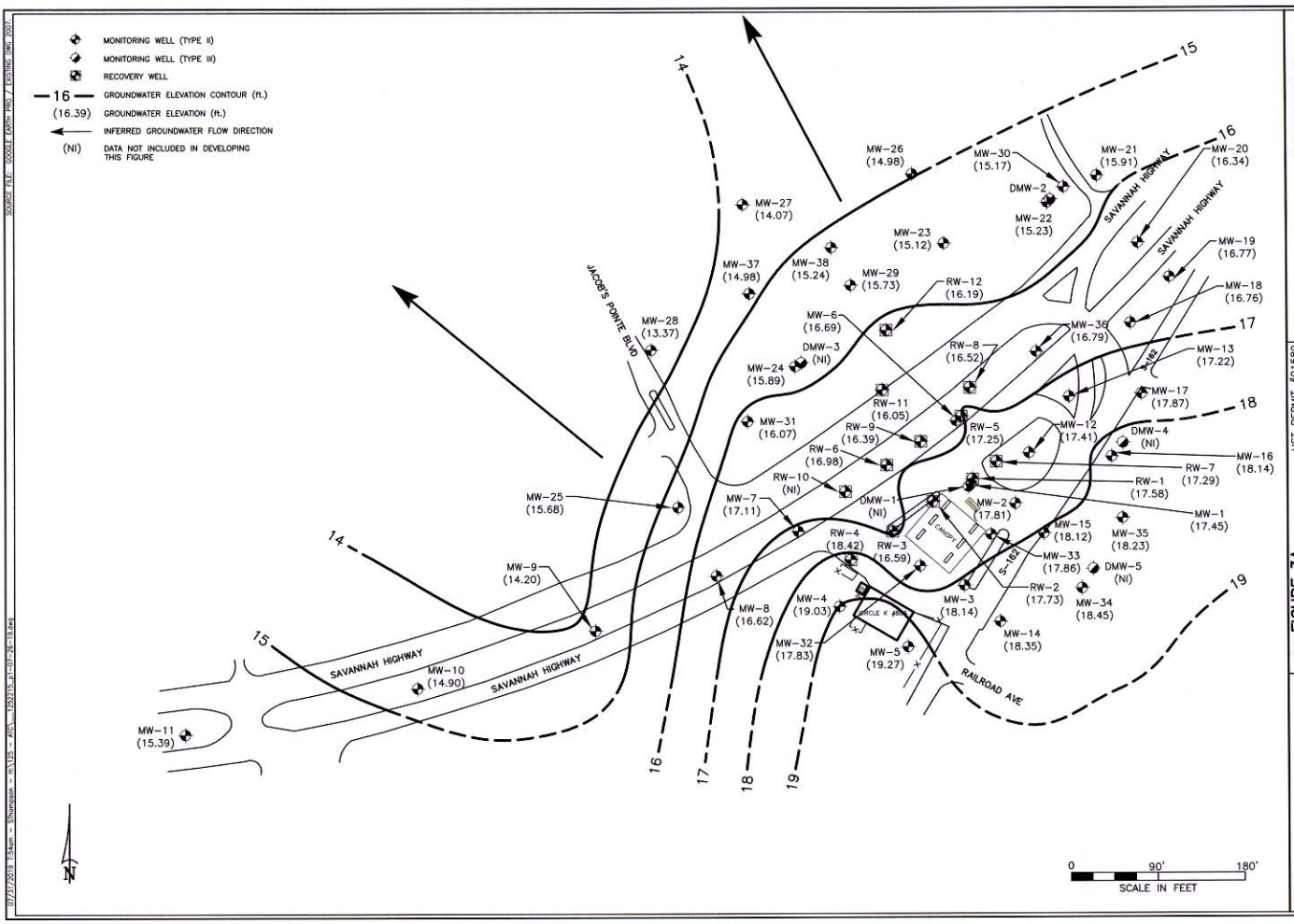
UST PERMIT #01589

TITLE **FIGURE 2**
SITE MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

NOTES:

SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

01/31/2019 7:55am - Shoreman - R:\125 - ATC\ - \252215_p1-01-26-19.dwg



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7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

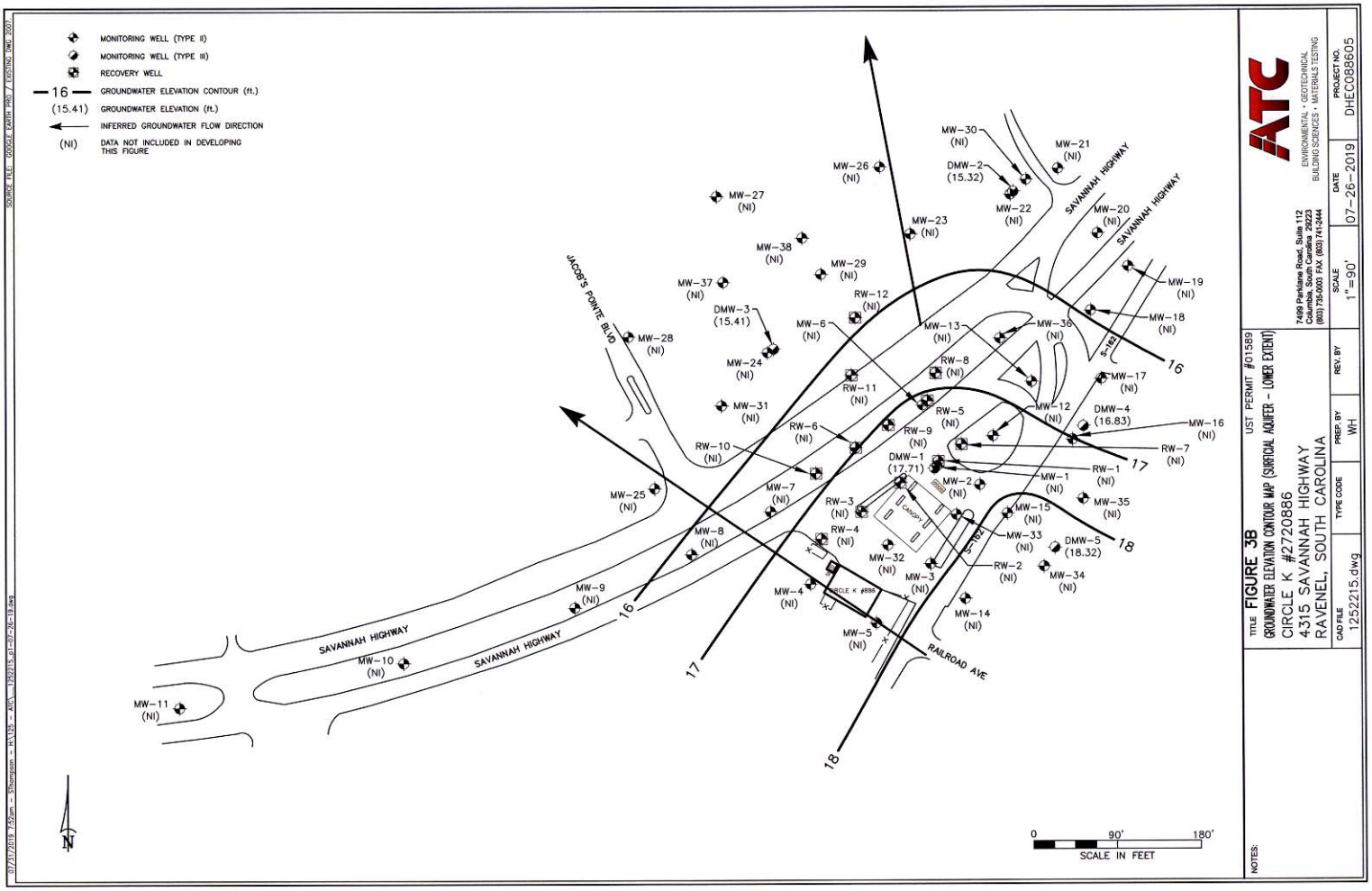
SCALE	DATE	PROJECT NO.
1"=90'	07-26-2019	DHEC088605

REV. BY	PREP. BY	TYPE CODE	CAD FILE
	WH		125215.dwg

TITLE **FIGURE 3A**
GROUNDWATER ELEVATION CONTOUR MAP (SURFICIAL AQUIFER - UPPER EXTENT)
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

UST PERMIT #01589

NOTES:
1. GROUNDWATER ELEVATIONS WERE MEASURED ON 07/30/2019.



SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

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7499 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

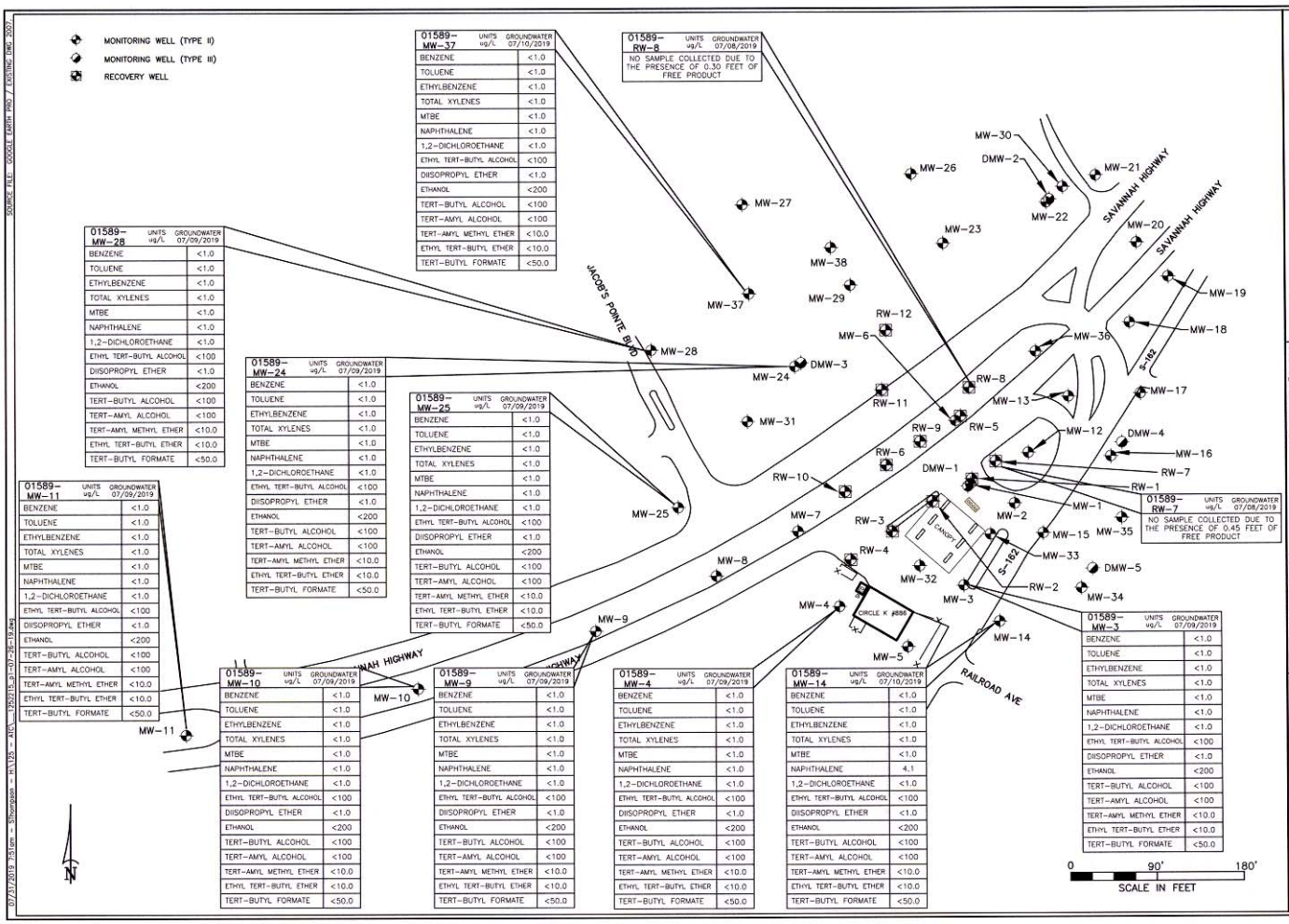
SCALE	DATE	PROJECT NO.
1"=90'	07-26-2019	DHEC088605

REV. BY	PREP. BY	TYPE CODE	CAD FILE
	WH		1252215.dwg

TITLE **FIGURE 3B**
GROUNDWATER ELEVATION CONTOUR MAP (SURFICIAL AQUIFER - LOWER EXTENT)
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

UST PERMIT #01589

NOTES:



01589-MW-37	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-8	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.30 FEET OF FREE PRODUCT		

01589-MW-28	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-24	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-25	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-11	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-7	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.45 FEET OF FREE PRODUCT		

01589-MW-10	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-9	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-4	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-14	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		4.1
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-3	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

NOTES:
1. GROUNDWATER SAMPLES WERE COLLECTED 07/08-10/2019.
2. BOLD CONCENTRATIONS EQUAL OR EXCEED THE CORRESPONDING RBSL.

TITLE **FIGURE 4A**
UST PERMIT #01589
CHEMICAL OF CONCERN DISTRIBUTION MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

CAD FILE: 1252215.dwg
TYPE CODE
PREP. BY: WH
REV. BY
SCALE: 1"=90'
DATE: 07-26-2019
PROJECT NO.: DHEC088605

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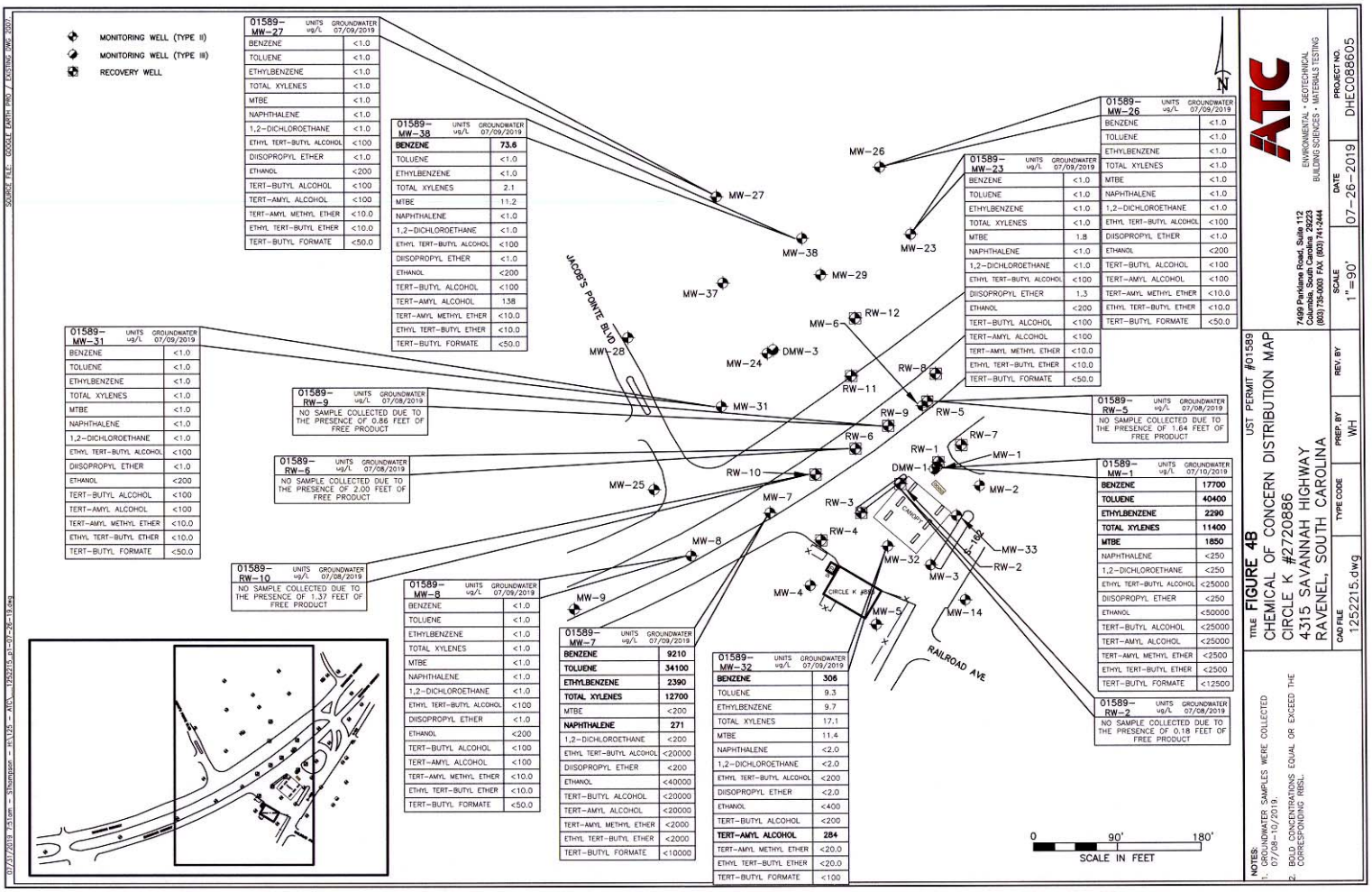
SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007
07/31/2019 7:51am - Sthompson - H:\125 - ATC_125215_s1-07-26-19.dwg



01589-MW-27	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-38	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		**73.6**
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		2.1
MTBE		11.2
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		138
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-31	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-9	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.86 FEET OF FREE PRODUCT		

01589-RW-6	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 2.00 FEET OF FREE PRODUCT		

01589-RW-10	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 1.37 FEET OF FREE PRODUCT		

01589-MW-8	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-7	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		**9210**
TOLUENE		**34100**
ETHYLBENZENE		**2390**
TOTAL XYLENES		**12700**
MTBE		<200
NAPHTHALENE		**271**
1,2-DICHLOROETHANE		<200
ETHYL TERT-BUTYL ALCOHOL		<20000
DIISOPROPYL ETHER		<200
ETHANOL		<40000
TERT-BUTYL ALCOHOL		<20000
TERT-AMYL ALCOHOL		<20000
TERT-AMYL METHYL ETHER		<2000
ETHYL TERT-BUTYL ETHER		<2000
TERT-BUTYL FORMATE		<10000

01589-MW-32	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		**306**
TOLUENE		9.3
ETHYLBENZENE		9.7
TOTAL XYLENES		17.1
MTBE		11.4
NAPHTHALENE		<2.0
1,2-DICHLOROETHANE		<2.0
ETHYL TERT-BUTYL ALCOHOL		<200
DIISOPROPYL ETHER		<2.0
ETHANOL		<400
TERT-BUTYL ALCOHOL		<200
TERT-AMYL ALCOHOL		**284**
TERT-AMYL METHYL ETHER		<20.0
ETHYL TERT-BUTYL ETHER		<20.0
TERT-BUTYL FORMATE		<100

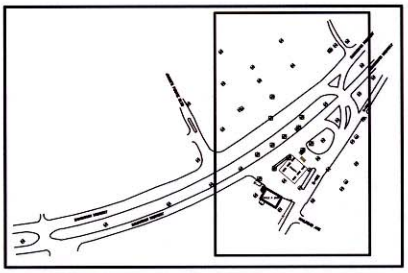
01589-MW-23	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		1.8
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		1.3
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-26	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-5	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 1.64 FEET OF FREE PRODUCT		

01589-MW-1	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**17700**
TOLUENE		**40400**
ETHYLBENZENE		**2290**
TOTAL XYLENES		**11400**
MTBE		**1850**
NAPHTHALENE		<250
1,2-DICHLOROETHANE		<250
ETHYL TERT-BUTYL ALCOHOL		<25000
DIISOPROPYL ETHER		<250
ETHANOL		<50000
TERT-BUTYL ALCOHOL		<25000
TERT-AMYL ALCOHOL		<25000
TERT-AMYL METHYL ETHER		<2500
ETHYL TERT-BUTYL ETHER		<2500
TERT-BUTYL FORMATE		<12500

01589-RW-2	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.18 FEET OF FREE PRODUCT		



01589-MW-36	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**14.5**
TOLUENE		102
ETHYLBENZENE		113
TOTAL XYLENES		223
MTBE		<1.0
NAPHTHALENE		12.9
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		148
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-DMW-3	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-2	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**10000**
TOLUENE		**21600**
ETHYLBENZENE		**1690**
TOTAL XYLENES		9250
MTBE		**559**
NAPHTHALENE		**236**
1,2-DICHLOROETHANE		<125
ETHYL TERT-BUTYL ALCOHOL		<12500
DIISOPROPYL ETHER		<125
ETHANOL		<25000
TERT-BUTYL ALCOHOL		<12500
TERT-AMYL ALCOHOL		**16200**
TERT-AMYL METHYL ETHER		<1250
ETHYL TERT-BUTYL ETHER		<1250
TERT-BUTYL FORMATE		<6250

01589-RW-3	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 1.56 FEET OF FREE PRODUCT		

01589-RW-4	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		3.3
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		1.4
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-5	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-34	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		1.1
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-33	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.11 FEET OF FREE PRODUCT		

01589-DMW-1	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**7.1**
TOLUENE		1.1
ETHYLBENZENE		1.1
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-35	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-17	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-19	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

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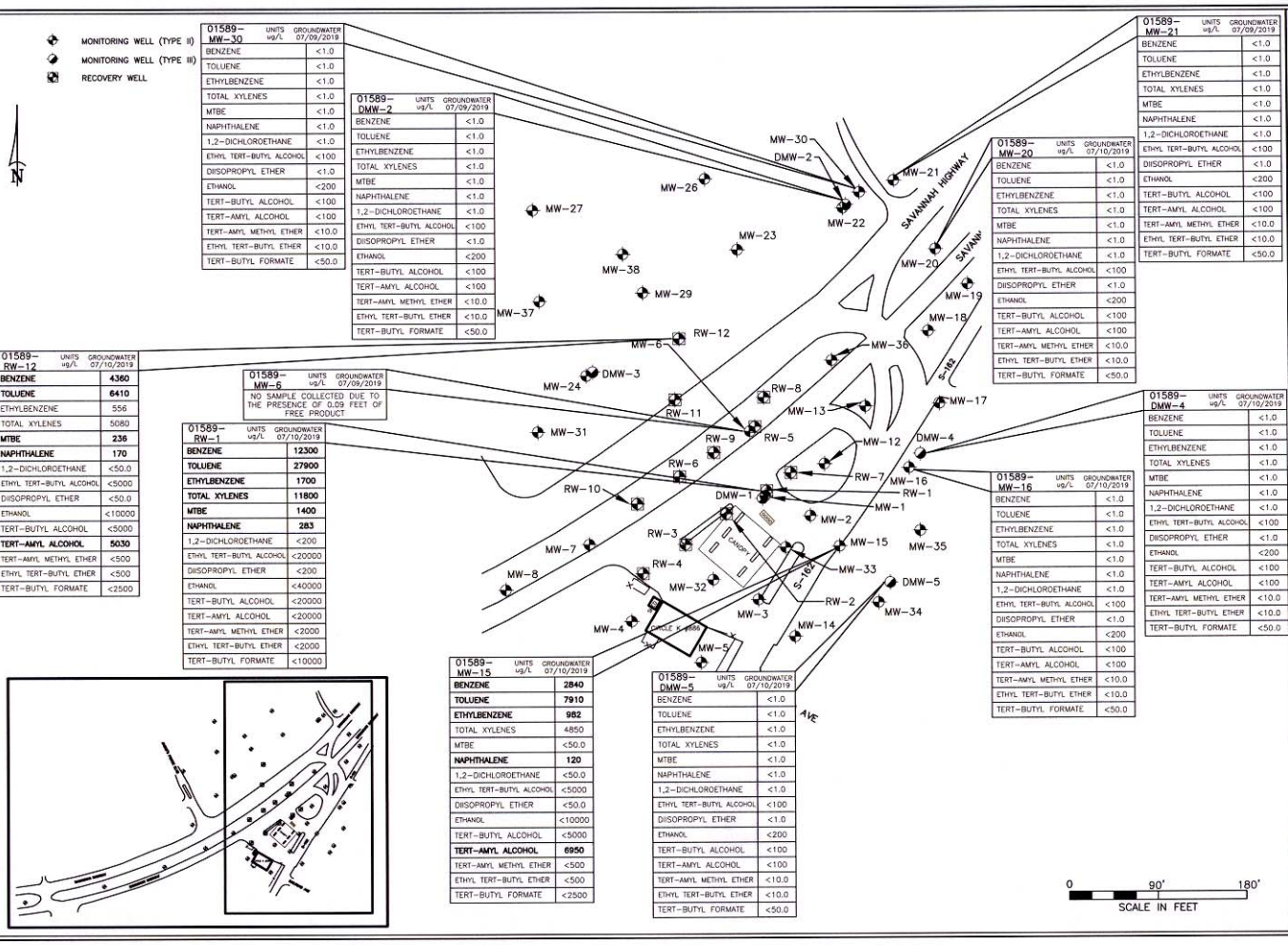
TITLE **FIGURE 4C**
UST PERMIT #01589
CHEMICAL OF CONCERN DISTRIBUTION MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

PROJECT NO.	DATE	SCALE	REV. BY	PREP. BY	TYPE CODE	CAD FILE
DHEC088605	07-26-2019	1"=90'		WH		1252215.dwg

NOTES:
1. GROUNDWATER SAMPLES WERE COLLECTED 07/08-10/2019.
2. BOLD CONCENTRATIONS EQUAL OR EXCEED THE CORRESPONDING RBSL.

SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

07/31/2019 7:50am - SThompson - H:\125 - AIS_1252215_pl-07-26-19.dwg



01589-MW-30	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-DMW-2	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-21	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-20	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-12	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**4360**
TOLUENE		**6410**
ETHYLBENZENE		556
TOTAL XYLENES		5080
MTBE		**236**
NAPHTHALENE		**170**
1,2-DICHLOROETHANE		<50.0
ETHYL TERT-BUTYL ALCOHOL		<5000
DIISOPROPYL ETHER		<50.0
ETHANOL		<10000
TERT-BUTYL ALCOHOL		<5000
TERT-AMYL ALCOHOL		**5030**
TERT-AMYL METHYL ETHER		<500
ETHYL TERT-BUTYL ETHER		<500
TERT-BUTYL FORMATE		<2500

01589-MW-6	UNITS ug/L	GROUNDWATER 07/09/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 0.09 FEET OF FREE PRODUCT		

01589-RW-1	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**12300**
TOLUENE		**27900**
ETHYLBENZENE		**1700**
TOTAL XYLENES		**11800**
MTBE		**1400**
NAPHTHALENE		**283**
1,2-DICHLOROETHANE		<200
ETHYL TERT-BUTYL ALCOHOL		<20000
DIISOPROPYL ETHER		<200
ETHANOL		<40000
TERT-BUTYL ALCOHOL		<20000
TERT-AMYL ALCOHOL		<20000
TERT-AMYL METHYL ETHER		<2000
ETHYL TERT-BUTYL ETHER		<2000
TERT-BUTYL FORMATE		<10000

01589-DMW-4	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-16	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-15	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**2840**
TOLUENE		**7910**
ETHYLBENZENE		**982**
TOTAL XYLENES		4850
MTBE		<50.0
NAPHTHALENE		**120**
1,2-DICHLOROETHANE		<50.0
ETHYL TERT-BUTYL ALCOHOL		<5000
DIISOPROPYL ETHER		<50.0
ETHANOL		<10000
TERT-BUTYL ALCOHOL		<5000
TERT-AMYL ALCOHOL		**6950**
TERT-AMYL METHYL ETHER		<500
ETHYL TERT-BUTYL ETHER		<500
TERT-BUTYL FORMATE		<2500

01589-DMW-5	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

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UST PERMIT #01589

TITLE **FIGURE 4D**
CHEMICAL OF CONCERN DISTRIBUTION MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

PROJECT NO.	DATE	SCALE	REV. BY	PREP. BY	TYPE CODE	CAD FILE
DHEC088605	07-26-2019	1"=90'		WH		1252215.dwg

NOTES:
1. GROUNDWATER SAMPLES WERE COLLECTED 07/08-10/2019.
2. BOLD CONCENTRATIONS EQUAL OR EXCEED THE CORRESPONDING RBSL.

SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

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MONITORING WELL (TYPE II)

MONITORING WELL (TYPE III)

RECOVERY WELL

N

01589-MW-13	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**31.2**
TOLUENE		19.5
ETHYLBENZENE		490
TOTAL XYLENES		1630
MTBE		<5.0
NAPHTHALENE		**164**
1,2-DICHLOROETHANE		<5.0
ETHYL TERT-BUTYL ALCOHOL		<500
DIISOPROPYL ETHER		<5.0
ETHANOL		<1000
TERT-BUTYL ALCOHOL		<500
TERT-AMYL ALCOHOL		<500
TERT-AMYL METHYL ETHER		<50.0
ETHYL TERT-BUTYL ETHER		<50.0
TERT-BUTYL FORMATE		<250

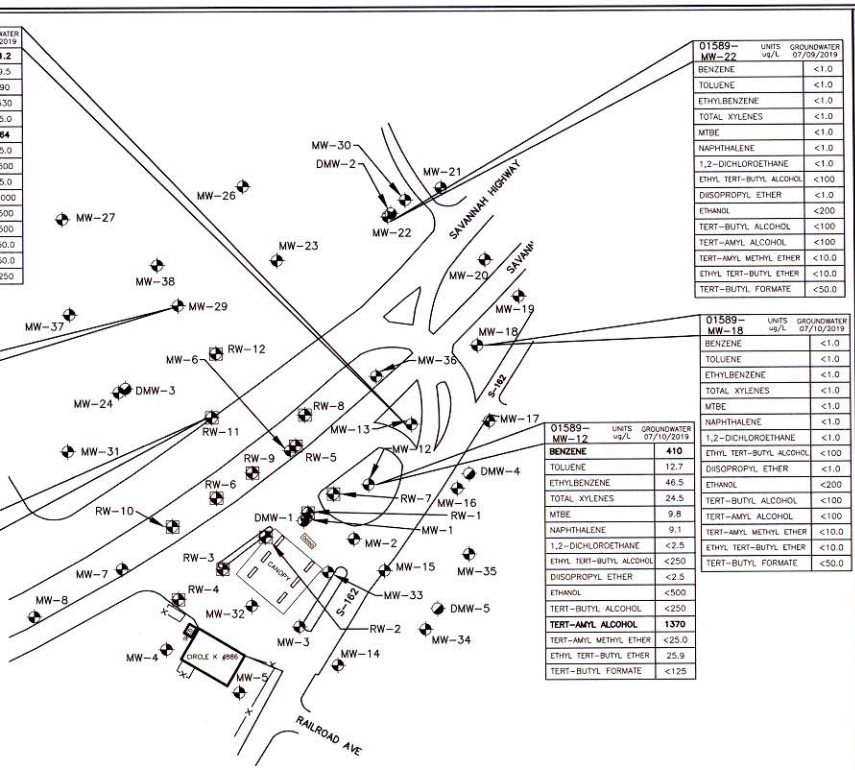
01589-MW-22	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

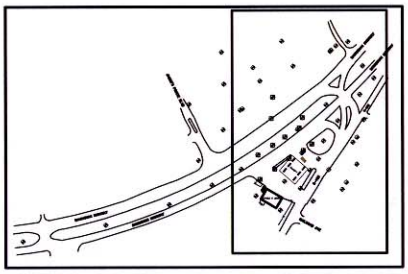
01589-MW-18	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		<1.0
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		<1.0
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-MW-29	UNITS ug/L	GROUNDWATER 07/09/2019
BENZENE		2.2
TOLUENE		<1.0
ETHYLBENZENE		<1.0
TOTAL XYLENES		<1.0
MTBE		7.4
NAPHTHALENE		<1.0
1,2-DICHLOROETHANE		<1.0
ETHYL TERT-BUTYL ALCOHOL		<100
DIISOPROPYL ETHER		<1.0
ETHANOL		<200
TERT-BUTYL ALCOHOL		<100
TERT-AMYL ALCOHOL		<100
TERT-AMYL METHYL ETHER		<10.0
ETHYL TERT-BUTYL ETHER		<10.0
TERT-BUTYL FORMATE		<50.0

01589-RW-11	UNITS ug/L	GROUNDWATER 07/08/2019
NO SAMPLE COLLECTED DUE TO THE PRESENCE OF 1.50 FEET OF FREE PRODUCT		

01589-MW-12	UNITS ug/L	GROUNDWATER 07/10/2019
BENZENE		**410**
TOLUENE		12.7
ETHYLBENZENE		46.5
TOTAL XYLENES		24.5
MTBE		9.8
NAPHTHALENE		9.1
1,2-DICHLOROETHANE		<2.5
ETHYL TERT-BUTYL ALCOHOL		<250
DIISOPROPYL ETHER		<2.5
ETHANOL		<500
TERT-BUTYL ALCOHOL		<250
TERT-AMYL ALCOHOL		**1370**
TERT-AMYL METHYL ETHER		<25.0
ETHYL TERT-BUTYL ETHER		25.9
TERT-BUTYL FORMATE		<125





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PROJECT NO.	DATE	SCALE	REV. BY	PREP. BY	TYPE CODE	CAD FILE
DHEC088605	07-26-2019	1"=90'		WH		1252215.dwg

TITLE **FIGURE 4E**
UST PERMIT #01589
CHEMICAL OF CONCERN DISTRIBUTION MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

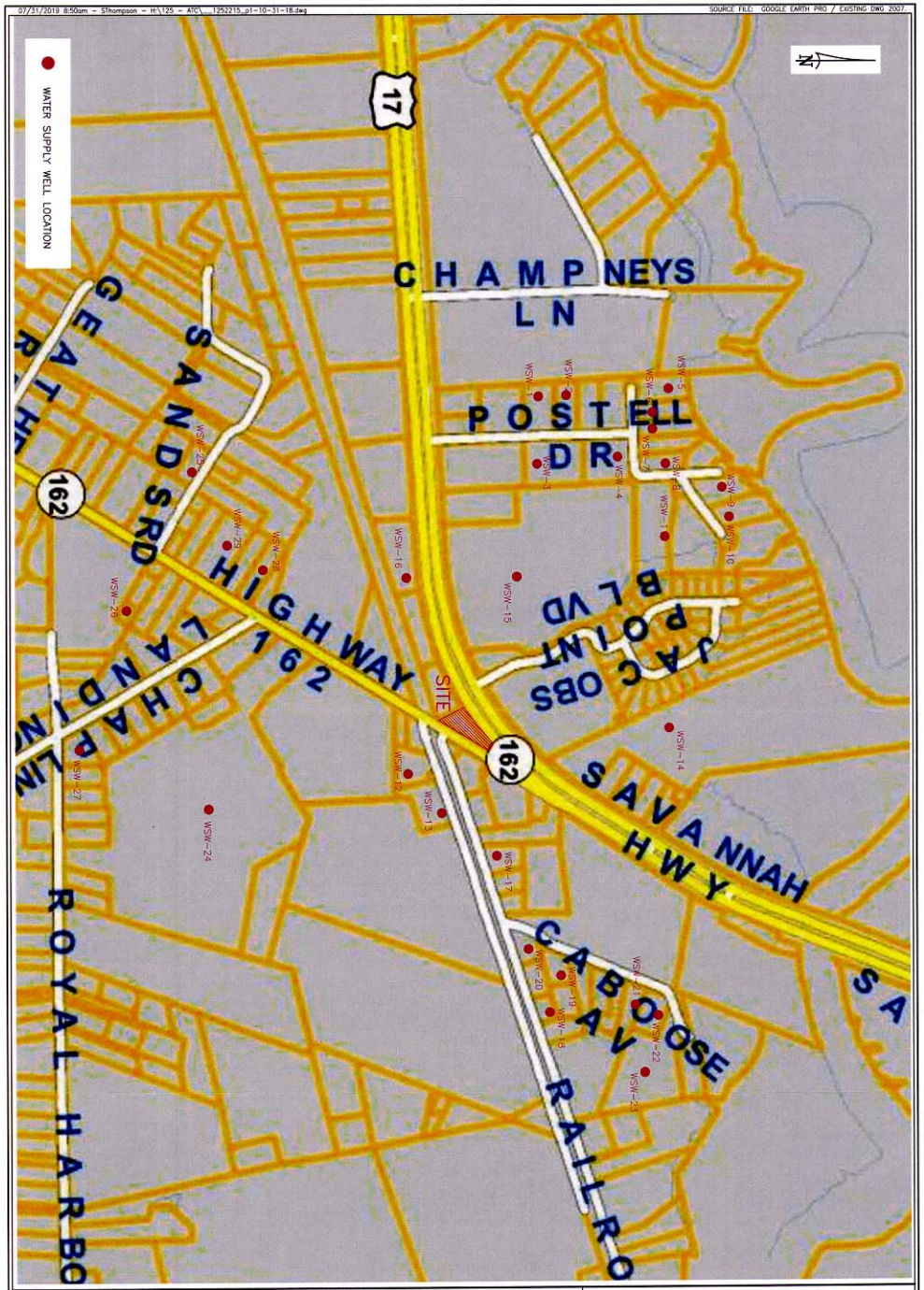
NOTES:
1. GROUNDWATER SAMPLES WERE COLLECTED 07/08-10/2019.
2. BOLD CONCENTRATIONS EQUAL OR EXCEED THE CORRESPONDING RBSL.

SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

07/31/2019 7:48am - SThompson - W:\125 - ATC_125221\5.p1-07-26-19.dwg

07/31/2019 8:50am - SThompson - H:\125 - ATC__1252215_p1-10-31-18.dwg

SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007



NOTES:

TITLE **FIGURE 5**
WATER SUPPLY WELL LOCATION MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

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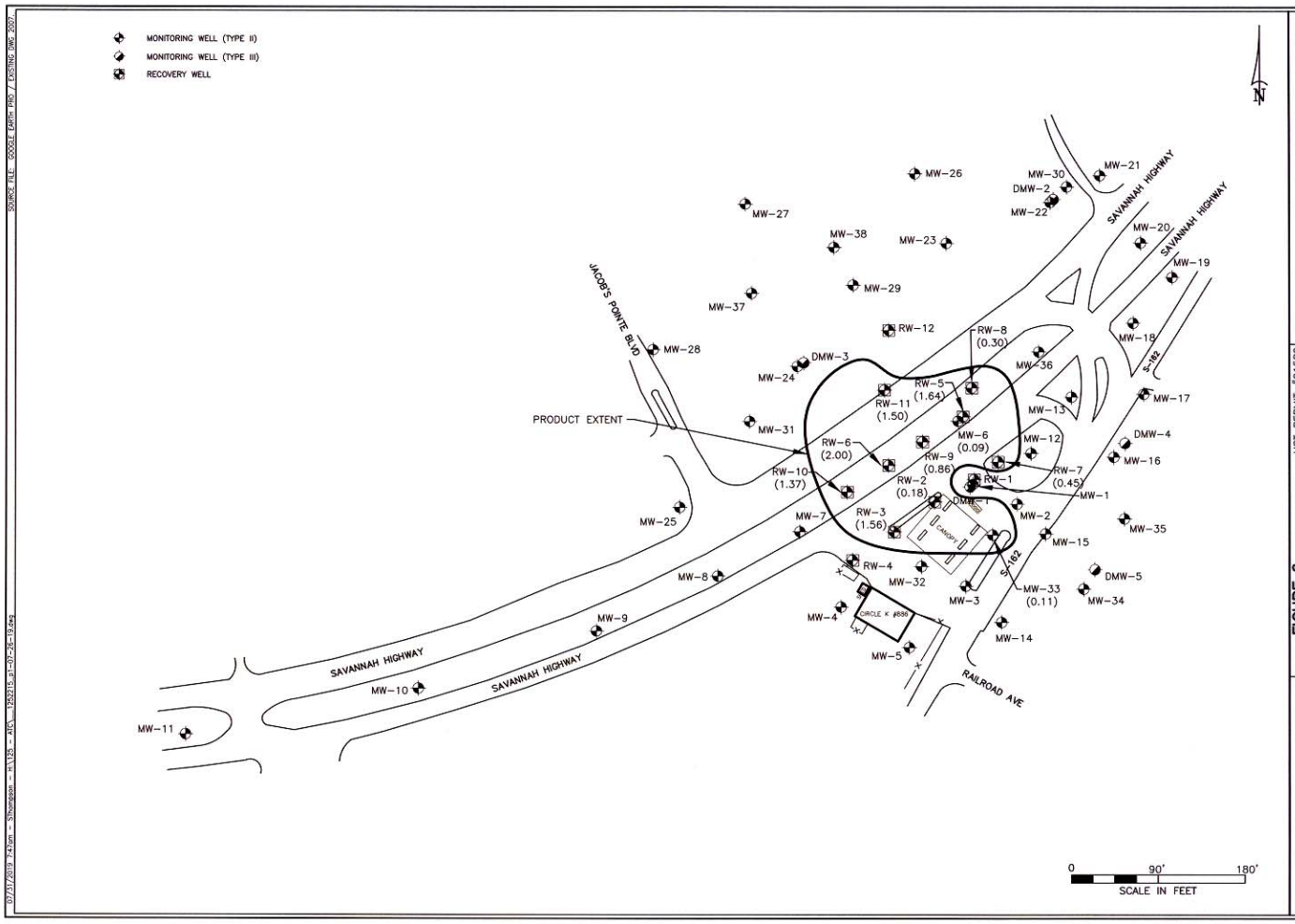
CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		FL		N.T.S.	07-26-2019	DHEC088605

Potable Water Well Ownership and Sample Identification
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Well ID	Name	Address	Comments / Notes
WSW-1	Marsha Farrior	6033 Postell Ravenel, SC 29070	
WSW-2 WSW-2D	Ralph and Susan McKenzie	6047 Postell Ravenel, SC 29070	
WSW-3	Nannette Picirillo	6036 Postell Ravenel, SC 29470	
WSW-4	David and Rhiannon McPherson	6050 Postell Ravenel, SC 29470	
WSW-5	Harry Wilson	6057 Postell Ravenel, SC 29470	
WSW-6	David and Lori Bates	6061 Postell Ravenel, SC 29470	
WSW-7	Patrick and Harriet Frazier	6065 Postell Ravenel, SC 29470	
WSW-8	James and Margaret Kilgallen	6079 Postell Ravenel, SC 29470	
WSW-9	Merlin and Priscilla Burbage	4358 Wallace Creek Way Ravenel, SC 29470	
WSW-10	Terry and Vickie Wilkinson	4354 Wallace Creek Way Ravenel, SC 29470	
WSW-11	Preston and Sue Mullinax	4355 Wallace Creek Way Ravenel, SC 29470	
WSW-12	McCombs Road, LLC	4317 McCombs Rd Hollywood, SC 29449	
WSW-13	Gilbert and Lynn Maybry	4318 McCombs Rd Hollywood, SC 29449	
WSW-14	Elizabeth Postell	4292 Savannah Hwy Ravenel, SC 29470	
WSW-15	LaRoche	4360 Savannah Hwy Ravenel, SC 29470	Well not sampled, access permission request denied

Potable Water Well Ownership and Sample Identification
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Well ID	Name	Address	Comments / Notes
WSW-16	Steen	4367 Savannah Hwy Ravenel, SC 29470	
WSW-17	Florence Brown	4276 Railroad Ave Hollywood, SC 29470	
WSW-18	Frank Miller	4230 Railroad Ave Hollywood, SC 29470	
WSW-19	John Prioleau	5812 Caboose Ave Hollywood, SC 29470	
WSW-20	Harry Brown	4252 Railroad Ave Hollywood, SC 29470	Well not sampled, access permission request denied
WSW-21	Rosetta Geddes	5834 Caboose Ave Hollywood, SC 29470	Well not sampled, access permission request denied
WSW-22	Frank Prioleau	5840 Caboose Ave Hollywood, SC 29470	
WSW-23	Carrie Wright	5851 Caboose Ave Hollywood, SC 29470	
WSW-24	Lake Aire RV Park	4375 Highway 162 Hollywood, SC 29449	
WSW-25	John Miller Sr.	5627 Sands Rd Hollywood, SC 29449	
WSW-26	Loretta Doctor	4441 Highway 162 Hollywood, SC 29449	
WSW-27	Julia Ann Harvin	5710 Chaplins Landing Hollywood, SC 29449	Well not sampled, access permission request denied
WSW-28	Barbara Ferrara	4408 Highway 162 Hollywood, SC 29449	Well not sampled, access permission request denied
WSW-29	John Dunmyer	4422 Highway 162 Hollywood, SC 29449	Well not sampled, access permission request denied. The property is currently provided potable water from a municipal source



SOURCE FILE: GOOGLE EARTH PRO / EXISTING DWG 2007

07/31/2019 7:47am - Sthompson - H:\125 - ATC_1252215_p1-07-26-19.dwg

NOTES:

TITLE **FIGURE 6**
PRODUCT EXTENT MAP
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

UST PERMIT #01589

CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		WH		1"=90'	07-26-2019	DHEC088605

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APPENDIX A

MONITORING WELL BORING LOGS, WELL DEVELOPMENT LOGS AND SCDHEC 1903 FORMS

MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 DMW-4
PROJECT NO.:	DHEC088602	DATE DRILLED:	July 1 and 2, 2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	Elite Techniques, Inc.
		DRILL METHOD:	Hollow Stem Auger / Mud Rotary
	4315 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	10" O.D. to 30' bgs; 4" O.D. to TD
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	45.0 feet btoc
LOGGED BY:	Jesse Keefe	Static DTW >24 hours:	4.51' btoc

Boring advanced to 30 feet bgs with 6 5/8" I.D./10" O.D. hollow stem augers to install isolation casing; mud rotary with 4" O.D. wing bit to TD

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(35 feet bgs to surface)
					1.5	
					2.0	
					2.5	Brown Clayey SAND, dry, no petroleum odors
					3.0	
					3.5	
					4.0	
					4.5	
			0.2		5.0	Tan fine SAND; saturated, no petroleum odors
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
			0.3		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					12.5	
					13.0	
					13.5	
					14.0	
					14.5	
			0.1		15.0	Tan fine SAND; saturated, no petroleum odors
					15.5	
					16.0	4-inch schedule 40 PVC isolation casing
					16.5	(30 feet bgs to surface)
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
			0.1		20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
SCREEN

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 DMW-4
PROJECT NO.:	DHEC088602	DATE DRILLED:	July 1 and 2, 2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	Elite Techniques, Inc.
		DRILL METHOD:	Hollow Stem Auger / Mud Rotary
	4315 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	10" O.D. to 30' bgs; 4" O.D. to TD
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	45.0 feet btoc
LOGGED BY:	Jesse Keefe	Static DTW >24 hours:	4.51' btoc

Boring advanced to 30 feet bgs with 6 5/8" I.D./10" O.D. hollow stem augers to install isolation casing; mud rotary with 4" O.D. wing bit to TD

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			0.1		20.5	
					21.0	
					21.5	
					22.0	
					22.5	
					23.0	Tan fine SAND; saturated, no petroleum odors
					23.5	
					24.0	
					24.5	
			0.1		25.0	
					25.5	
					26.0	
					26.5	
					27.0	
					27.5	
					28.0	
					28.5	
					29.0	
					29.5	3/8" hydrated bentonite chips
			0.1		30.0	(35 feet bgs to 27 feet bgs)
					30.5	
					31.0	
					31.5	
					32.0	
					32.5	
					33.0	
					33.5	
					34.0	
					34.5	
			0.1		35.0	
					35.5	
					36.0	
					36.5	
					37.0	
					37.5	
					38.0	
					38.5	
					39.0	
					39.5	
			0.1		40.0	
					40.5	
					41.0	
					41.5	#2 filter sand
					42.0	(45 feet bgs to 35 feet bgs)
					42.5	
					43.0	
					43.5	
					44.0	
					44.5	
			0.2		45.0	boring terminated at 45 feet bgs

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
SCREEN

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 DMW-5
PROJECT NO.:	DHEC088602	DATE DRILLED:	July 1 and 2, 2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	Elite Techniques, Inc.
		DRILL METHOD:	Hollow Stem Auger / Mud Rotary
	4315 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	10" O.D. to 30' bgs; 4" O.D. to TD
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	43.0 feet btoc
LOGGED BY:	Jesse Keefe	Static DTW >24 hours:	4.55' btoc

Boring advanced to 30 feet bgs with 6 5/8" I.D./10" O.D. hollow stem augers to install isolation casing; mud rotary with 4" O.D. wing bit to TD

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
					0.5	portland cement, including concrete for pad
					1.0	(34 feet bgs to surface)
					1.5	
					2.0	
					2.5	Brown and tan fine SAND, dry, no petroleum odors
					3.0	
					3.5	
					4.0	
					4.5	
			0.1		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	Tan fine SAND; saturated, no petroleum odors
					8.5	
					9.0	
					9.5	
			0.1		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					12.5	
					13.0	
					13.5	
					14.0	
					14.5	
			0.1		15.0	Tan fine SAND; saturated, no petroleum odors
					15.5	
					16.0	4-inch schedule 40 PVC isolation casing
					16.5	(30 feet bgs to surface)
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
			0.1		20.0	

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
SCREEN

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MONITORING WELL CONSTRUCTION / SOIL BORING LOG

PROJECT NAME:	Circle K 2720886	BORING I.D.:	01589 DMW-5
PROJECT NO.:	DHEC088602	DATE DRILLED:	July 1 and 2, 2019
UST Permit NO.:	01589		
PROJECT LOCATION:		DRILLING CONTR.:	Elite Techniques, Inc.
		DRILL METHOD:	Hollow Stem Auger / Mud Rotary
	4315 Savannah Highway, Ravenel, South Carolina	BORING DIAMETER:	10" O.D. to 30' bgs; 4" O.D. to TD
CLIENT:	Circle K Stores, Inc.	TOTAL WELL DEPTH:	43.0 feet btoc
LOGGED BY:	Jesse Keefe	Static DTW >24 hours:	4.55' btoc

Boring advanced to 30 feet bgs with 6 5/8" I.D./10" O.D. hollow stem augers to install isolation casing; mud rotary with 4" O.D. wing bit to TD

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			0.2		20.5	
					21.0	
					21.5	
					22.0	
					22.5	
					23.0	Tan fine SAND; saturated, no petroleum odors
					23.5	
					24.0	
					24.5	
			0.3		25.0	
					25.5	
					26.0	Medium stiff sandy Clay, wet, no petroleum odors
					26.5	
					27.0	
					27.5	
					28.0	
					28.5	
					29.0	
					29.5	
			0.1		30.0	
					30.5	
					31.0	
					31.5	3/8" hydrated bentonite chips
					32.0	(34 feet bgs to 30 feet bgs)
					32.5	
					33.0	
					33.5	
					34.0	
					34.5	
			0.2		35.0	
					35.5	
					36.0	
					36.5	
					37.0	
					37.5	
					38.0	
					38.5	
					39.0	
					39.5	
			0.2		40.0	Tan fine SAND; saturated, no petroleum odors
					40.5	
					41.0	
					41.5	#2 filter sand
					42.0	(43 feet bgs to 34 feet bgs)
					42.5	
					43.0	boring terminated at 43 feet bgs

DRILLING METHODS
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

Sample collected for analysis

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE

GRAPHIC COLUMN
GROUT
BENTONITE
SAND
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Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Circle K Stores (last) (first)
Address: 4315 Savannah Highway
City: Ravenel State: SC Zip: 29470-0000
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Highway
City: Ravenel Zip: 29470-0000
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** 01589

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See ATC Group Services, LLC		
Final Report		
6" / 2" Telescoping Well		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: DMW-4

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-27577

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 45 ft. Date Started: 7/1/19 Date Completed: 7/2/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 6" / 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 30 ft. depth
0 in. to 40 ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 45 ft. and 40 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 45 ft. to 35 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other Bentonite 35-27
Depth: From 35 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Dearal Rodgers **CERT. NO.:** 1461
Address: (Print) Level: A B C D (circle one)
Elite Techniques, Inc., 1817 Bishopville Hwy. Camden, SC 29020
Telephone No.: Fax No.: Phone 803-425-7324

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: Dearal Rodgers Date: 7/10/19
Well Driller

If D Level Driller, provide supervising driller's name:
Dearal Rodgers #1461-A

DHEC 1903 (03/2004) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Circle K Stores (last) (first)
Address: 4315 Savannah Highway
City: Ravenel State: SC Zip: 29470-0000
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Charleston
Name: Circle K 2720886
Street Address: 4315 Savannah Highway
City: Ravenel Zip: 29470-0000
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** 01589

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
See ATC Group Services, LLC		
Final Report		
6" / 2" Telescoping Well		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: DMW-5

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-27577

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 43 ft. Date Started: 7/1/19 Date Completed: 7/1/19

10. CASING: ☑ Threaded ☐ Welded
Diam.: 6" / 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 30 ft. depth
0 in. to 38 ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between 43 ft. and 38 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ 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 43 ft. to 34 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other Bentonite 34-30
Depth: From 34 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ 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: Dearal Rodgers **CERT. NO.:** 1461
Address: (Print) Level: A B C D (circle one)
Elite Techniques, Inc., 1817 Bishopville Hwy. Camden, SC 29020
Telephone No.: Fax No.: Phone 803-425-7324

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: Dearal Rodgers Date: 7/10/19
Well Driller
If D Level Driller, provide supervising driller's name:
Dearal Rodgers #1461-A

DHEC 1903 (03/2004) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

DHEC
PROMOTE PROTECT PROSPER

Well Development Data Verfication Form
Underground Storage Tank Management Division

Facility Name: Pantry 886 Site ID#: 01589
Date: 7-2-19 Field Personnel:
Drilling Company: Elite Technologies Driller's Name: Dearol Rodgers
Driller's Certification Number: 1461 A Weather Conditions: Sunny; Hot

Well Development Method

Surge Block ○ Submersible Pump ● Air Lifting ○

* Bailing can be combined with any of the above methods, but not utilized alone for development.

Quality Assurance

pH meter	Conductivity meter	Temperature meter	Turbidity meter
serial no.	serial no.	serial no.	serial no.
pH=4.0	standard		NTU=0.0
pH=7.0			NTU=1.0
pH=10.0			NTU=10.0

Drilling Method

Hollow Stem Augers ○ Solid Flight Augers ○ Direct Push ○
Air Rotary ○ Mud Rotary ○ Sonic ○

Monitoring Well ID# DMW-4 Well Casing Diameter 2 inches Borehole Diameter ____ inches
Depth to Ground Water (DGW) 4.80 ft. Screen Length/Slot Size 5 ft./ 0.010 in.
Total Well Depth (TWD) 45.0 ft. Screen Interval 40 ft. to 45 ft.
Length of water column (LWC=TWD-DGW) 40.20 ft. Type of Drilling Fluids used: N/A
Total Gallons of Water Removed: 28 gals. Drilling Fluids recovered N/A gals.

Time (military)							
pH (s.u.)*	5.72	5.70	5.69	5.70			
Specific Conductivity (mmhos/cm)*	97	99	85	86			
Water Temperature (C)*	23.8	23.6	23.5	23.4			
Turbidity (NTU) *	>1000	>1000	680	263	<100		
Physical Characteristics (color/odor)	Tan + Lt Tan		Clearing				
Water Level Measurement (ft) from TOC	4.80	6.23	8.52	8.50			
Total Well Depth (ft) from TOC	45	45	—				
Cumulative Gallons Removed	5 gals	7 gals	6 gals	5 gals	5 gals	gals	gals

* Development is completed once groundwater turbidity is ≤ 10 NTU and all parameters are ± 10%.

Detailed description of Well Development process: *Drilling personnel initially bailed the well to remove sediment introduced during well installation and to settle the filter pack; personnel subsequently pumped 28 gallons of water until the discharge was relatively clear.*

Driller Signature: Dearol Rodgers Date: 7/2/19

D H E C
PROMOTE PROTECT PROSPER

Well Development Data Verfication Form
Underground Storage Tank Management Division

Facility Name: Pantry 886 Site ID#: 01589

Date: 7-2-19 Field Personnel:

Drilling Company: Elite Technologies Driller's Name: Derrel Rodgers

Driller's Certification Number: 1461A Weather Conditions: Sunny; Hot

Well Development Method

Surge Block ○ Submersible Pump ● Air Lifting ○

* Bailing can be combined with any of the above methods, but not utilized alone for development.

Quality Assurance

pH meter	Conductivity meter	Temperature meter	Turbidity meter
serial no.	serial no.	serial no.	serial no.
pH=4.0	standard		NTU=0.0
pH=7.0			NTU=1.0
pH=10.0			NTU=10.0

Drilling Method

Hollow Stem Augers ○ Solid Flight Augers ○ Direct Push ○

Air Rotary ○ Mud Rotary ○ Sonic ○

Monitoring Well ID# DMW-5 Well Casing Diameter ____ inches Borehole Diameter ____ inches

Depth to Ground Water (DGW) 8.02 ft. Screen Length/Slot Size 5 ft./0.010 in.

Total Well Depth (TWD) 43.0 ft. Screen Interval 38 ft. to 43 ft.

Length of water column (LWC=TWD-DGW) 34.98 ft. Type of Drilling Fluids used: N/A

Total Gallons of Water Removed: 24 gals. Drilling Fluids recovered N/A gals.

Time (military)							
pH (s.u.)*	5.62	5.60	5.58	5.57			
Specific Conductivity (mmhos/cm)*	97	94	94	94			
Water Temperature (C)*	24.1	23.8	23.6	23.6			
Turbidity (NTU) *	71000	820	580	575			
Physical Characteristics (color/odor)	Tan; Cloudy		Clear				
Water Level Measurement (ft) from TOC	8.02	6.23	5.98	5.98			
Total Well Depth (ft) from TOC	45						
Cumulative Gallons Removed	5 gals	5 gals	4 gals	5 gals	5 gals	gals	gals

* Development is completed once groundwater turbidity is ≤ 10 NTU and all parameters are ± 10%.

Detailed description of Well Development process: *Drilling personnel initially bailed the well to remove sediment introduced during well installation and to settle the filter pack; personnel subsequently pumped 24 gallons of water until the discharge was relatively clear.*

Driller Signature: Derrel Rodgers Date: 7/2/19

APPENDIX B

FIELD DATA INFORMATION SHEETS

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Healthy People. Healthy Communities

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 1	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2 12		Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.17		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	13:26							13:28
PH (s.u.)	5.31							
Specific Conductivity (µS/cm)	295							
Water Temperature (°C)	29.25							
Turbidity (NTU)	55.6							
Dissolved Oxygen (mg/L)	2.72							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 13:28	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 2	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2		Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 3.78		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	14:34							14:36
PH (s.u.)	6.12							
Specific Conductivity (µS/cm)	251							
Water Temperature (°C)	28.71							
Turbidity (NTU)	2.27							
Dissolved Oxygen (mg/L)	3.23							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:36	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 3	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.80		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	14:46							14:48
PH (s.u.)	5.04							
Specific Conductivity (µS/cm)	1220							
Water Temperature (°C)	27.63							
Turbidity (NTU)	77.0							
Dissolved Oxygen (mg/L)	4.28							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:48	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 4	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 3.77		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	14:14							14:16
PH (s.u.)	6.57							
Specific Conductivity (µS/cm)	283							
Water Temperature (°C)	26.84							
Turbidity (NTU)	0.0							
Dissolved Oxygen (mg/L)	7.27							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:16	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 5	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.30		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	14:01							14:03
PH (s.u.)	6.49							
Specific Conductivity (µS/cm)	166							
Water Temperature (°C)	27.90							
Turbidity (NTU)	0.0							
Dissolved Oxygen (mg/L)	2.74							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:03	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Healthy People. Healthy Communities

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 7	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.41		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	13:15							13:17
PH (s.u.)	4.84							
Specific Conductivity (µS/cm)	271							
Water Temperature (°C)	28.41							
Turbidity (NTU)	0.0							
Dissolved Oxygen (mg/L)	1.04							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 13:17	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

dhec
Healthy People. Healthy Communities

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW- 8**	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2 12		Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.52		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	13:00							13:02
PH (s.u.)	4.71							
Specific Conductivity (µS/cm)	712							
Water Temperature (°C)	28.62							
Turbidity (NTU)	0.0							
Dissolved Oxygen (mg/L)	1.88							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 13:02	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Brandon Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW- 9**	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.30		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	12:35							12:37
PH (s.u.)	5.93							
Specific Conductivity (µS/cm)	257							
Water Temperature (°C)	29.12							
Turbidity (NTU)	17.6							
Dissolved Oxygen (mg/L)	0.84							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 12:37	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 10	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2 12		Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.73		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	12:07							12:09
PH (s.u.)	5.75							
Specific Conductivity (µS/cm)	168							
Water Temperature (°C)	28.13							
Turbidity (NTU)	128							
Dissolved Oxygen (mg/L)	1.98							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 12:09	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Brandon Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW- 11**	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2 12		Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.74		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	11:28							11:30
PH (s.u.)	6.30							
Specific Conductivity (µS/cm)	406							
Water Temperature (°C)	28.97							
Turbidity (NTU)	138							
Dissolved Oxygen (mg/L)	2.27							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 11:30	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

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ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F): 78°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 12	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.97		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0859							0859
PH (s.u.)	6.11							6.11
Specific Conductivity (µS/cm)	535							535
Water Temperature (°C)	27.68							27.68
Turbidity (NTU)	8.0							8.0
Dissolved Oxygen (mg/L)	4.42							4.42

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0859	Duplicate: Y or N	If yes, Duplicate Time: 0901

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 13	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 - 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.26		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0905							0905
PH (s.u.)	6.22							6.22
Specific Conductivity (µS/cm)	401							401
Water Temperature (°C)	28.22							28.22
Turbidity (NTU)	17.5							17.5
Dissolved Oxygen (mg/L)	1.83							1.83

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0905	Duplicate: (Y) or N	If yes, Duplicate Time: 0907

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 16 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Clear	Ambient Air Temp (°F): 77°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 14	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 5.10		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0705							0705
PH (s.u.)	5.18							5.18
Specific Conductivity (µS/cm)	727							727
Water Temperature (°C)	25.03							25.03
Turbidity (NTU)	4.3							4.3
Dissolved Oxygen (mg/L)	3.02							3.02

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0705	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Clear	Ambient Air Temp (°F): 77°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 15	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12	
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 4.70	Free Product Thickness (ft.):	
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):	5 casing volumes (6 x CV) (gals.):	

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0720							0720
PH (s.u.)	5.25							5.25
Specific Conductivity (µS/cm)	201							201
Water Temperature (°C)	25.37							25.37
Turbidity (NTU)	39.5							39.5
Dissolved Oxygen (mg/L)	1.15							1.15

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0720	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 16	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.04		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0745							0745
PH (s.u.)	4.54							4.54
Specific Conductivity (µS/cm)	275							275
Water Temperature (°C)	25.66							25.66
Turbidity (NTU)	5.3							5.3
Dissolved Oxygen (mg/L)	1.43							1.43

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0745	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Joseph Gray

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F): 78°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 17	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.09		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0836							0836
PH (s.u.)	5.96							5.96
Specific Conductivity (µS/cm)	313							313
Water Temperature (°C)	27.34							27.34
Turbidity (NTU)	10.6							10.6
Dissolved Oxygen (mg/L)	1.69							1.69

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0836	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 18	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 - 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.29		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1033							1033
PH (s.u.)	5.07							5.07
Specific Conductivity (µS/cm)	179							179
Water Temperature (°C)	28.59							28.59
Turbidity (NTU)	3.7							3.7
Dissolved Oxygen (mg/L)	1.03							1.03

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1033	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 19	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.05		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1029							1029
PH (s.u.)	5.50							5.50
Specific Conductivity (µS/cm)	1164							1164
Water Temperature (°C)	28.32							28.32
Turbidity (NTU)	36.6							36.6
Dissolved Oxygen (mg/L)	2.17							2.17

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1029	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Partly Cloudy	Ambient Air Temp (°F): 81

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 20	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 2.19		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1020							1020
PH (s.u.)	5.74							5.74
Specific Conductivity (µS/cm)	417							417
Water Temperature (°C)	28.64							28.64
Turbidity (NTU)	42.8							42.8
Dissolved Oxygen (mg/L)	.97							.97

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1020	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [signature]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 7 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F): 88°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 21	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): .25		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 11.75	3 casing volume (CV = LWC x Cx3) (gals.): 1.95 5.85		5 casing volumes (6 x CV) (gals.): 3.9

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1253	1255	1257					1259
PH (s.u.)	5.97	6.21	6.28					6.28
Specific Conductivity (µS/cm)	471	583	637					637
Water Temperature (°C)	30.15	28.07	27.45					27.45
Turbidity (NTU)	3.1	68.1	48.1					48.1
Dissolved Oxygen (mg/L)	4.58	1.99	1.88					1.88

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1257	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Joseph Gray

Bailed Dry @ 2nd Vol.

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 7 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty cloudy	Ambient Air Temp (°F): 88

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW- 22**	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
~~MW~~ ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2-12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.56		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								~~1210~~
Time (military)	1210							1210
PH (s.u.)	5.09							5.09
Specific Conductivity (µS/cm)	69							69
Water Temperature (°C)	29.57							29.57
Turbidity (NTU)	13.6							13.6
Dissolved Oxygen (mg/L)	2.77							2.77

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1210	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 23	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 5-15	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 7.24		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1357							
PH (s.u.)	5.64							
Specific Conductivity (µS/cm)	237							
Water Temperature (°C)	26.19							
Turbidity (NTU)	49.1							
Dissolved Oxygen (mg/L)	1.10							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1357	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: CL

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Ptly Cloudy	Ambient Air Temp (°F): 87

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 27	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 5-15	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 6.61		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1005							1005
PH (s.u.)	4.51							4.71
Specific Conductivity (µS/cm)	277							277
Water Temperature (°C)	27.79							27.79
Turbidity (NTU)	10.0							10.0
Dissolved Oxygen (mg/L)	1.55							1.55

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1005	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 7 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Clear	Ambient Air Temp (°F): 78'

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 25	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 - 12	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): .78		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 11.22	3 casing volume (CV = LWC x Cx3) (gals.): 1.86	5.58	5 casing volumes (6 x CV) (gals.): 9.3

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0814	0816	0818	0820	0822	0824		0824
PH (s.u.)	5.67	5.64	5.52	5.47	5.44	5.41		5.41
Specific Conductivity (µS/cm)	352	307	290	285	283	282		282
Water Temperature (°C)	29.06	28.23	27.18	26.63	26.46	26.42		26.42
Turbidity (NTU)	23.2	451	465	389	519	816		816
Dissolved Oxygen (mg/L)	6.82	2.39	1.95	1.55	1.56	1.48		1.48

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0824	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Joseph Gray

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 26	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 5-15	Total Well Depth (TWD) (ft.): 15
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 6.38		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1118							1118
PH (s.u.)	5.57							5.57
Specific Conductivity (µS/cm)	214							214
Water Temperature (°C)	27.64							27.64
Turbidity (NTU)	15.0							15.0
Dissolved Oxygen (mg/L)	2.36							2.36

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1118	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Joseph Gray

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 7 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F): 84

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 27	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 5-15	Total Well Depth (TWD) (ft.): 15
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 6.10		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1107							1107
PH (s.u.)	6.17							6.17
Specific Conductivity (µS/cm)	98							98
Water Temperature (°C)	27.98							27.98
Turbidity (NTU)	14.7							14.7
Dissolved Oxygen (mg/L)	3.91							3.91

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1107	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Joseph Gray

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 28	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 - 12	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 4.81		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0916							0916
PH (s.u.)	4.94							4.94
Specific Conductivity (µS/cm)	135							135
Water Temperature (°C)	27.58							27.58
Turbidity (NTU)	331							331
Dissolved Oxygen (mg/L)	2.33							2.33

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0916	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [signature]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 29	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 5-15	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 7.24		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1352							
PH (s.u.)	6.52							
Specific Conductivity (µS/cm)	1164							
Water Temperature (°C)	26.53							
Turbidity (NTU)	330							
Dissolved Oxygen (mg/L)	1.87							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1352	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: CL

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F): 88

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 30	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
~~MW~~ ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2.12	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 2.89		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1225							1225
PH (s.u.)	4.76							4.76
Specific Conductivity (µS/cm)	122							122
Water Temperature (°C)	30.13							30.13
Turbidity (NTU)	3.5							3.5
Dissolved Oxygen (mg/L)	1.91							1.91

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1225	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 3	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 - 12	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 7.21		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0924							0924
PH (s.u.)	4.43							4.43
Specific Conductivity (µS/cm)	344							344
Water Temperature (°C)	26.41							26.41
Turbidity (NTU)	93.1							93.1
Dissolved Oxygen (mg/L)	2.29							2.27

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0924	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [illegible]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 32	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 3 ~~2~~	Total Well Depth (TWD) (ft.): ~~12~~ 13
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.97		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	14:56							14:58
PH (s.u.)	6.23							
Specific Conductivity (µS/cm)	667							
Water Temperature (°C)	28.10							
Turbidity (NTU)	13.6							
Dissolved Oxygen (mg/L)	6.13							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:58	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Braden Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 34	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 3-13	Total Well Depth (TWD) (ft.): 13
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 8.11		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0948							0948
PH (s.u.)	5.64							5.64
Specific Conductivity (µS/cm)	94							94
Water Temperature (°C)	27.10							27.10
Turbidity (NTU)	5.2							5.2
Dissolved Oxygen (mg/L)	7.14							7.14

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0948	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [signature]

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 35	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 3-13	Total Well Depth (TWD) (ft.): 13
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 6.92		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1017							1017
PH (s.u.)	4.97							4.97
Specific Conductivity (µS/cm)	138							138
Water Temperature (°C)	25.80							25.80
Turbidity (NTU)	6.2							6.2
Dissolved Oxygen (mg/L)	1.83							1.83

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1017	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 36	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
~~MW~~ ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 3 13	Total Well Depth (TWD) (ft.): 13	
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 2.21	Free Product Thickness (ft.): —	
Length of water column (LWC = TWD – DGW) (ft.): 10.79	3 casing volume (CV = LWC x Cx3) (gals.): 1.76	5 casing volumes (6 x CV) (gals.): 7.04	

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	12:18	12:22	12:27	12:33	12:37			12:39
PH (s.u.)	6.26	6.31	6.32	6.24	6.24			
Specific Conductivity (µS/cm)	480	497	545	598	611			
Water Temperature (°C)	25.28	25.82	25.82	25.50	25.36			
Turbidity (NTU)	72.1	783	1000+	573	1000+			
Dissolved Oxygen (mg/L)	2.45	0.86	0.78	7.16	6.02			

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 12:39	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Pty Cloudy	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: **MW-** 37	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 3-13	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 8.03		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	0950							0950
PH (s.u.)	4.68							4.68
Specific Conductivity (µS/cm)	186							186
Water Temperature (°C)	27.12							27.12
Turbidity (NTU)	25.2							25.2
Dissolved Oxygen (mg/L)	5.17							5.17

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 0950	Duplicate: Y or (N)	If yes, Duplicate Time:
Notes: Circle K 2720886		Signature:	

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: MW- 38	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~	Screened Interval (ft.): 3-13	Total Well Depth (TWD) (ft.): 13	
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 8.01	Free Product Thickness (ft.):	
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):	5 casing volumes (6 x CV) (gals.):	

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1340							
PH (s.u.)	5.32							
Specific Conductivity (µS/cm)	299							
Water Temperature (°C)	26.71							
Turbidity (NTU)	17.6							
Dissolved Oxygen (mg/L)	1.14							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1348	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: DMW- 1	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 34 39	Total Well Depth (TWD) (ft.): 39
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.73		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.): 34.27	3 casing volume (CV = LWC x Cx3) (gals.): 5.59		5 casing volumes (6 x CV) (gals.): 9.0

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	13:38	13:46						13:52
PH (s.u.)	7.17	7.34						
Specific Conductivity (µS/cm)	264	299						
Water Temperature (°C)	27.21	25.63						
Turbidity (NTU)	3.8	4.30						
Dissolved Oxygen (mg/L)	0.92	0.91						

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 13:52	Duplicate: Y or N	If yes, Duplicate Time: 13:55

Notes: Circle K 2720886

DUP-3

Signature: Brandon Belding

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Storm Pty Cloudy	Ambient Air Temp (°F): 88

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: D MW- 2	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 34-39	Total Well Depth (TWD) (ft.): 39
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 3.49		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 35.51	3 casing volume (CV = LWC x Cx3) (gals.): 5.89 17.68		5 casing volumes (6 x CV) (gals.): 11.78

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1329	1337	1344					1344
PH (s.u.)	6.72	7.27	6.91					6.91
Specific Conductivity (µS/cm)	426	390	387					387
Water Temperature (°C)	29.27	26.02	25.33					25.33
Turbidity (NTU)	33.9	58.3	792					792
Dissolved Oxygen (mg/L)	3.37	1.44	.89					.89

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1344	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: [signature]

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

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Site Information

Date: 7/ 9 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: DMW- 3	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 35-40	Total Well Depth (TWD) (ft.): 40
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 7.92		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 32.08	3 casing volume (CV = LWC x Cx3) (gals.): 5.32 15.97		5 casing volumes (6 x CV) (gals.): 26.6

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1015	1021	1027	1033	1040	1046		1046
PH (s.u.)	6.20	7.06	7.20	7.24	7.25	7.27		7.27
Specific Conductivity (µS/cm)	359	374	385	375	363	352		352
Water Temperature (°C)	27.01	25.78	24.63	24.31	24.08	24.47		24.47
Turbidity (NTU)	8.3	63.2	626	417	496	517		517
Dissolved Oxygen (mg/L)	1.05	1.12	1.43	1.74	.83	.93		.93

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1046	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature: Jayel May

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/10/2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions: Cloudy	Ambient Air Temp (°F): 78°

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: D MW- 4	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 40 - 45	Total Well Depth (TWD) (ft.): 45
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 4.30		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 40.7	3 casing volume (CV = LWC x Cx3) (gals.): 6.75		5 casing volumes (6 x CV) (gals.): 20.26

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1521	1524	1527					1529
PH (s.u.)	6.84	7.36	7.59					7.65
Specific Conductivity (µS/cm)	270	272	272					275
Water Temperature (°C)	25.99	23.05	22.51					23.11
Turbidity (NTU)	10.1	24.1	78.2					310
Dissolved Oxygen (mg/L)	4.45	2.81	2.33					2.15

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1529	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: D MW- 5	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 43	Total Well Depth (TWD) (ft.): 43
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.): 8.06		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.): 34.94	3 casing volume (CV = LWC x Cx3) (gals.): 5.80 17.40		5 casing volumes (6 x CV) (gals.): 29.0

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	1344	1347	1350	1354	1358	1402		1402
PH (s.u.)	7.42	7.46	7.49	7.48	7.44	7.42		7.42
Specific Conductivity (µS/cm)	334	340	340	342	344	344		344
Water Temperature (°C)	23.98	23.10	22.65	22.29	22.03	21.83		21.83
Turbidity (NTU)	30.3	34.6	28.9	212	289	629		629
Dissolved Oxygen (mg/L)	1.16	2.80	2.15	1.69	1.42	1.48		1.48

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 1402	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: RW-1	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 4.05		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	12:43							14:45
PH (s.u.)	5.73							
Specific Conductivity (µS/cm)	219							
Water Temperature (°C)	27.00							
Turbidity (NTU)	21.7							
Dissolved Oxygen (mg/L)	1.83							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 14:45	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

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Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: RW-4	Well Diameter (in): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 2 12	Total Well Depth (TWD) (ft.): 12
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 3.38		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.):	3 casing volume (CV = LWC x Cx3) (gals.):		5 casing volumes (6 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	13:04							13:06
PH (s.u.)	6.12							
Specific Conductivity (µS/cm)	277							
Water Temperature (°C)	27.79							
Turbidity (NTU)	174							
Dissolved Oxygen (mg/L)	9.27							

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 13:06	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

dhec
Healthy People. Healthy Communities

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

ATC

Site Information

Date: 7/ 10 /2019	Site ID #: 01589	Site Name: Circle K 2720886	Field Personnel: B. Belding, C. Lally, J. Gray
County: Charleston	Project Manager: Fred Lyke	General Weather Conditions:	Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter	Serial #:	Calibration:			
ph, conductivity		pH 4.0: (Y) or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: (Y) or N
Dissolved Oxygen (mg/L)		DO: Y or N			
Turbidity (NTU)		Turb.: 0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: ~~[illegible]~~ RW-12	Well Diameter (in): ~~2~~ 4	Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Bailer Pump
MW ~~IW~~ ~~RW~~ ~~Other~~ ~~Private WSW~~ ~~Public WSW~~		Screened Interval (ft.): 1.0 6.0	Total Well Depth (TWD) (ft.): 6.0
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 0.86		Free Product Thickness (ft.): —
Length of water column (LWC = TWD – DGW) (ft.): 5.14	3 casing volume (CV = LWC x Cx3) (gals.): 3.35		5 casing volumes (6 x CV) (gals.): 3.75

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)	15~~10~~:49	15:54						15:56
PH (s.u.)	4.89	4.42						
Specific Conductivity (µS/cm)	315	344						
Water Temperature (°C)	26.26	25.82						
Turbidity (NTU)	8.9	1000+						
Dissolved Oxygen (mg/L)	3.15	1.71						

Sampling Data

Sampled By: B. Belding, C. Lally, J. Gray	Sampling Time: 15:56	Duplicate: Y or N	If yes, Duplicate Time:

Notes: Circle K 2720886

Signature:

APPENDIX C

LABORATORY ANALYTICAL REPORT

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

July 19, 2019

Brad Hubbard
ATC Group Services
112 Parklane Center
7499 Parklane Road
Columbia, SC 29223

RE: Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Dear Brad Hubbard:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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.

Trip Blanks were damaged for this order and no data is available.

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

Sincerely,

Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Fred Lyke, ATC Group Services LLC

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CERTIFICATIONS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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

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SAMPLE ANALYTE COUNT

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92436727001	WSW-1	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727002	WSW-2	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727003	WSW-3	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727004	WSW-4	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727005	WSW-5	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727006	WSW-6	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727007	WSW-7	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727008	WSW-8	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727009	WSW-9	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727010	WSW-10	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727011	WSW-11	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727012	WSW-12	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727013	WSW-13	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727014	WSW-14	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727015	WSW-16	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727016	WSW-17	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727017	WSW-18	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727018	WSW-19	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727019	WSW-22	EPA 524.2	JLR	10	PASI-O

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SAMPLE ANALYTE COUNT

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260B	SAS	11	PASI-C
92436727020	WSW-23	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727021	WSW-24	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727022	WSW-25	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727023	WSW-26	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727024	DUP 1	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727025	DUP 2	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C
92436727026	FB1	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727027	FB2	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727028	FB3	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	CL	11	PASI-C
92436727029	WSW 2D	EPA 524.2	JLR	10	PASI-O
		EPA 8260B	SAS	11	PASI-C

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-1 **Lab ID: 92436727001** Collected: 07/09/19 09:25 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 15:57	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 15:57	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 15:57	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 15:57	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 15:57	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 15:57	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 15:57	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 15:57	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 15:57	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 15:57	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:10	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:10	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:10	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:10	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:10	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:10	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	1		07/15/19 20:10	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/15/19 20:10	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		07/15/19 20:10	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-2 **Lab ID: 92436727002** Collected: 07/09/19 10:07 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 16:45	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 16:45	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 16:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 16:45	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 16:45	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 16:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 16:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 16:45	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 16:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 16:45	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:29	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:29	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:29	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:29	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:29	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/15/19 20:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		07/15/19 20:29	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 20:29	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-3 **Lab ID: 92436727003** Collected: 07/09/19 09:37 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 16:21	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 16:21	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 16:21	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 16:21	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 16:21	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 16:21	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 16:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 16:21	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 16:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 16:21	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:47	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:47	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:47	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:47	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:47	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/15/19 20:47	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		07/15/19 20:47	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		07/15/19 20:47	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-4 **Lab ID: 92436727004** Collected: 07/09/19 10:18 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 17:09	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 17:09	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 17:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 17:09	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 17:09	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 17:09	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 17:09	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 17:09	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 17:09	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 17:09	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 21:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 21:05	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 21:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 21:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 21:05	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 21:05	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 21:05	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 21:05	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/15/19 21:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		07/15/19 21:05	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 21:05	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-5 **Lab ID: 92436727005** Collected: 07/09/19 10:37 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 17:32	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 17:32	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 17:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 17:32	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 17:32	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 17:32	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 17:32	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 17:32	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 17:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 17:32	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 21:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 21:23	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 21:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 21:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 21:23	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 21:23	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 21:23	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 21:23	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/15/19 21:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/15/19 21:23	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		07/15/19 21:23	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-6 **Lab ID: 92436727006** Collected: 07/09/19 10:57 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 21:06	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 21:06	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 21:06	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 21:06	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 21:06	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 21:06	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 21:06	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 21:06	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 21:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 21:06	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 21:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 21:42	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 21:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 21:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 21:42	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 21:42	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 21:42	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 21:42	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/15/19 21:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		07/15/19 21:42	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		07/15/19 21:42	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-7 **Lab ID: 92436727007** Collected: 07/09/19 11:21 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 21:29	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 21:29	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 21:29	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 21:29	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 21:29	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 21:29	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 21:29	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 21:29	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 21:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 21:29	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 22:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 22:00	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 22:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 22:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 22:00	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 22:00	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 22:00	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 22:00	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/15/19 22:00	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		07/15/19 22:00	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		07/15/19 22:00	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-8 **Lab ID: 92436727008** Collected: 07/09/19 11:41 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 21:53	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 21:53	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 21:53	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 21:53	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 21:53	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 21:53	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 21:53	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/18/19 21:53	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 21:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 21:53	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 22:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 22:18	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 22:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 22:18	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 22:18	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 22:18	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 22:18	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 22:18	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/15/19 22:18	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/15/19 22:18	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		07/15/19 22:18	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-9 **Lab ID: 92436727009** Collected: 07/09/19 11:59 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 22:17	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 22:17	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 22:17	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 22:17	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 22:17	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 22:17	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 22:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/18/19 22:17	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 22:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 22:17	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 22:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 22:37	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 22:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 22:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 22:37	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 22:37	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 22:37	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 22:37	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/15/19 22:37	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		07/15/19 22:37	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 22:37	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-10 **Lab ID: 92436727010** Collected: 07/09/19 12:42 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 23:04	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 23:04	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 23:04	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 23:04	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 23:04	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 23:04	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 23:04	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 23:04	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 23:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 23:04	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 22:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 22:55	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 22:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 22:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 22:55	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 22:55	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 22:55	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 22:55	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/15/19 22:55	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		07/15/19 22:55	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 22:55	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-11 **Lab ID: 92436727011** Collected: 07/09/19 13:02 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 23:28	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 23:28	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 23:28	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 23:28	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 23:28	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 23:28	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 23:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/18/19 23:28	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 23:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 23:28	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 23:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 23:13	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 23:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 23:13	75-65-0	M1
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 23:13	762-75-4	P5
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 23:13	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 23:13	64-17-5	M1
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 23:13	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/15/19 23:13	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/15/19 23:13	17060-07-0	
Toluene-d8 (S)	103	%	70-130	1		07/15/19 23:13	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-12 **Lab ID: 92436727012** Collected: 07/08/19 15:46 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 15:34	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 15:34	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 15:34	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 15:34	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 15:34	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 15:34	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 15:34	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 15:34	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 15:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 15:34	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 23:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 23:31	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 23:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 23:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 23:31	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 23:31	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 23:31	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 23:31	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/15/19 23:31	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		07/15/19 23:31	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 23:31	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-13 **Lab ID: 92436727013** Collected: 07/10/19 13:52 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/19/19 00:15	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/19/19 00:15	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/19/19 00:15	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/19/19 00:15	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/19/19 00:15	91-20-3	
Toluene	ND	ug/L	0.50	1		07/19/19 00:15	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/19/19 00:15	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/19/19 00:15	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/19/19 00:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/19/19 00:15	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 21:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 21:16	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 21:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 21:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 21:16	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 21:16	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 21:16	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 21:16	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/15/19 21:16	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	1		07/15/19 21:16	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/15/19 21:16	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-14 **Lab ID: 92436727014** Collected: 07/08/19 14:20 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 14:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 14:22	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 14:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 14:22	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 14:22	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 14:22	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 14:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 14:22	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 14:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 14:22	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 21:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 21:34	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 21:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 21:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 21:34	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 21:34	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 21:34	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 21:34	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/15/19 21:34	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		07/15/19 21:34	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/15/19 21:34	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-16 **Lab ID: 92436727015** Collected: 07/10/19 14:16 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/19/19 00:38	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/19/19 00:38	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/19/19 00:38	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/19/19 00:38	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/19/19 00:38	91-20-3	
Toluene	ND	ug/L	0.50	1		07/19/19 00:38	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/19/19 00:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/19/19 00:38	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/19/19 00:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/19/19 00:38	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:23	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:23	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:23	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:23	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:23	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/15/19 20:23	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130	1		07/15/19 20:23	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		07/15/19 20:23	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-17 **Lab ID: 92436727016** Collected: 07/08/19 13:22 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 13:58	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 13:58	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 13:58	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 13:58	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 13:58	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 13:58	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 13:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/18/19 13:58	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 13:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 13:58	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 17:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 17:42	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 17:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 17:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 17:42	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 17:42	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 17:42	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 17:42	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/15/19 17:42	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/15/19 17:42	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/15/19 17:42	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-18 **Lab ID: 92436727017** Collected: 07/08/19 13:07 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 13:35	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 13:35	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 13:35	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 13:35	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 13:35	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 13:35	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 13:35	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 13:35	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 13:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 13:35	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:00	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:00	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:00	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:00	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:00	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/15/19 18:00	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	1		07/15/19 18:00	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		07/15/19 18:00	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-19 **Lab ID: 92436727018** Collected: 07/08/19 12:50 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 13:11	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 13:11	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 13:11	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 13:11	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 13:11	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 13:11	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 13:11	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 13:11	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 13:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 13:11	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:18	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:18	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:18	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:18	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:18	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:18	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/15/19 18:18	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		07/15/19 18:18	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		07/15/19 18:18	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-22 **Lab ID: 92436727019** Collected: 07/08/19 12:22 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 12:47	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 12:47	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 12:47	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 12:47	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 12:47	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 12:47	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 12:47	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/18/19 12:47	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 12:47	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 12:47	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:36	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:36	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:36	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:36	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:36	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/15/19 18:36	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/15/19 18:36	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/15/19 18:36	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-23 **Lab ID: 92436727020** Collected: 07/08/19 12:17 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 12:23	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 12:23	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 12:23	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 12:23	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 12:23	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 12:23	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 12:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 12:23	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 12:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 12:23	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:54	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:54	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:54	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:54	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:54	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/15/19 18:54	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/15/19 18:54	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		07/15/19 18:54	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-24 **Lab ID: 92436727021** Collected: 07/10/19 13:30 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 23:51	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 23:51	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 23:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 23:51	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 23:51	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 23:51	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 23:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/18/19 23:51	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 23:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 23:51	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 19:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 19:11	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 19:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 19:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 19:11	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 19:11	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 19:11	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 19:11	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/15/19 19:11	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		07/15/19 19:11	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/15/19 19:11	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-25 **Lab ID: 92436727022** Collected: 07/08/19 15:03 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 14:46	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 14:46	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 14:46	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 14:46	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 14:46	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 14:46	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 14:46	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 14:46	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		07/18/19 14:46	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 14:46	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 19:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 19:29	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 19:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 19:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 19:29	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 19:29	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 19:29	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 19:29	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/15/19 19:29	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/15/19 19:29	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/15/19 19:29	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW-26 **Lab ID: 92436727023** Collected: 07/08/19 15:17 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 15:10	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 15:10	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 15:10	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 15:10	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 15:10	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 15:10	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 15:10	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 15:10	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 15:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/18/19 15:10	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 19:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 19:47	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 19:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 19:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 19:47	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 19:47	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 19:47	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 19:47	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/15/19 19:47	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/15/19 19:47	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		07/15/19 19:47	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: DUP 1 **Lab ID: 92436727024** Collected: 07/09/19 10:39 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 20:42	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 20:42	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 20:42	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 20:42	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 20:42	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 20:42	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 20:42	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/18/19 20:42	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 20:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 20:42	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:05	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:05	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:05	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:05	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:05	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/15/19 20:05	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		07/15/19 20:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/15/19 20:05	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: DUP 2 **Lab ID: 92436727025** Collected: 07/09/19 12:03 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 22:40	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 22:40	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 22:40	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 22:40	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 22:40	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 22:40	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 22:40	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		07/18/19 22:40	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/18/19 22:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/18/19 22:40	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:40	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:40	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:40	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:40	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:40	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/15/19 20:40	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/15/19 20:40	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/15/19 20:40	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: FB1 **Lab ID: 92436727026** Collected: 07/08/19 12:03 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/18/19 12:00	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/18/19 12:00	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/18/19 12:00	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/18/19 12:00	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/18/19 12:00	91-20-3	
Toluene	ND	ug/L	0.50	1		07/18/19 12:00	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/18/19 12:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/18/19 12:00	460-00-4	
Toluene-d8 (S)	97	%	70-130	1		07/18/19 12:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		07/18/19 12:00	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:58	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:58	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:58	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:58	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:58	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/15/19 18:58	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		07/15/19 18:58	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		07/15/19 18:58	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: FB2 **Lab ID: 92436727027** Collected: 07/09/19 13:17 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/19/19 01:25	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/19/19 01:25	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/19/19 01:25	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/19/19 01:25	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/19/19 01:25	91-20-3	
Toluene	ND	ug/L	0.50	1		07/19/19 01:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/19/19 01:25	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		07/19/19 01:25	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/19/19 01:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/19/19 01:25	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:21	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:21	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:21	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:21	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:21	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	1		07/15/19 18:21	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/15/19 18:21	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		07/15/19 18:21	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: FB3 **Lab ID: 92436727028** Collected: 07/10/19 10:01 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/19/19 01:49	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/19/19 01:49	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/19/19 01:49	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/19/19 01:49	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/19/19 01:49	91-20-3	
Toluene	ND	ug/L	0.50	1		07/19/19 01:49	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/19/19 01:49	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/19/19 01:49	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/19/19 01:49	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/19/19 01:49	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 18:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 18:39	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 18:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 18:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 18:39	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 18:39	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 18:39	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 18:39	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		07/15/19 18:39	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		07/15/19 18:39	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/15/19 18:39	2037-26-5	

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ANALYTICAL RESULTS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Sample: WSW 2D **Lab ID: 92436727029** Collected: 07/09/19 10:10 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2							
Benzene	ND	ug/L	0.50	1		07/19/19 01:02	71-43-2	
1,2-Dichloroethane	ND	ug/L	0.50	1		07/19/19 01:02	107-06-2	
Ethylbenzene	ND	ug/L	0.50	1		07/19/19 01:02	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		07/19/19 01:02	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		07/19/19 01:02	91-20-3	
Toluene	ND	ug/L	0.50	1		07/19/19 01:02	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/19/19 01:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/19/19 01:02	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		07/19/19 01:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		07/19/19 01:02	17060-07-0	
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/15/19 20:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/15/19 20:58	994-05-8	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/15/19 20:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/15/19 20:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/15/19 20:58	762-75-4	
Diisopropyl ether	ND	ug/L	1.0	1		07/15/19 20:58	108-20-3	
Ethanol	ND	ug/L	200	1		07/15/19 20:58	64-17-5	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/15/19 20:58	637-92-3	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/15/19 20:58	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		07/15/19 20:58	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/15/19 20:58	2037-26-5	

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

QC Batch: 554976 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV
Associated Lab Samples: 92436727001, 92436727002, 92436727003, 92436727004, 92436727005, 92436727012, 92436727014, 92436727016, 92436727017, 92436727018, 92436727019, 92436727020, 92436727022, 92436727023, 92436727026

METHOD BLANK: 3010666 Matrix: Water
Associated Lab Samples: 92436727001, 92436727002, 92436727003, 92436727004, 92436727005, 92436727012, 92436727014, 92436727016, 92436727017, 92436727018, 92436727019, 92436727020, 92436727022, 92436727023, 92436727026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	0.50	07/18/19 09:38	
Benzene	ug/L	ND	0.50	07/18/19 09:38	
Ethylbenzene	ug/L	ND	0.50	07/18/19 09:38	
Methyl-tert-butyl ether	ug/L	ND	0.50	07/18/19 09:38	
Naphthalene	ug/L	ND	0.50	07/18/19 09:38	
Toluene	ug/L	ND	0.50	07/18/19 09:38	
Xylene (Total)	ug/L	ND	1.0	07/18/19 09:38	
1,2-Dichloroethane-d4 (S)	%	107	70-130	07/18/19 09:38	
4-Bromofluorobenzene (S)	%	98	70-130	07/18/19 09:38	
Toluene-d8 (S)	%	98	70-130	07/18/19 09:38	

LABORATORY CONTROL SAMPLE & LCSD: 3010667 3010668

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	40	38.1	37.3	95	93	70-130	2	20	
Benzene	ug/L	40	40.6	41.2	101	103	70-130	1	20	
Ethylbenzene	ug/L	40	40.8	41.2	102	103	70-130	1	20	
Methyl-tert-butyl ether	ug/L	40	34.9	36.2	87	91	70-130	4	20	
Naphthalene	ug/L	40	37.8	38.9	95	97	70-130	3	20	
Toluene	ug/L	40	38.7	39.2	97	98	70-130	1	20	
Xylene (Total)	ug/L	120	126	126	105	105	70-130	0	20	
1,2-Dichloroethane-d4 (S)	%				102	100	70-130			
4-Bromofluorobenzene (S)	%				99	100	70-130			
Toluene-d8 (S)	%				102	102	70-130			

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

QC Batch: 554977 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV
Associated Lab Samples: 92436727006, 92436727007, 92436727008, 92436727009, 92436727010, 92436727011, 92436727013, 92436727015, 92436727021, 92436727024, 92436727025, 92436727027, 92436727028, 92436727029

METHOD BLANK: 3010669 Matrix: Water
Associated Lab Samples: 92436727006, 92436727007, 92436727008, 92436727009, 92436727010, 92436727011, 92436727013, 92436727015, 92436727021, 92436727024, 92436727025, 92436727027, 92436727028, 92436727029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	0.50	07/18/19 20:19	
Benzene	ug/L	ND	0.50	07/18/19 20:19	
Ethylbenzene	ug/L	ND	0.50	07/18/19 20:19	
Methyl-tert-butyl ether	ug/L	ND	0.50	07/18/19 20:19	
Naphthalene	ug/L	ND	0.50	07/18/19 20:19	
Toluene	ug/L	ND	0.50	07/18/19 20:19	
Xylene (Total)	ug/L	ND	1.0	07/18/19 20:19	
1,2-Dichloroethane-d4 (S)	%	108	70-130	07/18/19 20:19	
4-Bromofluorobenzene (S)	%	99	70-130	07/18/19 20:19	
Toluene-d8 (S)	%	97	70-130	07/18/19 20:19	

LABORATORY CONTROL SAMPLE & LCSD: 3010670 3010671

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	40	38.8	38.2	97	96	70-130	2	20	
Benzene	ug/L	40	38.7	39.1	97	98	70-130	1	20	
Ethylbenzene	ug/L	40	39.4	39.4	99	98	70-130	0	20	
Methyl-tert-butyl ether	ug/L	40	33.5	35.4	84	89	70-130	6	20	
Naphthalene	ug/L	40	40.4	41.0	101	102	70-130	2	20	
Toluene	ug/L	40	36.8	37.0	92	93	70-130	1	20	
Xylene (Total)	ug/L	120	122	122	102	102	70-130	0	20	
1,2-Dichloroethane-d4 (S)	%				103	102	70-130			
4-Bromofluorobenzene (S)	%				101	102	70-130			
Toluene-d8 (S)	%				102	102	70-130			

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

QC Batch: 486476 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436727001, 92436727002, 92436727003, 92436727004, 92436727005, 92436727006, 92436727007, 92436727008, 92436727009, 92436727010, 92436727011, 92436727012, 92436727026, 92436727027, 92436727028

METHOD BLANK: 2627341 Matrix: Water
Associated Lab Samples: 92436727001, 92436727002, 92436727003, 92436727004, 92436727005, 92436727006, 92436727007, 92436727008, 92436727009, 92436727010, 92436727011, 92436727012, 92436727026, 92436727027, 92436727028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/15/19 17:08	
Diisopropyl ether	ug/L	ND	1.0	07/15/19 17:08	
Ethanol	ug/L	ND	200	07/15/19 17:08	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/15/19 17:08	
tert-Amyl Alcohol	ug/L	ND	100	07/15/19 17:08	
tert-Amylmethyl ether	ug/L	ND	10.0	07/15/19 17:08	
tert-Butyl Alcohol	ug/L	ND	100	07/15/19 17:08	
tert-Butyl Formate	ug/L	ND	50.0	07/15/19 17:08	
1,2-Dichloroethane-d4 (S)	%	101	70-130	07/15/19 17:08	
4-Bromofluorobenzene (S)	%	105	70-130	07/15/19 17:08	
Toluene-d8 (S)	%	104	70-130	07/15/19 17:08	

LABORATORY CONTROL SAMPLE: 2627342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	1000	1080	108	70-130	
Diisopropyl ether	ug/L	50	54.4	109	70-130	
Ethanol	ug/L	2000	2110	105	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
tert-Amyl Alcohol	ug/L	1000	997	100	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	507	101	70-130	
tert-Butyl Formate	ug/L	400	496	124	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 2627343

Parameter	Units	92436727011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	400	447	112	70-130	
Diisopropyl ether	ug/L	ND	20	23.1	116	70-130	
Ethanol	ug/L	ND	800	1090	136	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	42.2	105	70-130	
tert-Amyl Alcohol	ug/L	ND	400	376	94	70-130	

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

MATRIX SPIKE SAMPLE: 2627343

Parameter	Units	92436727011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
tert-Amylmethyl ether	ug/L	ND	40	43.1	108	70-130	
tert-Butyl Alcohol	ug/L	ND	200	280	140	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	15	70-130	P5
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 2627344

Parameter	Units	92436727012 Result	Dup Result	RPD	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		
Diisopropyl ether	ug/L	ND	ND		
Ethanol	ug/L	ND	ND		
Ethyl-tert-butyl ether	ug/L	ND	ND		
tert-Amyl Alcohol	ug/L	ND	ND		
tert-Amylmethyl ether	ug/L	ND	ND		
tert-Butyl Alcohol	ug/L	ND	ND		
tert-Butyl Formate	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	98	101		
4-Bromofluorobenzene (S)	%	101	98		
Toluene-d8 (S)	%	104	107		

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

QC Batch: 486480 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436727013, 92436727014, 92436727015, 92436727016, 92436727017, 92436727018, 92436727019, 92436727020, 92436727021, 92436727022, 92436727023, 92436727024, 92436727025, 92436727029

METHOD BLANK: 2627354 Matrix: Water
Associated Lab Samples: 92436727013, 92436727014, 92436727015, 92436727016, 92436727017, 92436727018, 92436727019, 92436727020, 92436727021, 92436727022, 92436727023, 92436727024, 92436727025, 92436727029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/15/19 17:06	
Diisopropyl ether	ug/L	ND	1.0	07/15/19 17:06	
Ethanol	ug/L	ND	200	07/15/19 17:06	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/15/19 17:06	
tert-Amyl Alcohol	ug/L	ND	100	07/15/19 17:06	
tert-Amylmethyl ether	ug/L	ND	10.0	07/15/19 17:06	
tert-Butyl Alcohol	ug/L	ND	100	07/15/19 17:06	
tert-Butyl Formate	ug/L	ND	50.0	07/15/19 17:06	
1,2-Dichloroethane-d4 (S)	%	106	70-130	07/15/19 17:06	
4-Bromofluorobenzene (S)	%	98	70-130	07/15/19 17:06	
Toluene-d8 (S)	%	97	70-130	07/15/19 17:06	

LABORATORY CONTROL SAMPLE: 2627355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	1000	1100	110	70-130	
Diisopropyl ether	ug/L	50	50.0	100	70-130	
Ethanol	ug/L	2000	1870	94	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.0	96	70-130	
tert-Amyl Alcohol	ug/L	1000	981	98	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	442	88	70-130	
tert-Butyl Formate	ug/L	400	426	106	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 2627357

Parameter	Units	92436716002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	400	437	109	70-130	
Diisopropyl ether	ug/L	ND	20	20.3	102	70-130	
Ethanol	ug/L	ND	800	811	101	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	38.5	96	70-130	
tert-Amyl Alcohol	ug/L	ND	400	413	103	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.5	99	70-130	
tert-Butyl Alcohol	ug/L	ND	200	207	103	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

MATRIX SPIKE SAMPLE: 2627357

Parameter	Units	92436716002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	ND	160	141	88	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 2627356

Parameter	Units	92436716001 Result	Dup Result	RPD	Qualifiers
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		
Diisopropyl ether	ug/L	ND	ND		
Ethanol	ug/L	ND	ND		
Ethyl-tert-butyl ether	ug/L	ND	ND		
tert-Amyl Alcohol	ug/L	ND	ND		
tert-Amylmethyl ether	ug/L	ND	ND		
tert-Butyl Alcohol	ug/L	ND	ND		
tert-Butyl Formate	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	110	104		
4-Bromofluorobenzene (S)	%	97	99		
Toluene-d8 (S)	%	98	99		

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QUALIFIERS

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

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
PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92436727001	WSW-1	EPA 524.2	554976		
92436727002	WSW-2	EPA 524.2	554976		
92436727003	WSW-3	EPA 524.2	554976		
92436727004	WSW-4	EPA 524.2	554976		
92436727005	WSW-5	EPA 524.2	554976		
92436727006	WSW-6	EPA 524.2	554977		
92436727007	WSW-7	EPA 524.2	554977		
92436727008	WSW-8	EPA 524.2	554977		
92436727009	WSW-9	EPA 524.2	554977		
92436727010	WSW-10	EPA 524.2	554977		
92436727011	WSW-11	EPA 524.2	554977		
92436727012	WSW-12	EPA 524.2	554976		
92436727013	WSW-13	EPA 524.2	554977		
92436727014	WSW-14	EPA 524.2	554976		
92436727015	WSW-16	EPA 524.2	554977		
92436727016	WSW-17	EPA 524.2	554976		
92436727017	WSW-18	EPA 524.2	554976		
92436727018	WSW-19	EPA 524.2	554976		
92436727019	WSW-22	EPA 524.2	554976		
92436727020	WSW-23	EPA 524.2	554976		
92436727021	WSW-24	EPA 524.2	554977		
92436727022	WSW-25	EPA 524.2	554976		
92436727023	WSW-26	EPA 524.2	554976		
92436727024	DUP 1	EPA 524.2	554977		
92436727025	DUP 2	EPA 524.2	554977		
92436727026	FB1	EPA 524.2	554976		
92436727027	FB2	EPA 524.2	554977		
92436727028	FB3	EPA 524.2	554977		
92436727029	WSW 2D	EPA 524.2	554977		
92436727001	WSW-1	EPA 8260B	486476		
92436727002	WSW-2	EPA 8260B	486476		
92436727003	WSW-3	EPA 8260B	486476		
92436727004	WSW-4	EPA 8260B	486476		
92436727005	WSW-5	EPA 8260B	486476		
92436727006	WSW-6	EPA 8260B	486476		
92436727007	WSW-7	EPA 8260B	486476		
92436727008	WSW-8	EPA 8260B	486476		
92436727009	WSW-9	EPA 8260B	486476		
92436727010	WSW-10	EPA 8260B	486476		
92436727011	WSW-11	EPA 8260B	486476		
92436727012	WSW-12	EPA 8260B	486476		
92436727013	WSW-13	EPA 8260B	486480		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GROUNDWATER & WSW
Pace Project No.: 92436727

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92436727014	WSW-14	EPA 8260B	486480		
92436727015	WSW-16	EPA 8260B	486480		
92436727016	WSW-17	EPA 8260B	486480		
92436727017	WSW-18	EPA 8260B	486480		
92436727018	WSW-19	EPA 8260B	486480		
92436727019	WSW-22	EPA 8260B	486480		
92436727020	WSW-23	EPA 8260B	486480		
92436727021	WSW-24	EPA 8260B	486480		
92436727022	WSW-25	EPA 8260B	486480		
92436727023	WSW-26	EPA 8260B	486480		
92436727024	DUP 1	EPA 8260B	486480		
92436727025	DUP 2	EPA 8260B	486480		
92436727026	FB1	EPA 8260B	486476		
92436727027	FB2	EPA 8260B	486476		
92436727028	FB3	EPA 8260B	486476		
92436727029	WSW 2D	EPA 8260B	486480		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: AtC

Project WO#: 92436727

92436727

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

Custody Seal Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Date/Initials Person Examining Contents: M.B 7-12-19

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

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 92T048

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp (°C): 1.4 Correction Factor: Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 1.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

				Comments/Discrepancy:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☒ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	4.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☒ N/A	8.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☒ No	☐ N/A	10.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☒ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: TE Date: 7/16

Project Manager SRF Review: R Date: 7/16

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	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#: 92436727**

PM: PTE Due Date: 07/19/19

CLIENT: 92-ATC_Colum

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-VPH/Gas kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1	\				\	\	\	\			\		\	\	\	6								\	\			
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	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®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

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

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

Project # **WO#: 92436727**

PM: PTE Due Date: 07/19/19

CLIENT: 92-ATC_Colum

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Project # **WO# : 92436727**

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Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 3

Section A
Required Client Information:

Company:	ATC Columbia
Address:	7499 Parklane Road
Suite 112, Columbia, SC 29223	
Email:	braden.belding@atcgs.com
Phone:	(803)735-0003 Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	Braden Belding
Copy To:	
Purchase Order #:	
Project Name:	Groundwater & WSW
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	taylor.ezell@pace[illegible].com
Pace Profile #:	9570

Regulatory Agency	
State / Location	SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	DBB	DBB	BTEX MN 1-2 DCA (524.2)	OXYS (8260B)	Residual Chlorine (Y/N)	92436727
1	WSW-1	DW	G			7/9	0925		6				6									3		001
2	WSW-2					7/9	1007																	002
3	WSW-3					7/9	0937																	003
4	WSW-4					7/9	1018																	004
5	WSW-5					7/9	1037																	005
6	WSW-6					7/9	1057																	006
7	WSW-7					7/9	1121																	007
8	WSW-8					7/9	1141																	008
9	WSW-9					7/9	1159																	009
10	WSW-10					7/9	1242																	010
11	WSW-11					7/9	1302																	011
12	WSW-12					7/8	1546																	012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DBB	[illegible]									
	Braden Belding	7/12		[illegible]	7/12/19	1101				
	[illegible]	7-12-19	1827	[illegible]	7-12-19	1827	1.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [illegible] DATE Signed: 7/10/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

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Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	taylor.ezell@pacelabs.com
Pace Profile #:	9570

Regulatory Agency	
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SC	

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1	WSW-13	DW	G			7/10	1352		6				6							3	3		013
2	WSW-14					7/8	1420																014
3	~~WSW-15~~																						
4	WSW-16					7/10	1416																015
5	WSW-17					7/8	1322																016
6	WSW-18					7/8	1307																017
7	WSW-19					7/8	1250																018
8	WSW-22					7/8	1222																019
9	WSW-23					7/8	1217																020
10	WSW-24					7/10	1330 ~~1309~~																021
11	WSW-25					7/8	1503																022
12	WSW-26					7/8	1517																023

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DBB	[signature]									
	Braden Belding	7/12		[signature]	7-12-19	1109				
	[signature]	7-12-19	1827	[signature]	7-12-19	1828	4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/10/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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																			DBB	DBB	DBB	BTEX MN 1-2DCA (524.2)	OXYS (8260B)					92436727
1	WSW 29	DW	G																									
2	Dup 1					7/9	1039		6				6									3	3					024
3	Dup 2					7/9	1203																					025
4	FB1	WT				7/8	1203																					026
5	FB2					7/9	1317																					027
6	FB3					7/10	1001																					028
7	TB1					–	–		2				2									2						030
8	TB2					–	–		+				2									2						031
9	WSW 2D	DW	G			7/9	1010		6				6									3	3					029
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
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	Braden Belding	7/12		[illegible]	7/12/19	1101				
	[illegible]	7/12-19	1827	[illegible]	7/12-19	1827	1.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/10/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

July 19, 2019

Brad Hubbard
ATC Group Services
112 Parklane Center
7499 Parklane Road
Columbia, SC 29223

RE: Project: Groundwater
Pace Project No.: 92436725

Dear Brad Hubbard:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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,

Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Fred Lyke, ATC Group Services LLC

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without the written consent of Pace Analytical Services, LLC.

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

CERTIFICATIONS

Project: Groundwater
Pace Project No.: 92436725

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

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

SAMPLE ANALYTE COUNT

Project: Groundwater
Pace Project No.: 92436725

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92436725001	01589 MW-1	EPA 8260B	SAS	18	PASI-C
92436725002	01589 MW-2	EPA 8260B	CL	18	PASI-C
92436725003	01589 MW-3	EPA 8260B	SAS	18	PASI-C
92436725004	01589 MW-4	EPA 8260B	SAS	18	PASI-C
92436725005	01589 MW-5	EPA 8260B	SAS	18	PASI-C
92436725006	01589 MW-7	EPA 8260B	SAS	18	PASI-C
92436725007	01589 MW-8	EPA 8260B	SAS	18	PASI-C
92436725008	01589 MW-9	EPA 8260B	SAS	18	PASI-C
92436725009	01589 MW-10	EPA 8260B	SAS	18	PASI-C
92436725010	01589 MW-11	EPA 8260B	SAS	18	PASI-C
92436725011	01589 MW-12	EPA 8260B	SAS	18	PASI-C
92436725012	01589 MW-13	EPA 8260B	SAS	18	PASI-C
92436725013	01589 MW-14	EPA 8260B	SAS	18	PASI-C
92436725014	01589 MW-15	EPA 8260B	CL	18	PASI-C
92436725015	01589 MW-16	EPA 8260B	SAS	18	PASI-C
92436725016	01589 MW-17	EPA 8260B	SAS	18	PASI-C
92436725017	01589 MW-18	EPA 8260B	SAS	18	PASI-C
92436725018	01589 MW-19	EPA 8260B	SAS	18	PASI-C
92436725019	01589 MW-20	EPA 8260B	SAS	18	PASI-C
92436725020	01589 MW-21	EPA 8260B	SAS	18	PASI-C
92436725021	01589 MW-22	EPA 8260B	SAS	18	PASI-C
92436725022	01589 MW-23	EPA 8260B	SAS	18	PASI-C
92436725023	01589 MW-24	EPA 8260B	CL	18	PASI-C
92436725024	01589 MW-25	EPA 8260B	CL	18	PASI-C
92436725025	01589 MW-26	EPA 8260B	CL	18	PASI-C
92436725026	01589 MW-27	EPA 8260B	CL	18	PASI-C
92436725027	01589 MW-28	EPA 8260B	CL	18	PASI-C
92436725028	01589 MW-29	EPA 8260B	SAS	18	PASI-C
92436725029	01589 MW-30	EPA 8260B	CL	18	PASI-C
92436725030	01589 MW-31	EPA 8260B	CL	18	PASI-C
92436725031	01589 MW-32	EPA 8260B	SAS	18	PASI-C
92436725032	01589 MW-34	EPA 8260B	CL	18	PASI-C
92436725033	01589 MW-35	EPA 8260B	CL	18	PASI-C
92436725034	01589 MW-36	EPA 8260B	SAS	18	PASI-C
92436725035	01589 MW-37	EPA 8260B	CL	18	PASI-C
92436725036	01589 MW-38	EPA 8260B	CL	18	PASI-C
92436725037	01589 DMW-1	EPA 8260B	CL	18	PASI-C

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SAMPLE ANALYTE COUNT

Project: Groundwater
Pace Project No.: 92436725

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92436725038	01589 DMW-2	EPA 8260B	CL	18	PASI-C
92436725039	01589 DMW-3	EPA 8260B	SAS	18	PASI-C
92436725040	01589 DMW-4	EPA 8260B	CL	18	PASI-C
92436725041	01589 DMW-5	EPA 8260B	CL	18	PASI-C
92436725042	01589 RW-1	EPA 8260B	SAS	18	PASI-C
92436725043	01589 RW-4	EPA 8260B	SAS	18	PASI-C
92436725044	01589 RW-12	EPA 8260B	SAS	18	PASI-C
92436725045	01589 DUP-1	EPA 8260B	SAS	18	PASI-C
92436725046	01589 DUP-2	EPA 8260B	SAS	18	PASI-C
92436725047	01589 DUP-3	EPA 8260B	SAS	18	PASI-C
92436725048	01589 FB-1	EPA 8260B	SAS	18	PASI-C
92436725049	01589 FB-2	EPA 8260B	SAS	18	PASI-C
92436725050	01589 TB-1	EPA 8260B	SAS	18	PASI-C

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-1 **Lab ID: 92436725001** Collected: 07/10/19 13:28 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	25000	250		07/17/19 19:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	250		07/17/19 19:44	994-05-8	
Benzene	**17700**	ug/L	250	250		07/17/19 19:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	250		07/17/19 19:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	250		07/17/19 19:44	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	250		07/17/19 19:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	250		07/17/19 19:44	107-06-2	
Diisopropyl ether	ND	ug/L	250	250		07/17/19 19:44	108-20-3	
Ethanol	ND	ug/L	50000	250		07/17/19 19:44	64-17-5	
Ethylbenzene	**2290**	ug/L	250	250		07/17/19 19:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	250		07/17/19 19:44	637-92-3	
Methyl-tert-butyl ether	**1850**	ug/L	250	250		07/17/19 19:44	1634-04-4	
Naphthalene	ND	ug/L	250	250		07/17/19 19:44	91-20-3	
Toluene	**40400**	ug/L	250	250		07/17/19 19:44	108-88-3	
Xylene (Total)	**11400**	ug/L	250	250		07/17/19 19:44	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	250		07/17/19 19:44	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	250		07/17/19 19:44	17060-07-0	
Toluene-d8 (S)	97	%	70-130	250		07/17/19 19:44	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-2 **Lab ID: 92436725002** Collected: 07/10/19 14:36 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**16200**	ug/L	12500	125		07/18/19 21:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	125		07/18/19 21:29	994-05-8	
Benzene	**10000**	ug/L	125	125		07/18/19 21:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	125		07/18/19 21:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	125		07/18/19 21:29	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	125		07/18/19 21:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	125		07/18/19 21:29	107-06-2	
Diisopropyl ether	ND	ug/L	125	125		07/18/19 21:29	108-20-3	
Ethanol	ND	ug/L	25000	125		07/18/19 21:29	64-17-5	
Ethylbenzene	**1690**	ug/L	125	125		07/18/19 21:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	125		07/18/19 21:29	637-92-3	
Methyl-tert-butyl ether	**559**	ug/L	125	125		07/18/19 21:29	1634-04-4	
Naphthalene	**236**	ug/L	125	125		07/18/19 21:29	91-20-3	
Toluene	**21600**	ug/L	125	125		07/18/19 21:29	108-88-3	
Xylene (Total)	**9250**	ug/L	125	125		07/18/19 21:29	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	125		07/18/19 21:29	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	125		07/18/19 21:29	17060-07-0	
Toluene-d8 (S)	101	%	70-130	125		07/18/19 21:29	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-3 **Lab ID: 92436725003** Collected: 07/09/19 14:48 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 01:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 01:50	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 01:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 01:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 01:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 01:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 01:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 01:50	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 01:50	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 01:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 01:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 01:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 01:50	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 01:50	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 01:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 01:50	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		07/17/19 01:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 01:50	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-4 **Lab ID: 92436725004** Collected: 07/09/19 14:16 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 02:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 02:08	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 02:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 02:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 02:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 02:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 02:08	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 02:08	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 02:08	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 02:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 02:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 02:08	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 02:08	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 02:08	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 02:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 02:08	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/17/19 02:08	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 02:08	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-5 **Lab ID: 92436725005** Collected: 07/09/19 14:03 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 02:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 02:26	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 02:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 02:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 02:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 02:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 02:26	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 02:26	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 02:26	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 02:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 02:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 02:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 02:26	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 02:26	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 02:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 02:26	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		07/17/19 02:26	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 02:26	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-7 **Lab ID: 92436725006** Collected: 07/09/19 13:17 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	20000	200		07/17/19 19:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	200		07/17/19 19:08	994-05-8	
Benzene	**9210**	ug/L	200	200		07/17/19 19:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	200		07/17/19 19:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	200		07/17/19 19:08	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	200		07/17/19 19:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	200		07/17/19 19:08	107-06-2	
Diisopropyl ether	ND	ug/L	200	200		07/17/19 19:08	108-20-3	
Ethanol	ND	ug/L	40000	200		07/17/19 19:08	64-17-5	
Ethylbenzene	**2390**	ug/L	200	200		07/17/19 19:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	200		07/17/19 19:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	200		07/17/19 19:08	1634-04-4	
Naphthalene	**271**	ug/L	200	200		07/17/19 19:08	91-20-3	
Toluene	**34100**	ug/L	200	200		07/17/19 19:08	108-88-3	
Xylene (Total)	**12700**	ug/L	200	200		07/17/19 19:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	200		07/17/19 19:08	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	200		07/17/19 19:08	17060-07-0	
Toluene-d8 (S)	98	%	70-130	200		07/17/19 19:08	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-8 **Lab ID: 92436725007** Collected: 07/09/19 13:02 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 02:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 02:43	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 02:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 02:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 02:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 02:43	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 02:43	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 02:43	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 02:43	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 02:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 02:43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 02:43	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 02:43	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 02:43	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 02:43	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 02:43	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		07/17/19 02:43	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 02:43	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-9 **Lab ID: 92436725008** Collected: 07/09/19 12:37 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 03:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 03:01	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 03:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 03:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 03:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 03:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 03:01	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 03:01	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 03:01	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 03:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 03:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 03:01	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 03:01	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 03:01	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 03:01	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		07/17/19 03:01	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		07/17/19 03:01	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 03:01	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-10 **Lab ID: 92436725009** Collected: 07/09/19 12:09 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 03:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 03:19	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 03:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 03:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 03:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 03:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 03:19	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 03:19	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 03:19	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 03:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 03:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 03:19	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 03:19	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 03:19	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 03:19	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 03:19	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		07/17/19 03:19	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 03:19	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-11 **Lab ID: 92436725010** Collected: 07/09/19 11:30 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 03:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 03:37	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 03:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 03:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 03:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 03:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 03:37	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 03:37	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 03:37	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 03:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 03:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 03:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 03:37	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 03:37	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 03:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 03:37	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		07/17/19 03:37	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 03:37	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-12 **Lab ID: 92436725011** Collected: 07/10/19 08:59 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**1370**	ug/L	250	2.5		07/17/19 17:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	2.5		07/17/19 17:03	994-05-8	
Benzene	**410**	ug/L	2.5	2.5		07/17/19 17:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	2.5		07/17/19 17:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	2.5		07/17/19 17:03	75-65-0	
tert-Butyl Formate	ND	ug/L	125	2.5		07/17/19 17:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	2.5	2.5		07/17/19 17:03	107-06-2	
Diisopropyl ether	ND	ug/L	2.5	2.5		07/17/19 17:03	108-20-3	
Ethanol	ND	ug/L	500	2.5		07/17/19 17:03	64-17-5	
Ethylbenzene	**46.5**	ug/L	2.5	2.5		07/17/19 17:03	100-41-4	
Ethyl-tert-butyl ether	**25.9**	ug/L	25.0	2.5		07/17/19 17:03	637-92-3	
Methyl-tert-butyl ether	**9.8**	ug/L	2.5	2.5		07/17/19 17:03	1634-04-4	
Naphthalene	**9.1**	ug/L	2.5	2.5		07/17/19 17:03	91-20-3	
Toluene	**12.7**	ug/L	2.5	2.5		07/17/19 17:03	108-88-3	
Xylene (Total)	**24.5**	ug/L	2.5	2.5		07/17/19 17:03	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	2.5		07/17/19 17:03	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	2.5		07/17/19 17:03	17060-07-0	
Toluene-d8 (S)	98	%	70-130	2.5		07/17/19 17:03	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-13 **Lab ID: 92436725012** Collected: 07/10/19 09:05 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	500	5		07/17/19 17:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	5		07/17/19 17:56	994-05-8	
Benzene	**31.2**	ug/L	5.0	5		07/17/19 17:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	5		07/17/19 17:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	5		07/17/19 17:56	75-65-0	
tert-Butyl Formate	ND	ug/L	250	5		07/17/19 17:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	5		07/17/19 17:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	5		07/17/19 17:56	108-20-3	
Ethanol	ND	ug/L	1000	5		07/17/19 17:56	64-17-5	
Ethylbenzene	**490**	ug/L	5.0	5		07/17/19 17:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	5		07/17/19 17:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	5		07/17/19 17:56	1634-04-4	
Naphthalene	**164**	ug/L	5.0	5		07/17/19 17:56	91-20-3	
Toluene	**19.5**	ug/L	5.0	5		07/17/19 17:56	108-88-3	
Xylene (Total)	**1630**	ug/L	5.0	5		07/17/19 17:56	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	5		07/17/19 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	5		07/17/19 17:56	17060-07-0	
Toluene-d8 (S)	98	%	70-130	5		07/17/19 17:56	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-14 **Lab ID: 92436725013** Collected: 07/10/19 07:05 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 04:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 04:13	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 04:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 04:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 04:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 04:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 04:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 04:13	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 04:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 04:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 04:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 04:13	1634-04-4	
Naphthalene	**4.1**	ug/L	1.0	1		07/17/19 04:13	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 04:13	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 04:13	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 04:13	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130	1		07/17/19 04:13	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 04:13	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-15 **Lab ID: 92436725014** Collected: 07/10/19 07:20 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**6950**	ug/L	5000	50		07/18/19 21:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	50		07/18/19 21:12	994-05-8	
Benzene	**2840**	ug/L	50.0	50		07/18/19 21:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	50		07/18/19 21:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	50		07/18/19 21:12	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	50		07/18/19 21:12	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	50.0	50		07/18/19 21:12	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	50		07/18/19 21:12	108-20-3	
Ethanol	ND	ug/L	10000	50		07/18/19 21:12	64-17-5	
Ethylbenzene	**982**	ug/L	50.0	50		07/18/19 21:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	50		07/18/19 21:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	50		07/18/19 21:12	1634-04-4	
Naphthalene	**120**	ug/L	50.0	50		07/18/19 21:12	91-20-3	
Toluene	**7910**	ug/L	50.0	50		07/18/19 21:12	108-88-3	M1
Xylene (Total)	**4850**	ug/L	50.0	50		07/18/19 21:12	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	50		07/18/19 21:12	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	50		07/18/19 21:12	17060-07-0	
Toluene-d8 (S)	101	%	70-130	50		07/18/19 21:12	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-16 **Lab ID: 92436725015** Collected: 07/10/19 07:45 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 04:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 04:31	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 04:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 04:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 04:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 04:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 04:31	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 04:31	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 04:31	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 04:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 04:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 04:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 04:31	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 04:31	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 04:31	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 04:31	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		07/17/19 04:31	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		07/17/19 04:31	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-17 **Lab ID: 92436725016** Collected: 07/10/19 08:36 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 04:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 04:48	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 04:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 04:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 04:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 04:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 04:48	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 04:48	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 04:48	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 04:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 04:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 04:48	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 04:48	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 04:48	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 04:48	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 04:48	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/17/19 04:48	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 04:48	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-18 **Lab ID: 92436725017** Collected: 07/10/19 10:33 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 05:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 05:06	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 05:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 05:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 05:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 05:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 05:06	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 05:06	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 05:06	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 05:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 05:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 05:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 05:06	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 05:06	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 05:06	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		07/17/19 05:06	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		07/17/19 05:06	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 05:06	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-19 **Lab ID: 92436725018** Collected: 07/10/19 10:29 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 05:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 05:24	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 05:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 05:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 05:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 05:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 05:24	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 05:24	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 05:24	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 05:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 05:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 05:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 05:24	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 05:24	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 05:24	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 05:24	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/17/19 05:24	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 05:24	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-20 **Lab ID: 92436725019** Collected: 07/10/19 10:20 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 05:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 05:42	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 05:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 05:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 05:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 05:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 05:42	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 05:42	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 05:42	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 05:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 05:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 05:42	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 05:42	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 05:42	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 05:42	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 05:42	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		07/17/19 05:42	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 05:42	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-21 **Lab ID: 92436725020** Collected: 07/09/19 12:57 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 06:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 06:00	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 06:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 06:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 06:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 06:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 06:00	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 06:00	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 06:00	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 06:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 06:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 06:00	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 06:00	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 06:00	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 06:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 06:00	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		07/17/19 06:00	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		07/17/19 06:00	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-22 **Lab ID: 92436725021** Collected: 07/09/19 12:10 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 06:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 06:18	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 06:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 06:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 06:18	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 06:18	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 06:18	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 06:18	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 06:18	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 06:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 06:18	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 06:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 06:18	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 06:18	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 06:18	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/17/19 06:18	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		07/17/19 06:18	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 06:18	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-23 **Lab ID: 92436725022** Collected: 07/09/19 13:57 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 06:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 06:36	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 06:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 06:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 06:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 06:36	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 06:36	107-06-2	
Diisopropyl ether	**1.3**	ug/L	1.0	1		07/17/19 06:36	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 06:36	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 06:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 06:36	637-92-3	
Methyl-tert-butyl ether	**1.8**	ug/L	1.0	1		07/17/19 06:36	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 06:36	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 06:36	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 06:36	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		07/17/19 06:36	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		07/17/19 06:36	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 06:36	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-24 **Lab ID: 92436725023** Collected: 07/09/19 10:05 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 17:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 17:00	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 17:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 17:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 17:00	75-65-0	M1
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 17:00	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 17:00	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 17:00	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 17:00	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 17:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 17:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 17:00	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 17:00	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 17:00	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 17:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/16/19 17:00	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		07/16/19 17:00	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		07/16/19 17:00	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-25 **Lab ID: 92436725024** Collected: 07/09/19 08:24 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 17:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 17:19	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 17:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 17:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 17:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 17:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 17:19	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 17:19	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 17:19	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 17:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 17:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 17:19	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 17:19	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 17:19	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 17:19	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		07/16/19 17:19	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		07/16/19 17:19	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		07/16/19 17:19	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-26 **Lab ID: 92436725025** Collected: 07/09/19 11:18 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 17:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 17:37	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 17:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 17:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 17:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 17:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 17:37	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 17:37	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 17:37	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 17:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 17:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 17:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 17:37	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 17:37	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 17:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/16/19 17:37	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		07/16/19 17:37	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		07/16/19 17:37	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-27 **Lab ID: 92436725026** Collected: 07/09/19 11:07 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 17:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 17:55	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 17:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 17:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 17:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 17:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 17:55	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 17:55	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 17:55	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 17:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 17:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 17:55	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 17:55	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 17:55	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 17:55	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		07/16/19 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		07/16/19 17:55	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		07/16/19 17:55	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-28 **Lab ID: 92436725027** Collected: 07/09/19 09:16 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 18:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 18:14	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 18:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 18:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 18:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 18:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 18:14	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 18:14	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 18:14	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 18:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 18:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 18:14	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 18:14	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 18:14	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 18:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/16/19 18:14	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		07/16/19 18:14	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		07/16/19 18:14	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-29 **Lab ID: 92436725028** Collected: 07/09/19 13:52 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 13:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 13:09	994-05-8	
Benzene	**2.2**	ug/L	1.0	1		07/17/19 13:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 13:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 13:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 13:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 13:09	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 13:09	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 13:09	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 13:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 13:09	637-92-3	
Methyl-tert-butyl ether	**7.4**	ug/L	1.0	1		07/17/19 13:09	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 13:09	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 13:09	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 13:09	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 13:09	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		07/17/19 13:09	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 13:09	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-30 **Lab ID: 92436725029** Collected: 07/09/19 12:25 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 18:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 18:32	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 18:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 18:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 18:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 18:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 18:32	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 18:32	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 18:32	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 18:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 18:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 18:32	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 18:32	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 18:32	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 18:32	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/16/19 18:32	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/16/19 18:32	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		07/16/19 18:32	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-31 **Lab ID: 92436725030** Collected: 07/09/19 09:24 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 18:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 18:50	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 18:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 18:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 18:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 18:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 18:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 18:50	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 18:50	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 18:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 18:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 18:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 18:50	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 18:50	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 18:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		07/16/19 18:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		07/16/19 18:50	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/16/19 18:50	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-32 **Lab ID: 92436725031** Collected: 07/09/19 14:58 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**284**	ug/L	200	2		07/17/19 16:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	2		07/17/19 16:45	994-05-8	
Benzene	**306**	ug/L	2.0	2		07/17/19 16:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	2		07/17/19 16:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	2		07/17/19 16:45	75-65-0	
tert-Butyl Formate	ND	ug/L	100	2		07/17/19 16:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	2.0	2		07/17/19 16:45	107-06-2	
Diisopropyl ether	ND	ug/L	2.0	2		07/17/19 16:45	108-20-3	
Ethanol	ND	ug/L	400	2		07/17/19 16:45	64-17-5	
Ethylbenzene	**9.7**	ug/L	2.0	2		07/17/19 16:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	2		07/17/19 16:45	637-92-3	
Methyl-tert-butyl ether	**11.4**	ug/L	2.0	2		07/17/19 16:45	1634-04-4	
Naphthalene	ND	ug/L	2.0	2		07/17/19 16:45	91-20-3	
Toluene	**9.3**	ug/L	2.0	2		07/17/19 16:45	108-88-3	
Xylene (Total)	**17.1**	ug/L	2.0	2		07/17/19 16:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	2		07/17/19 16:45	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	2		07/17/19 16:45	17060-07-0	
Toluene-d8 (S)	99	%	70-130	2		07/17/19 16:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-34 **Lab ID: 92436725032** Collected: 07/10/19 09:48 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 19:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 19:08	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 19:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 19:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 19:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 19:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 19:08	107-06-2	
Diisopropyl ether	**1.1**	ug/L	1.0	1		07/16/19 19:08	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 19:08	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 19:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 19:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 19:08	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 19:08	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 19:08	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 19:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		07/16/19 19:08	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		07/16/19 19:08	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/16/19 19:08	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-35 **Lab ID: 92436725033** Collected: 07/10/19 10:17 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 19:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 19:27	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 19:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 19:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 19:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 19:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 19:27	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 19:27	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 19:27	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 19:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 19:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 19:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 19:27	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 19:27	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 19:27	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/16/19 19:27	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		07/16/19 19:27	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		07/16/19 19:27	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-36 **Lab ID: 92436725034** Collected: 07/10/19 12:39 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**148**	ug/L	100	1		07/17/19 14:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 14:21	994-05-8	
Benzene	**14.5**	ug/L	1.0	1		07/17/19 14:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 14:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 14:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 14:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 14:21	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 14:21	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 14:21	64-17-5	
Ethylbenzene	**113**	ug/L	1.0	1		07/17/19 14:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 14:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 14:21	1634-04-4	
Naphthalene	**12.9**	ug/L	1.0	1		07/17/19 14:21	91-20-3	
Toluene	**102**	ug/L	1.0	1		07/17/19 14:21	108-88-3	
Xylene (Total)	**223**	ug/L	1.0	1		07/17/19 14:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		07/17/19 14:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		07/17/19 14:21	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 14:21	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-37 **Lab ID: 92436725035** Collected: 07/10/19 09:50 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 19:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 19:45	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 19:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 19:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 19:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 19:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 19:45	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 19:45	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 19:45	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 19:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 19:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 19:45	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 19:45	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 19:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 19:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	107	%	70-130	1		07/16/19 19:45	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		07/16/19 19:45	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		07/16/19 19:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 MW-38 **Lab ID: 92436725036** Collected: 07/09/19 13:40 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**138**	ug/L	100	1		07/16/19 20:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 20:03	994-05-8	
Benzene	**73.6**	ug/L	1.0	1		07/16/19 20:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 20:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 20:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 20:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 20:03	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 20:03	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 20:03	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 20:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 20:03	637-92-3	
Methyl-tert-butyl ether	**11.2**	ug/L	1.0	1		07/16/19 20:03	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 20:03	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 20:03	108-88-3	
Xylene (Total)	**2.1**	ug/L	1.0	1		07/16/19 20:03	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/16/19 20:03	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		07/16/19 20:03	17060-07-0	
Toluene-d8 (S)	103	%	70-130	1		07/16/19 20:03	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DMW-1 **Lab ID: 92436725037** Collected: 07/10/19 13:52 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 20:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 20:22	994-05-8	
Benzene	**7.1**	ug/L	1.0	1		07/16/19 20:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 20:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 20:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 20:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 20:22	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 20:22	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 20:22	64-17-5	
Ethylbenzene	**1.1**	ug/L	1.0	1		07/16/19 20:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 20:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 20:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 20:22	91-20-3	
Toluene	**1.1**	ug/L	1.0	1		07/16/19 20:22	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 20:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	105	%	70-130	1		07/16/19 20:22	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		07/16/19 20:22	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		07/16/19 20:22	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DMW-2 **Lab ID: 92436725038** Collected: 07/09/19 13:44 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 04:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 04:54	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 04:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 04:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 04:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 04:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 04:54	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 04:54	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 04:54	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 04:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 04:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 04:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 04:54	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 04:54	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 04:54	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		07/17/19 04:54	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		07/17/19 04:54	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		07/17/19 04:54	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DMW-3 **Lab ID: 92436725039** Collected: 07/09/19 10:46 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 13:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 13:27	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 13:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 13:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 13:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 13:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 13:27	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 13:27	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 13:27	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 13:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 13:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 13:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 13:27	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 13:27	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 13:27	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		07/17/19 13:27	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/17/19 13:27	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 13:27	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DMW-4 **Lab ID: 92436725040** Collected: 07/10/19 15:29 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 05:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 05:13	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 05:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 05:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 05:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 05:13	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 05:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 05:13	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 05:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 05:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 05:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 05:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 05:13	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 05:13	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 05:13	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		07/17/19 05:13	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		07/17/19 05:13	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		07/17/19 05:13	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DMW-5 **Lab ID: 92436725041** Collected: 07/10/19 14:02 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 05:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 05:31	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 05:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 05:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 05:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 05:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 05:31	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 05:31	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 05:31	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 05:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 05:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 05:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 05:31	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 05:31	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 05:31	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	1		07/17/19 05:31	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1		07/17/19 05:31	17060-07-0	
Toluene-d8 (S)	110	%	70-130	1		07/17/19 05:31	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 RW-1 **Lab ID: 92436725042** Collected: 07/10/19 14:45 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	20000	200		07/17/19 19:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	200		07/17/19 19:26	994-05-8	
Benzene	**12300**	ug/L	200	200		07/17/19 19:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	200		07/17/19 19:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	200		07/17/19 19:26	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	200		07/17/19 19:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	200		07/17/19 19:26	107-06-2	
Diisopropyl ether	ND	ug/L	200	200		07/17/19 19:26	108-20-3	
Ethanol	ND	ug/L	40000	200		07/17/19 19:26	64-17-5	
Ethylbenzene	**1700**	ug/L	200	200		07/17/19 19:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	200		07/17/19 19:26	637-92-3	
Methyl-tert-butyl ether	**1400**	ug/L	200	200		07/17/19 19:26	1634-04-4	
Naphthalene	**283**	ug/L	200	200		07/17/19 19:26	91-20-3	
Toluene	**27900**	ug/L	200	200		07/17/19 19:26	108-88-3	
Xylene (Total)	**11800**	ug/L	200	200		07/17/19 19:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	200		07/17/19 19:26	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	200		07/17/19 19:26	17060-07-0	
Toluene-d8 (S)	98	%	70-130	200		07/17/19 19:26	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 RW-4 **Lab ID: 92436725043** Collected: 07/10/19 13:06 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 13:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 13:45	994-05-8	
Benzene	**3.3**	ug/L	1.0	1		07/17/19 13:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 13:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 13:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 13:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 13:45	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 13:45	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 13:45	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 13:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 13:45	637-92-3	
Methyl-tert-butyl ether	**1.4**	ug/L	1.0	1		07/17/19 13:45	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 13:45	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 13:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 13:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 13:45	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		07/17/19 13:45	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/17/19 13:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 RW-12 **Lab ID: 92436725044** Collected: 07/10/19 15:00 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**5030**	ug/L	5000	50		07/17/19 18:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	50		07/17/19 18:14	994-05-8	
Benzene	**4360**	ug/L	50.0	50		07/17/19 18:14	71-43-2	M1
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	50		07/17/19 18:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	50		07/17/19 18:14	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	50		07/17/19 18:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	50		07/17/19 18:14	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	50		07/17/19 18:14	108-20-3	
Ethanol	ND	ug/L	10000	50		07/17/19 18:14	64-17-5	
Ethylbenzene	**556**	ug/L	50.0	50		07/17/19 18:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	50		07/17/19 18:14	637-92-3	
Methyl-tert-butyl ether	**236**	ug/L	50.0	50		07/17/19 18:14	1634-04-4	
Naphthalene	**170**	ug/L	50.0	50		07/17/19 18:14	91-20-3	
Toluene	**6410**	ug/L	50.0	50		07/17/19 18:14	108-88-3	M1
Xylene (Total)	**5080**	ug/L	50.0	50		07/17/19 18:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	50		07/17/19 18:14	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	50		07/17/19 18:14	17060-07-0	
Toluene-d8 (S)	97	%	70-130	50		07/17/19 18:14	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DUP-1 **Lab ID: 92436725045** Collected: 07/10/19 09:05 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	400	4		07/17/19 17:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	40.0	4		07/17/19 17:21	994-05-8	
Benzene	**32.6**	ug/L	4.0	4		07/17/19 17:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	400	4		07/17/19 17:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	400	4		07/17/19 17:21	75-65-0	
tert-Butyl Formate	ND	ug/L	200	4		07/17/19 17:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	4.0	4		07/17/19 17:21	107-06-2	
Diisopropyl ether	ND	ug/L	4.0	4		07/17/19 17:21	108-20-3	
Ethanol	ND	ug/L	800	4		07/17/19 17:21	64-17-5	
Ethylbenzene	**505**	ug/L	4.0	4		07/17/19 17:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	40.0	4		07/17/19 17:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	4.0	4		07/17/19 17:21	1634-04-4	
Naphthalene	**172**	ug/L	4.0	4		07/17/19 17:21	91-20-3	
Toluene	**19.3**	ug/L	4.0	4		07/17/19 17:21	108-88-3	
Xylene (Total)	**1670**	ug/L	4.0	4		07/17/19 17:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	4		07/17/19 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	4		07/17/19 17:21	17060-07-0	
Toluene-d8 (S)	99	%	70-130	4		07/17/19 17:21	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DUP-2 **Lab ID: 92436725046** Collected: 07/10/19 09:01 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	**1310**	ug/L	400	4		07/17/19 17:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	40.0	4		07/17/19 17:39	994-05-8	
Benzene	**407**	ug/L	4.0	4		07/17/19 17:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	400	4		07/17/19 17:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	400	4		07/17/19 17:39	75-65-0	
tert-Butyl Formate	ND	ug/L	200	4		07/17/19 17:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	4.0	4		07/17/19 17:39	107-06-2	
Diisopropyl ether	ND	ug/L	4.0	4		07/17/19 17:39	108-20-3	
Ethanol	ND	ug/L	800	4		07/17/19 17:39	64-17-5	
Ethylbenzene	**47.7**	ug/L	4.0	4		07/17/19 17:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	40.0	4		07/17/19 17:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	4.0	4		07/17/19 17:39	1634-04-4	
Naphthalene	**14.7**	ug/L	4.0	4		07/17/19 17:39	91-20-3	
Toluene	**12.6**	ug/L	4.0	4		07/17/19 17:39	108-88-3	
Xylene (Total)	**26.1**	ug/L	4.0	4		07/17/19 17:39	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	4		07/17/19 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	4		07/17/19 17:39	17060-07-0	
Toluene-d8 (S)	98	%	70-130	4		07/17/19 17:39	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 DUP-3 **Lab ID: 92436725047** Collected: 07/10/19 13:55 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 14:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 14:03	994-05-8	
Benzene	**8.2**	ug/L	1.0	1		07/17/19 14:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 14:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 14:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 14:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 14:03	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 14:03	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 14:03	64-17-5	
Ethylbenzene	**1.1**	ug/L	1.0	1		07/17/19 14:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 14:03	637-92-3	
Methyl-tert-butyl ether	**1.1**	ug/L	1.0	1		07/17/19 14:03	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 14:03	91-20-3	
Toluene	**1.0**	ug/L	1.0	1		07/17/19 14:03	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 14:03	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 14:03	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/17/19 14:03	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 14:03	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 FB-1 **Lab ID: 92436725048** Collected: 07/09/19 15:05 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 23:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 23:27	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 23:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 23:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 23:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 23:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 23:27	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 23:27	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 23:27	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 23:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 23:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 23:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 23:27	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 23:27	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 23:27	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		07/16/19 23:27	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		07/16/19 23:27	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/16/19 23:27	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 FB-2 **Lab ID: 92436725049** Collected: 07/10/19 16:11 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/16/19 23:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/16/19 23:45	994-05-8	
Benzene	ND	ug/L	1.0	1		07/16/19 23:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/16/19 23:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/16/19 23:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/16/19 23:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/19 23:45	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/16/19 23:45	108-20-3	
Ethanol	ND	ug/L	200	1		07/16/19 23:45	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/19 23:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/16/19 23:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/16/19 23:45	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/16/19 23:45	91-20-3	
Toluene	ND	ug/L	1.0	1		07/16/19 23:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/16/19 23:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		07/16/19 23:45	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		07/16/19 23:45	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		07/16/19 23:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Groundwater
Pace Project No.: 92436725

Sample: 01589 TB-1 **Lab ID: 92436725050** Collected: 07/10/19 00:00 Received: 07/12/19 11:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	1		07/17/19 00:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		07/17/19 00:03	994-05-8	
Benzene	ND	ug/L	1.0	1		07/17/19 00:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		07/17/19 00:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		07/17/19 00:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		07/17/19 00:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/19 00:03	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	1		07/17/19 00:03	108-20-3	
Ethanol	ND	ug/L	200	1		07/17/19 00:03	64-17-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/19 00:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		07/17/19 00:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		07/17/19 00:03	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		07/17/19 00:03	91-20-3	
Toluene	ND	ug/L	1.0	1		07/17/19 00:03	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		07/17/19 00:03	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		07/17/19 00:03	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		07/17/19 00:03	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		07/17/19 00:03	2037-26-5	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

QC Batch: 486700 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436725003, 92436725004, 92436725005, 92436725007, 92436725008, 92436725009, 92436725010, 92436725013, 92436725015, 92436725016, 92436725017, 92436725018, 92436725019, 92436725020, 92436725021, 92436725022, 92436725048, 92436725049, 92436725050

METHOD BLANK: 2628135 | Matrix: Water
Associated Lab Samples: 92436725003, 92436725004, 92436725005, 92436725007, 92436725008, 92436725009, 92436725010, 92436725013, 92436725015, 92436725016, 92436725017, 92436725018, 92436725019, 92436725020, 92436725021, 92436725022, 92436725048, 92436725049, 92436725050

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/16/19 23:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/16/19 23:09	
Benzene	ug/L	ND	1.0	07/16/19 23:09	
Diisopropyl ether	ug/L	ND	1.0	07/16/19 23:09	
Ethanol	ug/L	ND	200	07/16/19 23:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/16/19 23:09	
Ethylbenzene	ug/L	ND	1.0	07/16/19 23:09	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/16/19 23:09	
Naphthalene	ug/L	ND	1.0	07/16/19 23:09	
tert-Amyl Alcohol	ug/L	ND	100	07/16/19 23:09	
tert-Amylmethyl ether	ug/L	ND	10.0	07/16/19 23:09	
tert-Butyl Alcohol	ug/L	ND	100	07/16/19 23:09	
tert-Butyl Formate	ug/L	ND	50.0	07/16/19 23:09	
Toluene	ug/L	ND	1.0	07/16/19 23:09	
Xylene (Total)	ug/L	ND	1.0	07/16/19 23:09	
1,2-Dichloroethane-d4 (S)	%	104	70-130	07/16/19 23:09	
4-Bromofluorobenzene (S)	%	96	70-130	07/16/19 23:09	
Toluene-d8 (S)	%	98	70-130	07/16/19 23:09	

LABORATORY CONTROL SAMPLE: 2628136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.3	87	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1060	106	70-130	
Benzene	ug/L	50	49.3	99	70-130	
Diisopropyl ether	ug/L	50	48.0	96	70-130	
Ethanol	ug/L	2000	1930	97	70-130	
Ethyl-tert-butyl ether	ug/L	100	91.7	92	70-130	
Ethylbenzene	ug/L	50	50.9	102	70-130	
Methyl-tert-butyl ether	ug/L	50	46.6	93	70-130	
Naphthalene	ug/L	50	52.7	105	70-130	
tert-Amyl Alcohol	ug/L	1000	964	96	70-130	
tert-Amylmethyl ether	ug/L	100	98.1	98	70-130	
tert-Butyl Alcohol	ug/L	500	425	85	70-130	
tert-Butyl Formate	ug/L	400	417	104	70-130	
Toluene	ug/L	50	47.3	95	70-130	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

LABORATORY CONTROL SAMPLE: 2628136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	155	104	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 2628138

Parameter	Units	92436725022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.8	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	407	102	70-130	
Benzene	ug/L	ND	20	21.1	105	70-130	
Diisopropyl ether	ug/L	1.3	20	21.8	103	70-130	
Ethanol	ug/L	ND	800	750	94	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	39.4	99	70-130	
Ethylbenzene	ug/L	ND	20	21.9	109	70-130	
Methyl-tert-butyl ether	ug/L	1.8	20	21.8	100	70-130	
Naphthalene	ug/L	ND	20	19.0	95	70-130	
tert-Amyl Alcohol	ug/L	ND	400	454	114	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.3	101	70-130	
tert-Butyl Alcohol	ug/L	ND	200	261	130	70-130	
tert-Butyl Formate	ug/L	ND	160	42.5J	27	70-130	P5
Toluene	ug/L	ND	20	20.3	102	70-130	
Xylene (Total)	ug/L	ND	60	65.2	109	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 2628137

Parameter	Units	92436725021 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Diisopropyl ether	ug/L	ND	ND		
Ethanol	ug/L	ND	ND		
Ethyl-tert-butyl ether	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Naphthalene	ug/L	ND	ND		
tert-Amyl Alcohol	ug/L	ND	ND		
tert-Amylmethyl ether	ug/L	ND	ND		
tert-Butyl Alcohol	ug/L	ND	ND		
tert-Butyl Formate	ug/L	ND	ND		
Toluene	ug/L	ND	ND		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

SAMPLE DUPLICATE: 2628137

Parameter	Units	92436725021 Result	Dup Result	RPD	Qualifiers
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	105	104		
4-Bromofluorobenzene (S)	%	97	96		
Toluene-d8 (S)	%	98	99		

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

QC Batch: 486730 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436725023, 92436725024, 92436725025, 92436725026, 92436725027, 92436725029, 92436725030, 92436725032, 92436725033, 92436725035, 92436725036, 92436725037

METHOD BLANK: 2628272 | Matrix: Water
Associated Lab Samples: 92436725023, 92436725024, 92436725025, 92436725026, 92436725027, 92436725029, 92436725030, 92436725032, 92436725033, 92436725035, 92436725036, 92436725037

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/16/19 13:20	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/16/19 13:20	
Benzene	ug/L	ND	1.0	07/16/19 13:20	
Diisopropyl ether	ug/L	ND	1.0	07/16/19 13:20	
Ethanol	ug/L	ND	200	07/16/19 13:20	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/16/19 13:20	
Ethylbenzene	ug/L	ND	1.0	07/16/19 13:20	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/16/19 13:20	
Naphthalene	ug/L	ND	1.0	07/16/19 13:20	
tert-Amyl Alcohol	ug/L	ND	100	07/16/19 13:20	
tert-Amylmethyl ether	ug/L	ND	10.0	07/16/19 13:20	
tert-Butyl Alcohol	ug/L	ND	100	07/16/19 13:20	
tert-Butyl Formate	ug/L	ND	50.0	07/16/19 13:20	
Toluene	ug/L	ND	1.0	07/16/19 13:20	
Xylene (Total)	ug/L	ND	1.0	07/16/19 13:20	
1,2-Dichloroethane-d4 (S)	%	94	70-130	07/16/19 13:20	
4-Bromofluorobenzene (S)	%	101	70-130	07/16/19 13:20	
Toluene-d8 (S)	%	107	70-130	07/16/19 13:20	

LABORATORY CONTROL SAMPLE: 2628273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.7	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	941	94	70-130	
Benzene	ug/L	50	51.8	104	70-130	
Diisopropyl ether	ug/L	50	55.0	110	70-130	
Ethanol	ug/L	2000	2120	106	70-130	
Ethyl-tert-butyl ether	ug/L	100	100	100	70-130	
Ethylbenzene	ug/L	50	48.5	97	70-130	
Methyl-tert-butyl ether	ug/L	50	55.1	110	70-130	
Naphthalene	ug/L	50	49.7	99	70-130	
tert-Amyl Alcohol	ug/L	1000	949	95	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	454	91	70-130	
tert-Butyl Formate	ug/L	400	485	121	70-130	
Toluene	ug/L	50	48.2	96	70-130	
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

LABORATORY CONTROL SAMPLE: 2628273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 2628274

Parameter	Units	92436725023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.7	104	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	442	110	70-130	
Benzene	ug/L	ND	20	22.8	114	70-130	
Diisopropyl ether	ug/L	ND	20	22.0	110	70-130	
Ethanol	ug/L	ND	800	892	111	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.6	101	70-130	
Ethylbenzene	ug/L	ND	20	22.2	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.9	110	70-130	
Naphthalene	ug/L	ND	20	21.5	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	428	107	70-130	
tert-Amylmethyl ether	ug/L	ND	40	44.3	111	70-130	
tert-Butyl Alcohol	ug/L	ND	200	288	144	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	14	70-130	P5
Toluene	ug/L	ND	20	21.8	109	70-130	
Xylene (Total)	ug/L	ND	60	67.7	113	70-130	
1,2-Dichloroethane-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 2628275

Parameter	Units	92436725024 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Diisopropyl ether	ug/L	ND	ND		
Ethanol	ug/L	ND	ND		
Ethyl-tert-butyl ether	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	.91J		
Naphthalene	ug/L	ND	ND		
tert-Amyl Alcohol	ug/L	ND	ND		
tert-Amylmethyl ether	ug/L	ND	ND		
tert-Butyl Alcohol	ug/L	ND	ND		
tert-Butyl Formate	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	95	92		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

SAMPLE DUPLICATE: 2628275

Parameter	Units	92436725024 Result	Dup Result	RPD	Qualifiers
4-Bromofluorobenzene (S)	%	104	103		
Toluene-d8 (S)	%	107	107		

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

QC Batch: 486731 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436725038, 92436725040, 92436725041

METHOD BLANK: 2628280 | Matrix: Water
Associated Lab Samples: 92436725038, 92436725040, 92436725041

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/16/19 22:48	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/16/19 22:48	
Benzene	ug/L	ND	1.0	07/16/19 22:48	
Diisopropyl ether	ug/L	ND	1.0	07/16/19 22:48	
Ethanol	ug/L	ND	200	07/16/19 22:48	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/16/19 22:48	
Ethylbenzene	ug/L	ND	1.0	07/16/19 22:48	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/16/19 22:48	
Naphthalene	ug/L	ND	1.0	07/16/19 22:48	
tert-Amyl Alcohol	ug/L	ND	100	07/16/19 22:48	
tert-Amylmethyl ether	ug/L	ND	10.0	07/16/19 22:48	
tert-Butyl Alcohol	ug/L	ND	100	07/16/19 22:48	
tert-Butyl Formate	ug/L	ND	50.0	07/16/19 22:48	
Toluene	ug/L	ND	1.0	07/16/19 22:48	
Xylene (Total)	ug/L	ND	1.0	07/16/19 22:48	
1,2-Dichloroethane-d4 (S)	%	91	70-130	07/16/19 22:48	
4-Bromofluorobenzene (S)	%	100	70-130	07/16/19 22:48	
Toluene-d8 (S)	%	107	70-130	07/16/19 22:48	

LABORATORY CONTROL SAMPLE: 2628281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.8	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1100	110	70-130	
Benzene	ug/L	50	57.5	115	70-130	
Diisopropyl ether	ug/L	50	58.8	118	70-130	
Ethanol	ug/L	2000	2150	108	70-130	
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	51.7	103	70-130	
Methyl-tert-butyl ether	ug/L	50	58.5	117	70-130	
Naphthalene	ug/L	50	54.1	108	70-130	
tert-Amyl Alcohol	ug/L	1000	1010	101	70-130	
tert-Amylmethyl ether	ug/L	100	112	112	70-130	
tert-Butyl Alcohol	ug/L	500	502	100	70-130	
tert-Butyl Formate	ug/L	400	507	127	70-130	
Toluene	ug/L	50	51.8	104	70-130	
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

MATRIX SPIKE SAMPLE: 2628283

Parameter	Units	92436725040 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.3	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	412	103	70-130	
Benzene	ug/L	ND	20	21.4	107	70-130	
Diisopropyl ether	ug/L	ND	20	20.1	100	70-130	
Ethanol	ug/L	ND	800	790	99	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	37.5	94	70-130	
Ethylbenzene	ug/L	ND	20	20.1	101	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.3	102	70-130	
Naphthalene	ug/L	ND	20	19.8	99	70-130	
tert-Amyl Alcohol	ug/L	ND	400	406	101	70-130	
tert-Amylmethyl ether	ug/L	ND	40	42.0	105	70-130	
tert-Butyl Alcohol	ug/L	ND	200	255	127	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	6	70-130	P5
Toluene	ug/L	ND	20	20.5	103	70-130	
Xylene (Total)	ug/L	ND	60	60.4	101	70-130	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 2628282

Parameter	Units	92436725038 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Diisopropyl ether	ug/L	ND	ND		
Ethanol	ug/L	ND	ND		
Ethyl-tert-butyl ether	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Methyl-tert-butyl ether	ug/L	ND	ND		
Naphthalene	ug/L	ND	ND		
tert-Amyl Alcohol	ug/L	ND	ND		
tert-Amylmethyl ether	ug/L	ND	ND		
tert-Butyl Alcohol	ug/L	ND	ND		
tert-Butyl Formate	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	90	93		
4-Bromofluorobenzene (S)	%	103	99		
Toluene-d8 (S)	%	107	104		

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

QC Batch: 486842 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436725001, 92436725006, 92436725011, 92436725012, 92436725028, 92436725031, 92436725034, 92436725039, 92436725042, 92436725043, 92436725044, 92436725045, 92436725046, 92436725047

METHOD BLANK: 2628627 | Matrix: Water
Associated Lab Samples: 92436725001, 92436725006, 92436725011, 92436725012, 92436725028, 92436725031, 92436725034, 92436725039, 92436725042, 92436725043, 92436725044, 92436725045, 92436725046, 92436725047

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/17/19 12:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/17/19 12:16	
Benzene	ug/L	ND	1.0	07/17/19 12:16	
Diisopropyl ether	ug/L	ND	1.0	07/17/19 12:16	
Ethanol	ug/L	ND	200	07/17/19 12:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/17/19 12:16	
Ethylbenzene	ug/L	ND	1.0	07/17/19 12:16	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/17/19 12:16	
Naphthalene	ug/L	ND	1.0	07/17/19 12:16	
tert-Amyl Alcohol	ug/L	ND	100	07/17/19 12:16	
tert-Amylmethyl ether	ug/L	ND	10.0	07/17/19 12:16	
tert-Butyl Alcohol	ug/L	ND	100	07/17/19 12:16	
tert-Butyl Formate	ug/L	ND	50.0	07/17/19 12:16	
Toluene	ug/L	ND	1.0	07/17/19 12:16	
Xylene (Total)	ug/L	ND	1.0	07/17/19 12:16	
1,2-Dichloroethane-d4 (S)	%	103	70-130	07/17/19 12:16	
4-Bromofluorobenzene (S)	%	95	70-130	07/17/19 12:16	
Toluene-d8 (S)	%	99	70-130	07/17/19 12:16	

LABORATORY CONTROL SAMPLE: 2628628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.4	85	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	947	95	70-130	
Benzene	ug/L	50	48.7	97	70-130	
Diisopropyl ether	ug/L	50	47.8	96	70-130	
Ethanol	ug/L	2000	1670	84	70-130	
Ethyl-tert-butyl ether	ug/L	100	91.1	91	70-130	
Ethylbenzene	ug/L	50	49.3	99	70-130	
Methyl-tert-butyl ether	ug/L	50	46.4	93	70-130	
Naphthalene	ug/L	50	49.5	99	70-130	
tert-Amyl Alcohol	ug/L	1000	892	89	70-130	
tert-Amylmethyl ether	ug/L	100	95.8	96	70-130	
tert-Butyl Alcohol	ug/L	500	403	81	70-130	
tert-Butyl Formate	ug/L	400	406	101	70-130	
Toluene	ug/L	50	47.0	94	70-130	
Xylene (Total)	ug/L	150	149	100	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

LABORATORY CONTROL SAMPLE: 2628628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			95	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2628629 2628630

Parameter	Units	92436725044 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dichloroethane	ug/L	ND	1000	1000	883	889	88	89	70-130	1	
3,3-Dimethyl-1-Butanol	ug/L	ND	20000	20000	19500	19400	97	97	70-130	1	
Benzene	ug/L	4360	1000	1000	5420	5910	106	155	70-130	9	M1
Diisopropyl ether	ug/L	ND	1000	1000	984	998	98	100	70-130	1	
Ethanol	ug/L	ND	40000	40000	36000	37300	90	93	70-130	3	
Ethyl-tert-butyl ether	ug/L	ND	2000	2000	2020	2040	95	96	70-130	1	
Ethylbenzene	ug/L	556	1000	1000	1610	1660	106	111	70-130	3	
Methyl-tert-butyl ether	ug/L	236	1000	1000	1190	1210	96	97	70-130	1	
Naphthalene	ug/L	170	1000	1000	1090	1070	92	91	70-130	2	
tert-Amyl Alcohol	ug/L	5030	20000	20000	23700	24500	93	97	70-130	3	
tert-Amylmethyl ether	ug/L	ND	2000	2000	2010	2030	101	101	70-130	1	
tert-Butyl Alcohol	ug/L	ND	10000	10000	9500	9620	95	96	70-130	1	
tert-Butyl Formate	ug/L	ND	8000	8000	6810	6500	85	81	70-130	5	
Toluene	ug/L	6410	1000	1000	7200	8040	79	163	70-130	11	M1
Xylene (Total)	ug/L	5080	3000	3000	8220	8750	105	122	70-130	6	
1,2-Dichloroethane-d4 (S)	%						93	92	70-130		
4-Bromofluorobenzene (S)	%						97	98	70-130		
Toluene-d8 (S)	%						97	96	70-130		

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

QC Batch: 486944 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92436725002, 92436725014

METHOD BLANK: 2629104 | Matrix: Water
Associated Lab Samples: 92436725002, 92436725014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/18/19 15:42	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/18/19 15:42	
Benzene	ug/L	ND	1.0	07/18/19 15:42	
Diisopropyl ether	ug/L	ND	1.0	07/18/19 15:42	
Ethanol	ug/L	ND	200	07/18/19 15:42	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/18/19 15:42	
Ethylbenzene	ug/L	ND	1.0	07/18/19 15:42	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/18/19 15:42	
Naphthalene	ug/L	ND	1.0	07/18/19 15:42	
tert-Amyl Alcohol	ug/L	ND	100	07/18/19 15:42	
tert-Amylmethyl ether	ug/L	ND	10.0	07/18/19 15:42	
tert-Butyl Alcohol	ug/L	ND	100	07/18/19 15:42	
tert-Butyl Formate	ug/L	ND	50.0	07/18/19 15:42	
Toluene	ug/L	ND	1.0	07/18/19 15:42	
Xylene (Total)	ug/L	ND	1.0	07/18/19 15:42	
1,2-Dichloroethane-d4 (S)	%	110	70-130	07/18/19 15:42	
4-Bromofluorobenzene (S)	%	109	70-130	07/18/19 15:42	
Toluene-d8 (S)	%	106	70-130	07/18/19 15:42	

LABORATORY CONTROL SAMPLE: 2629105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1080	108	70-130	
Benzene	ug/L	50	49.3	99	70-130	
Diisopropyl ether	ug/L	50	53.8	108	70-130	
Ethanol	ug/L	2000	2240	112	70-130	
Ethyl-tert-butyl ether	ug/L	100	98.0	98	70-130	
Ethylbenzene	ug/L	50	48.2	96	70-130	
Methyl-tert-butyl ether	ug/L	50	52.1	104	70-130	
Naphthalene	ug/L	50	45.5	91	70-130	
tert-Amyl Alcohol	ug/L	1000	1060	106	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	561	112	70-130	
tert-Butyl Formate	ug/L	400	416	104	70-130	
Toluene	ug/L	50	47.5	95	70-130	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Groundwater
Pace Project No.: 92436725

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2630216 2630217

Parameter	Units	92436725014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dichloroethane	ug/L	ND	1000	1000	978	1050	98	105	70-130	7	
3,3-Dimethyl-1-Butanol	ug/L	ND	20000	20000	20100	24300	100	121	70-130	19	
Benzene	ug/L	2840	1000	1000	3900	4000	106	116	70-130	3	
Diisopropyl ether	ug/L	ND	1000	1000	1000	1120	100	112	70-130	11	
Ethanol	ug/L	ND	40000	40000	38100	45200	95	113	70-130	17	
Ethyl-tert-butyl ether	ug/L	ND	2000	2000	1810	2040	87	99	70-130	12	
Ethylbenzene	ug/L	982	1000	1000	2090	2190	110	121	70-130	5	
Methyl-tert-butyl ether	ug/L	ND	1000	1000	972	1110	97	111	70-130	13	
Naphthalene	ug/L	120	1000	1000	1030	1220	91	110	70-130	16	
tert-Amyl Alcohol	ug/L	6950	20000	20000	24900	29200	90	111	70-130	16	
tert-Amylmethyl ether	ug/L	ND	2000	2000	1920	2170	96	109	70-130	12	
tert-Butyl Alcohol	ug/L	ND	10000	10000	9790	12100	98	121	70-130	21	
tert-Butyl Formate	ug/L	ND	8000	8000	5020	6090	63	76	70-130	19	P5
Toluene	ug/L	7910	1000	1000	8550	8580	64	67	70-130	0	M1
Xylene (Total)	ug/L	4850	3000	3000	8000	8320	105	116	70-130	4	
1,2-Dichloroethane-d4 (S)	%						102	102	70-130		
4-Bromofluorobenzene (S)	%						100	100	70-130		
Toluene-d8 (S)	%						98	97	70-130		

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QUALIFIERS

Project: Groundwater
Pace Project No.: 92436725

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

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Groundwater
Pace Project No.: 92436725

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92436725001	01589 MW-1	EPA 8260B	486842		
92436725002	01589 MW-2	EPA 8260B	486944		
92436725003	01589 MW-3	EPA 8260B	486700		
92436725004	01589 MW-4	EPA 8260B	486700		
92436725005	01589 MW-5	EPA 8260B	486700		
92436725006	01589 MW-7	EPA 8260B	486842		
92436725007	01589 MW-8	EPA 8260B	486700		
92436725008	01589 MW-9	EPA 8260B	486700		
92436725009	01589 MW-10	EPA 8260B	486700		
92436725010	01589 MW-11	EPA 8260B	486700		
92436725011	01589 MW-12	EPA 8260B	486842		
92436725012	01589 MW-13	EPA 8260B	486842		
92436725013	01589 MW-14	EPA 8260B	486700		
92436725014	01589 MW-15	EPA 8260B	486944		
92436725015	01589 MW-16	EPA 8260B	486700		
92436725016	01589 MW-17	EPA 8260B	486700		
92436725017	01589 MW-18	EPA 8260B	486700		
92436725018	01589 MW-19	EPA 8260B	486700		
92436725019	01589 MW-20	EPA 8260B	486700		
92436725020	01589 MW-21	EPA 8260B	486700		
92436725021	01589 MW-22	EPA 8260B	486700		
92436725022	01589 MW-23	EPA 8260B	486700		
92436725023	01589 MW-24	EPA 8260B	486730		
92436725024	01589 MW-25	EPA 8260B	486730		
92436725025	01589 MW-26	EPA 8260B	486730		
92436725026	01589 MW-27	EPA 8260B	486730		
92436725027	01589 MW-28	EPA 8260B	486730		
92436725028	01589 MW-29	EPA 8260B	486842		
92436725029	01589 MW-30	EPA 8260B	486730		
92436725030	01589 MW-31	EPA 8260B	486730		
92436725031	01589 MW-32	EPA 8260B	486842		
92436725032	01589 MW-34	EPA 8260B	486730		
92436725033	01589 MW-35	EPA 8260B	486730		
92436725034	01589 MW-36	EPA 8260B	486842		
92436725035	01589 MW-37	EPA 8260B	486730		
92436725036	01589 MW-38	EPA 8260B	486730		
92436725037	01589 DMW-1	EPA 8260B	486730		
92436725038	01589 DMW-2	EPA 8260B	486731		
92436725039	01589 DMW-3	EPA 8260B	486842		
92436725040	01589 DMW-4	EPA 8260B	486731		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Groundwater
Pace Project No.: 92436725

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92436725041	01589 DMW-5	EPA 8260B	486731		
92436725042	01589 RW-1	EPA 8260B	486842		
92436725043	01589 RW-4	EPA 8260B	486842		
92436725044	01589 RW-12	EPA 8260B	486842		
92436725045	01589 DUP-1	EPA 8260B	486842		
92436725046	01589 DUP-2	EPA 8260B	486842		
92436725047	01589 DUP-3	EPA 8260B	486842		
92436725048	01589 FB-1	EPA 8260B	486700		
92436725049	01589 FB-2	EPA 8260B	486700		
92436725050	01589 TB-1	EPA 8260B	486700		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: ATC Columbia

Project

WO# : 92436725

92436725

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: PM 7/15/19

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 92T048

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 3.5-4.9 **Correction Factor: Add/Subtract (°C)** 0.0

Cooler Temp Corrected (°C): 3.5-4.9

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☑ No	☐ N/A	10.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

~~Sample MW-2 was not received~~ PM 7/15/19

Field Data Required? ☐ Yes ☐ No

Bill only one trip Blank

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: FR Date: 7/16

Project Manager SRF Review: FR Date: 7/16

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	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# : 92436725**

PM: PTE Due Date: 07/19/19

CLIENT: 92-ATC_Colum

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL 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)	SPZT-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	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®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

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

Project # **WO#: 92436725**

PM: PTE Due Date: 07/19/19

CLIENT: 92-ATC_Colum

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG5U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL 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)	SPZT-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH12)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
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PH: PTE Due Date: 07/19/19

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Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 5

Section A
Required Client Information:

Company:	ATC Columbia
Address:	7499 Parklane Road
Suite 112, Columbia, SC 29223	
Email:	braden.belding@atcgs.com
Phone:	(803)735-0003 Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	Braden Belding
Copy To:	
Purchase Order #:	
Project Name:	Groundwater & WSW
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	taylor.ezell@pacelabs.com
Pace Profile #:	9570

Regulatory Agency
State / Location
SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	DBB	DBB	BTEX, MN, 1-2 DCA (8260 B)	8 OXYS	Residual Chlorine (Y/N)	92436725
1	01589 MW-1	WT	G			7/10	1328		3				3								3			001
2	MW-2					7/10	1436																	002
3	MW-3					7/9	1448																	003
4	MW-4					7/9	1416																	004
5	MW-5					7/9	1403																	005
6	~~MW-6~~																							
7	MW-7					7/9	1317																	006
8	MW-8					7/9	1302																	007
9	MW-9					7/9	1237																	008
10	MW-10					7/9	1209																	009
11	MW-11					7/9	1130																	010
12	MW-12					7/10	0869																	011

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DBB	[illegible]			[illegible] Pace	7/12/19	1101				
	Braden Belding	7/12								
	[illegible] Pace	7/12/19	1827	[illegible] Pace	7/12/19	1827	3.5-4.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/10/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

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Page : 2 Of 6

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Requested Due Date:	

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Project Name:	Groundwater & WSW
Project #:	

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Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	taylor.ezell@pacelabs.com
Pace Profile #:	9570

Regulatory Agency	
State / Location	SC

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1	01589 MW-13	WT	G			7/10	0915		3				3								3			012
2	MW-14					7/10	0705																	013
3	MW-15					7/10	0720																	014
4	MW-16					7/10	0745																	015
5	MW-17					7/10	0836																	016
6	MW-18					7/10	1033																	017
7	MW-19					7/10	1021																	018
8	MW-20					7/10	1020																	019
9	MW-21					7/9	1257																	020
10	MW-22					7/9	1210																	021
11	MW-23					7/9	1357																	022
12	MW-24					7/9	1005																	023

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DBB	[signature]			[signature] Pace	7-12-19	1101				
	Braden Belding	7/12								
	[signature] Pace	7-12-19	1827	[signature] Pace	7/12/19	1827	3.5-4.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lallu, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/10/19

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

Pace Analytical

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Project Name:	Groundwater & WSW
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Pace Quote:	
Pace Project Manager:	taylor.ezell@pacelabs.com
Pace Profile #:	9570

Regulatory Agency	
State / Location	SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	DBB	DBB	BTEX, MN, 1-2 DCA (8260 B)	8 OXYS	Residual Chlorine (Y/N)	82436725
1	01589	MW-25	WT	C			7/9	0824		3				3								3			024
2		MW-26					7/9	1118																	025
3		MW-27					7/9	1107																	026
4		MW-28					7/9	0916																	027
5		MW-29					7/9	1352																	028
6		MW-30					7/9	1225																	029
7		MW-31					7/9	0924																	030
8		MW-32					7/9	1453																	031
9		MW-34					7/10	0948																	032
10		MW-35					7/10	1017																	033
11		MW-36					7/10	1239																	034
12		MW-37					7/9	0950																	035

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
DBB	[illegible]									
	Braden Belding	7/12		[illegible]	7/12/19	1100				
	[illegible]	7/12/19	1827	[illegible]	7/12/19	1827	3.5-4.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lalli, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [illegible] DATE Signed: 7/10/19

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 4 Of 5

Section A
Required Client Information:

Company:	ATC Columbia
Address:	7499 Parklane Road
Suite 112, Columbia, SC 29223	
Email:	braden.belding@atcgs.com
Phone:	(803)735-0003 Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	Braden Belding
Copy To:	
Purchase Order #:	
Project Name:	Groundwater & WSW
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	taylor.ezell@pacelabs.com
Pace Profile #:	9570

Regulatory Agency	
State / Location	SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	DBB	DBB	BTEX, MN, 1-2 DCA (8260B)	8 OXYS	Residual Chlorine (Y/N)	82436725
1	01589	MW-38	WT	G			7/9	1340		3				3											036
2		DMW-1					7/10	1352																	037
3		DMW-2					7/9	1344																	038
4		DMW-3					7/9	1046																	039
5		DMW-4					7/10	1529																	040
6		DMW-5					7/10	1402																	041
7		RW-1					7/10	1445																	042
8		RW-4					7/10	1306																	043
9		RW-12					7/10	15[illegible]																	044
10		Dup1					7/10	0905																	045
11		Dup2					7/10	0901																	046
12		Dup3					7/10	1355																	047

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	DBB [illegible]									
	Braden Belding	7/12		[illegible]	7/12/19	1827				
	[illegible]	7/12	1827	[illegible]	7/12/19	1827	3.5-4.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [illegible] DATE Signed: 7/10/19

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 5 Of 6

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ATC Columbia	Report To: Braden Belding	Attention:
Address: 7499 Parklane Road	Copy To:	Company Name:
Suite 112, Columbia, SC 29223		Address:
Email: braden.belding@atcgs.com	Purchase Order #:	Pace Quote:
Phone: (803)735-0003 Fax	Project Name: Groundwater & WSW	Pace Project Manager: taylor.ezell@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 9570

Regulatory Agency

State / Location

SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	DBB	DBB	DBB	BTEX, MN, 1-2 DCA (8260 B)	8 OXYS	Residual Chlorine (Y/N)	92436725
1	01589 FB1		WT	G			7/9	1505		3				5									3			048
2	FB2						7/10	1611																		049
3	TB1									2				2									2			050
4	TB2																									051
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
DBB	[signature]									
	Braden Belding	7/12		[signature] Pace	7/12/19	1161				
	[signature] Pace	7/12	1827	[signature] Pace	7/12/19	1827	3.5-4.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Corinne Lally, B. BELDING, J. GRAY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/10/19

APPENDIX D

DISPOSAL MANIFEST

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: Circle K Stores Inc. 2440 Whitehall Park Dr Ste 800 Charlotte NC

Generator's Phone:

Generator's Site Address (if different than mailing address): Circle K 2720886 4315 Savannah Hwy Ravenel SC

6. Transporter 1 Company Name: VERIO — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Regulatory Solutions 40 Pasion Ct Gaston SC — U.S. EPA ID Number:

Facility's Phone:

	9. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non Hazardous Non Regulated Development Water	1	D	52	gal
2.	Non Hazardous Non Regulated Rinse Water	3	D	112	gal
3.					
4.					

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: William Hays — Signature: William R Hays — Month 7 Day 19 Year 19

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Elvin noe Fajardo — Signature: Elvin — Month 7 Day 19 Year 19

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Jason Chomazzi — Signature: Jason — Month 7 Day 19 Year 19

6-NHM-C-SO-1158

2-DESIGNATED FACILITY TO GENERATOR

APPENDIX E

PRODUCT BAILDOWN TESTS

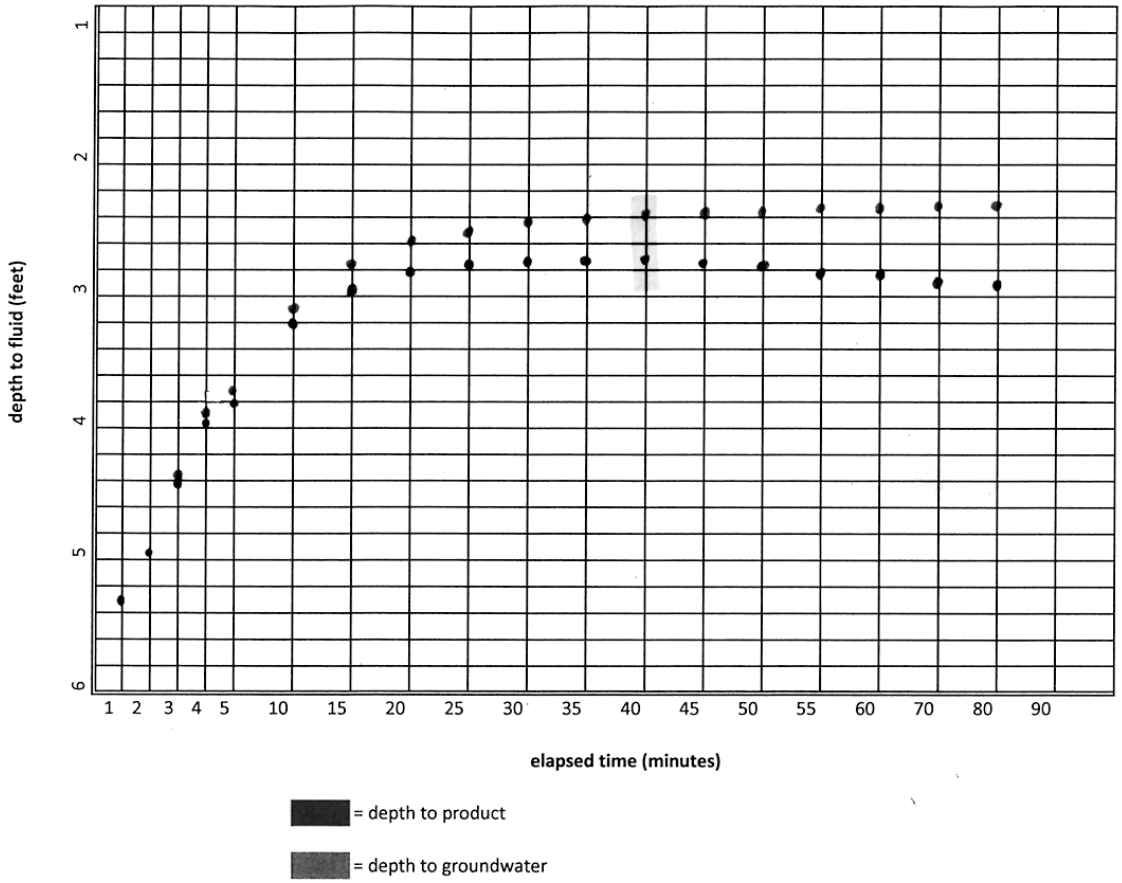
PRODUCT BAILDOWN TEST GRAPH

(depth to water - depth to product at water table recharge inflection point = true product thickness)

Project: Circle K 2720886
Address: 4315 Savannah Highway, Ravenel, SC
Date: July 17, 2019

Well Id: 01589 RW-5

Static Depth to Product (feet): 1.73
Static Depth to Water (feet): 4.23
Measured Product Thickness (feet): 2.50
Volume Bailed (gallons): 13 gallons
True Product Thickness (feet): 0.39 feet



ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

PRODUCT BAILDOWN TEST DATA

Project: Circle K 2720886
Address: 4315 Savannah Highway, Ravenel, SC
Date: July 17, 2019

Well Id: RW 5

Static Depth to Product (feet): 1.73
Static Depth to Water (feet): 4.23
Volume Bailed (gallons): 13 gals

	Depth to Product (feet)	Depth to Water (feet)
initial measurements following baildown	NM	5.74

Elapsed Time	Depth to Product (feet)	Depth to Water (feet)
1 minute	NM	5.31
2 minute	NM	4.93
3 minute	4.38	4.39
4 minute	3.74	3.96
5 minute	3.71	3.78
10 minutes	3.07	3.19
15 minutes	2.76	2.95
20 minutes	2.57	2.81
25 minutes	2.48	2.77
30 minutes	2.42	2.76
35 minutes	2.40	2.76
40 minutes	2.37	2.76
45 minutes	2.36	2.78
50 minutes	2.34	2.79
55 minutes	2.33	2.82
60 minutes	2.33	2.83
70 minutes	2.32	2.87
80 minutes	2.32	2.89
90 minutes		

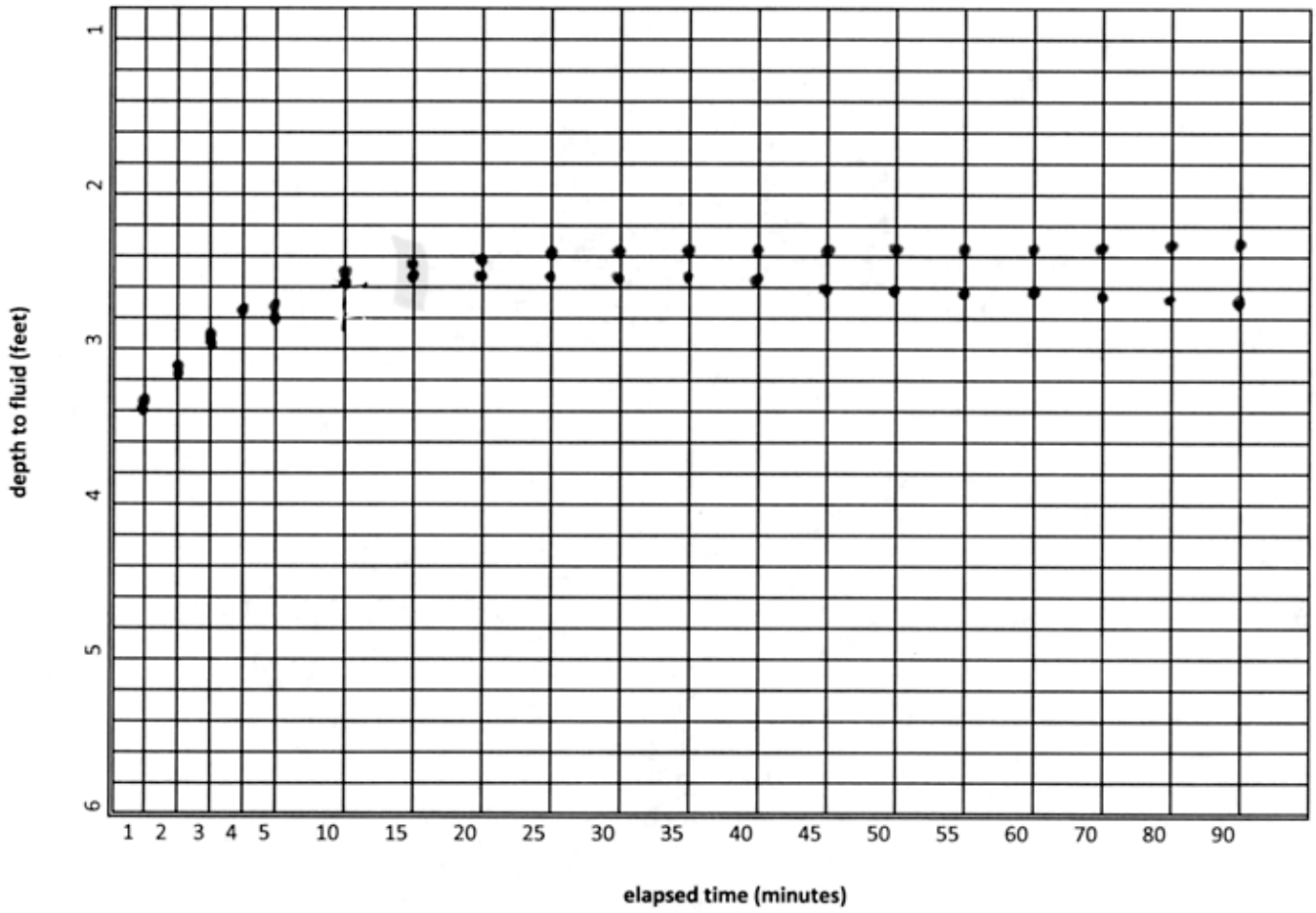
PRODUCT BAILDOWN TEST GRAPH

(depth to water - depth to product at water table recharge inflection point = true product thickness)

Project: Circle K 2720886
Address: 4315 Savannah Highway, Ravenel, SC
Date: July 17, 2019

Well Id: 01589 RW-6

Static Depth to Product (feet): 1.59
Static Depth to Water (feet): 4.40
Measured Product Thickness (feet): 2.81
Volume Bailed (gallons): 10 gallons
True Product Thickness (feet): 0.10 feet



= depth to product

= depth to groundwater

ATC Group Services, LLC
7499 Parklane Road, Suite 112
Columbia, SC

PRODUCT BAILDOWN TEST DATA

Project: Circle K 2720886
Address: 4315 Savannah Highway, Ravenel, SC
Date: July 17, 2019

Well Id: RW 6

Static Depth to Product (feet): 1.59
Static Depth to Water (feet): 4.40
Volume Bailed (gallons): 10.0 gals

	Depth to Product (feet)	Depth to Water (feet)
initial measurements following baildown	4.40	4.41

Elapsed Time	Depth to Product (feet)	Depth to Water (feet)
1 minute	3.34	3.35
2 minute	3.10	3.11
3 minute	2.90	2.92
4 minute	2.76	2.80
5 minute	2.68	2.72
10 minutes	2.49	2.57
15 minutes	2.43	2.53
20 minutes	2.41	2.54
25 minutes	2.39	2.55
30 minutes	2.38	2.56
35 minutes	2.37	2.57
40 minutes	2.36	2.58
45 minutes	2.36	2.61
50 minutes	2.35	2.61
55 minutes	2.34	2.62
60 minutes	2.34	2.62
70 minutes	2.32	2.62
80 minutes	2.31	2.64
90 minutes	2.31	2.67

APPENDIX F

SCDHEC QAPP APPENDIX K

Contractor Verification 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	Are Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Are name, address, & phone number of current property owner provided?	X		
4	Are the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Are the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	X		
6	Are the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?	X		
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?	X		
17	Has the method of well development been detailed?	X		
18	Has justification been provided for the locations of the monitoring wells?	X		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Tables 2, 3, 4 and 5)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figures 4A, 4B, 4C, 4D and 4E)	X		
40	Has the site potentiometric map been provided? (Figures 3A and 3B)	X		
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendices B and C)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix A)	X		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix D)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendices F and G)	X		

Explanation for missing and incomplete information

The directive and QAPP for this site involves the work done for Additional Groundwater Assessment. Any information that was not required or approved in the QAPP for the scope of work was not included.

APPENDIX G

SCDHEC QAPP APPENDIX M

South Carolina Department of Health and Environmental Control
Underground Storage Tank Program

Project Status Update

UST Permit #: 01589

Site Name: Circle K 2720886

Date	Deficiency	Current Status	Corrective Action Taken	Date Deficiency Resolved
7/19/2019	The RPD of 20% was exceeded in the naphthalene analytical duplication	The laboratory was requested to review the analytical results and QA/QC parameter; Inquiry complete; no laboratory deficiencies were identified.	The discrepancy between the duplicated samples is likely due to Chemical of Concern concentration variability in the water column captured in the bailer and/or dissimilar dilution factors between duplicated samples.	7/22/2019
7/19/2019	Mandatory dilution performed at the laboratory prior to analysis raised detection limits in groundwater samples collected from monitoring wells 01589 MW-1 (X250), 01589 MW-2 (X125), 01589 MW-7 (X200), 01589 MW-12 (X2.5), 01589 MW-13 (X5), 01589 MW-15 (X50) and 01589 MW-32 (X2) and recovery wells 01589 RW-1 (X200) and 01589 RW-12 (X50)	The laboratory was requested to review the analytical results and QA/QC parameters	the analytical results for a majority of the chemicals of concern exceeded the elevated detection levels	7/22/2019
7/19/2019	Permission to collect water samples from potable water wells identified as WSW-15, WSW-20, WSW-21, WSW-27, WSW-28 and WSW-29 has been denied by the respective property owners.	No potable water wells sampled under assessment activities performed at the site have exhibited Chemical of Concern concentrations above laboratory reporting limits.	Water samples from potable water wells WSW-15, WSW-20, WSW-21, WSW-27, WSW-28 and WSW-29 will be collected for analysis during subsequents assessment and monitoring events should permission be granted	7/22/2019

Comments:

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

UST
AUG 26 2019
PROGRAM

August 23, 2019

7499 Parklane Road
Suite 112
Columbia, SC 29223

Phone **+1 803 735 0003**
Fax +1 803 741 2444
www.atcassociates.com

Ms. Robert A. Dunn, Hydrogeologist
South Carolina Department of Health and Environmental Control
Corrective Action Section
Bureau of Land and Waste Management
UST Management Division
2600 Bull Street
Columbia, South Carolina 29201

UST
67
tch
DOCKETING

RE: Addendum to Groundwater Sampling Report
Circle K 2720886
4315 Savannah Highway, Ravenel, South Carolina
Charleston County
UST Permit ID #01589; CA #59718
ATC Project No. DHEC088605

Dear Mr. Dunn:

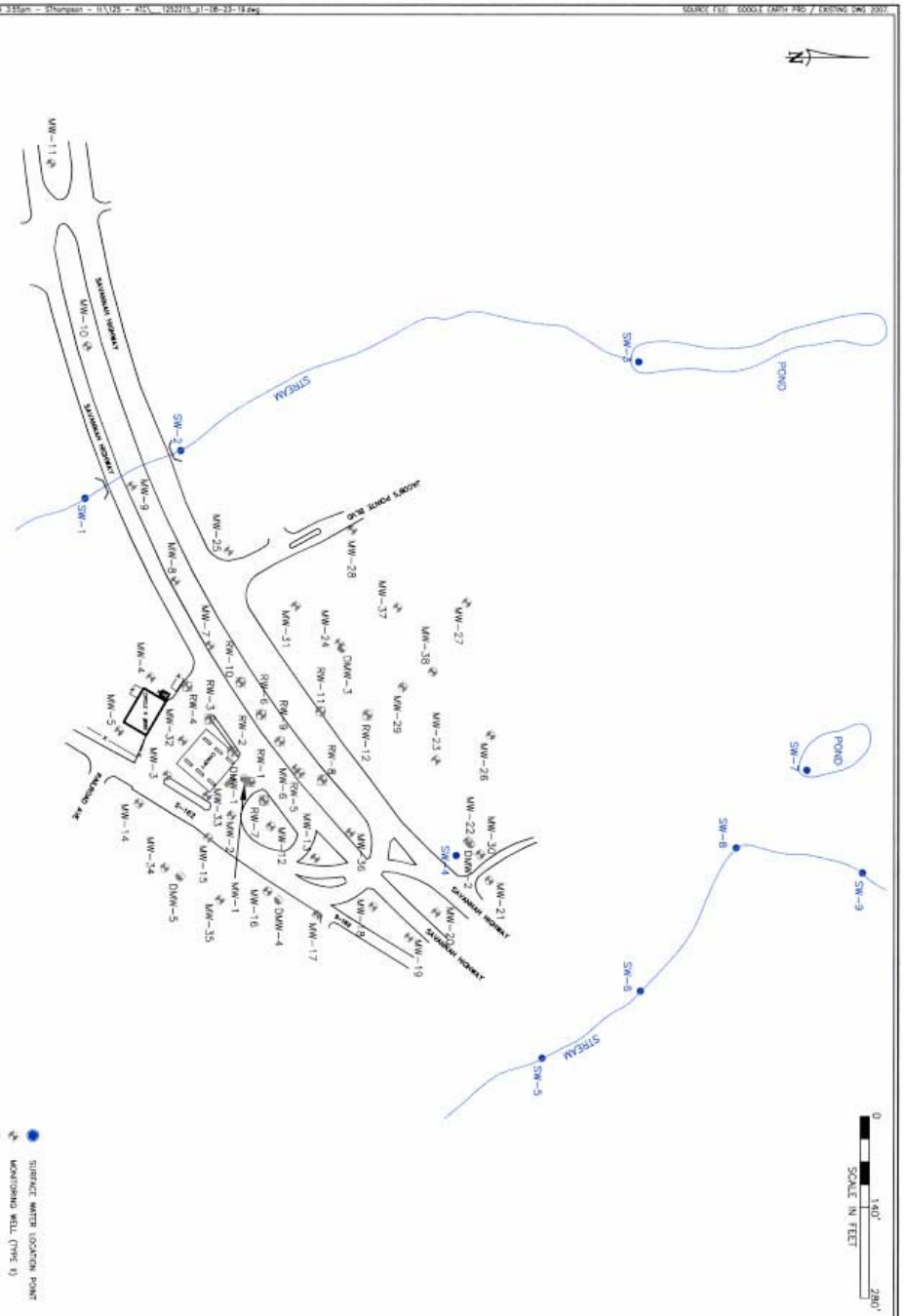
On behalf of *Circle K Stores, Inc.*, *ATC Group Services, LLC* is submitting an Addendum to the Groundwater Sampling Report previous submitted for the **Circle K 2720886.** Surface Water sampling was requested by the South Carolina Department of Health and Environmental Control (SCDHEC) direction on August 12, 2019. This report documents field activities and laboratory analytical results for the August 13, 2019, surface water sampling event. Sample locations are illustrated in **Figure 1**. Laboratory results of the August 13, 2019 sampling event are presented in **Table 1**. Historical Surface Water Analytical Data is presented in **Table 2**. The laboratory report is also attached. If you have any questions or require additional information, please contact the ATC project manager for the site, Frederick P. Lyke, at (803) 767-0826.

Sincerely,
ATC Group Services, LLC

FREDERICK P. LYKE
REGISTERED
1855
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

Frederick P. Lyke, P.G. #
Branch Manager
Direct Line +1 803 767 0826
Email: fred.lyke@atcgs.com

cc: Mr. Brent Puzak, Environmental Director, *Circle K Stores, Inc.*



NOTES:

TITLE **FIGURE 1**

SITE MAP WITH SURFICIAL WATER SAMPLE LOCATIONS
CIRCLE K #2720886
4315 SAVANNAH HIGHWAY
RAVENEL, SOUTH CAROLINA

7409 Parklane Road, Suite 112
Columbia, South Carolina 29223
(803) 735-0003 FAX (803) 741-2444

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CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252215.dwg		WH		1"=140'	12-10-18	DHEC088602

Table 1
Surface Water Analytical Data
Volatile Organic Compounds and SCDHEC-Regulated Oxygenates
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 SW-1	8/13/2019	Dry														
01589 SW-2	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-3	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-4	8/13/2019	Dry														
01589 SW-5	8/13/2019	Dry														
01589 SW-6	8/13/2019	<1.0	2	4.3	32.6	<1.0	1.8	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-7	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-8	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-9	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes:
Units = µg/L; EPA Analytical Method 8260B;
"<" = Not detected at or above the laboratory reporting limit;
RBSL = May 15, 2001 Risk Based Screening Level;
Bold concentrations equal or exceed the corresponding RBSL;
NE = Not established.

Table 2
Historical Surface Water Analytical Data
Volatile Organic Compounds and SCDHEC-Regulated Oxygenates
Circle K 2720886
4315 Savannah Highway
Ravenel, Charleston County, South Carolina
UST Permit #01589

Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes,Total	Methyl tert butyl ether	Naphthalene	1,2 Dichloroethane (1,2 DCA)	ethyl tert-Butyl alcohol	Diisopropyl ether	Ethanol	tert-Butyl alcohol	tert-Amyl alcohol	tert-Amyl methyl ether	ethyl tert-Butyl ether	tert-Butyl formate
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**
01589 SW-1	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1 0	<1 0	<1 0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	Dry														
01589 SW-2	11/29/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1 0	<5 0
	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1 0	<50 0
01589 SW-3	11/29/2018	<1 0	<1.0	<1 0	<1 0	<1 0	<1 0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1 0	<1.0	<1.0	<100	<1 0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-4	11/30/2018	**150**	750	34	380	<5.0	8	<5.0	<100	<5.0	<500	<100	<100	<50	<5 0	<25
	8/13/2019	Dry														
01589 SW-5	11/30/2018	<1.0	<1 0	<1.0	<1 0	<1 0	<1 0	<1 0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	Dry														
01589 SW-6	11/30/2018	<1 0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	<1.0	2	4 3	32.6	<1.0	1 8	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-7	11/30/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-8	11/30/2018	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	<1 0	<1.0	<1 0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
01589 SW-9	11/30/2018	<1.0	<1.0	<1 0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<100	<20	<20	<10	<1.0	<5.0
	8/13/2019	<1 0	<1 0	<1 0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<200	<100	<100	<10	<1.0	<50.0
RBSL		**5.0**	**1,000**	**700**	**10,000**	**40.0**	**25.0**	**5.0**	**NE**	**150**	**10,000**	**1,400**	**240**	**128**	**47.0**	**NE**

Notes.
Units = µg/L, EPA Analytical Method 8260B,
"<" = Not detected at or above the laboratory reporting limit;
RBSL = May 15, 2001 Risk Based Screening Level;
Bold concentrations equal or exceed the corresponding RBSL;
NE = Not established.

Pace Analytical Services, LLC
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August 19, 2019

Fred Lyke
ATC Group Services LLC
7499 Parklane Rd
Suite 112
Columbia, SC 29223

RE: Project: DHEC0886
Pace Project No.: 92441444

Dear Fred Lyke:
Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 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,

Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures

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CERTIFICATIONS

Project: DHEC0886
Pace Project No.: 92441444

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

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SAMPLE SUMMARY

Project: DHEC0886
Pace Project No.: 92441444

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92441444001	**01589 SW-2**	Water	08/13/19 15:47	08/14/19 13:55
92441444002	**01589 SW-3**	Water	08/13/19 16:12	08/14/19 13:55
92441444003	**01589 SW-6**	Water	08/13/19 14:15	08/14/19 13:55
92441444004	**01589 SW-7**	Water	08/13/19 14:27	08/14/19 13:55
92441444005	**01589 SW-8**	Water	08/13/19 14:56	08/14/19 13:55
92441444006	**01589 SW-9**	Water	08/13/19 15:21	08/14/19 13 55
92441444007	**01589 DUP**	Water	08/13/19 14:29	08/14/19 13:55
92441444008	**01589 FB**	Water	08/13/19 16:20	08/14/19 13:55
92441444009	**01589 TB**	Water	08/14/19 00:00	08/14/19 13:55

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SAMPLE ANALYTE COUNT

Project: DHEC0886
Pace Project No.: 92441444

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92441444001	**01589 SW-2**	EPA 8260B	CL	18	PASI-C
92441444002	**01589 SW-3**	EPA 8260B	CL	18	PASI-C
92441444003	**01589 SW-6**	EPA 8260B	CL	18	PASI-C
92441444004	**01589 SW-7**	EPA 8260B	CL	18	PASI-C
92441444005	**01589 SW-8**	EPA 8260B	CL	18	PASI-C
92441444006	**01589 SW-9**	EPA 8260B	CL	18	PASI-C
92441444007	**01589 DUP**	EPA 8260B	CL	18	PASI-C
92441444008	**01589 FB**	EPA 8260B	CL	18	PASI-C
92441444009	**01589 TB**	EPA 8260B	CL	18	PASI-C

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SUMMARY OF DETECTION

Project DHEC0886
Pace Project No.: 92441444

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92441444001	**01589 SW-2**					
EPA 8260B	Benzene	0.50J	ug/L	1.0	08/15/19 18:30	
EPA 8260B	Methyl-tert-butyl ether	0.73J	ug/L	1.0	08/15/19 18:30	
92441444002	**01589 SW-3**					
EPA 8260B	Methyl-tert-butyl ether	0.38J	ug/L	1.0	08/15/19 18:48	
92441444003	**01589 SW-6**					
EPA 8260B	Ethylbenzene	4.3	ug/L	1.0	08/15/19 19:06	
EPA 8260B	Naphthalene	1.8	ug/L	1.0	08/15/19 19:06	
EPA 8260B	Toluene	2.0	ug/L	1.0	08/15/19 19:06	
EPA 8260B	Xylene (Total)	32.6	ug/L	1.0	08/15/19 19:06	
92441444008	**01589 FB**					
EPA 8260B	Toluene	0.64J	ug/L	1.0	08/17/19 04:07	
92441444009	**01589 TB**					
EPA 8260B	Toluene	0.75J	ug/L	1.0	08/17/19 04:24	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No 92441444

Sample: 01589 SW-2 **Lab ID: 92441444001** Collected. 08/13/19 15:47 Received 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 18:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 18:30	994-05-8	
Benzene	**0.50J**	ug/L	1.0	0.15	1		08/15/19 18:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 18:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 18:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/15/19 18:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/15/19 18:30	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 18:30	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/15/19 18:30	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 18:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.7	1		08/15/19 18:30	637-92-3	
Methyl-tert-butyl ether	**0.73J**	ug/L	1.0	0.28	1		08/15/19 18 30	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/15/19 18:30	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 18:30	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 18:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		08/15/19 18:30	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		08/15/19 18:30	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		08/15/19 18:30	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 SW-3 **Lab ID: 92441444002** Collected: 08/13/19 16:12 Received: 08/14/19 13:55 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 18:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 5	1		08/15/19 18 48	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/15/19 18:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 18:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 18 48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/15/19 18:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/15/19 18.48	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 18.48	108-20-3	
Ethanol	ND	ug/L	200	98 8	1		08/15/19 18:48	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 18:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.7	1		08/15/19 18:48	637-92-3	
Methyl-tert-butyl ether	**0.38J**	ug/L	1.0	0.28	1		08/15/19 18:48	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/15/19 18:48	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 18:48	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 18:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		08/15/19 18:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		08/15/19 18:48	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/15/19 18 48	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 SW-6 **Lab ID: 92441444003** Collected: 08/13/19 14:15 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 19:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 19:06	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/15/19 19:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 19:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 19:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/15/19 19:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/15/19 19:06	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 19.06	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/15/19 19:06	64-17-5	
Ethylbenzene	**4.3**	ug/L	1.0	0.26	1		08/15/19 19 06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.7	1		08/15/19 19 06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/15/19 19 06	1634-04-4	
Naphthalene	**1.8**	ug/L	1.0	0.35	1		08/15/19 19:06	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.24	1		08/15/19 19:06	108-88-3	
Xylene (Total)	**32.6**	ug/L	1.0	0.63	1		08/15/19 19:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		08/15/19 19:06	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		08/15/19 19:06	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		08/15/19 19:06	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 SW-7 **Lab ID: 92441444004** Collected: 08/13/19 14:27 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53 9	1		08/15/19 19 23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 19:23	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/15/19 19:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 19:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 19:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/15/19 19:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	1 0	0.34	1		08/15/19 19:23	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0 22	1		08/15/19 19:23	108-20-3	
Ethanol	ND	ug/L	200	98 8	1		08/15/19 19:23	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 19:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.7	1		08/15/19 19:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/15/19 19:23	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/15/19 19 23	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 19.23	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 19:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		08/15/19 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		08/15/19 19:23	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		08/15/19 19:23	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 SW-8 **Lab ID: 92441444005** Collected: 08/13/19 14:56 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 19.41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 19 41	994-05-8	
Benzene	ND	ug/L	1 0	0.15	1		08/15/19 19:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 19:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 19:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24 7	1		08/15/19 19:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/15/19 19:41	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 19:41	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/15/19 19:41	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 19:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	3.7	1		08/15/19 19:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/15/19 19:41	1634-04-4	
Naphthalene	ND	ug/L	1 0	0.35	1		08/15/19 19:41	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 19:41	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 19:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		08/15/19 19:41	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		08/15/19 19:41	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		08/15/19 19:41	2037-26-5	

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ANALYTICAL RESULTS

Project DHEC0886
Pace Project No.: 92441444

Sample: 01589 SW-9 **Lab ID: 92441444006** Collected: 08/13/19 15:21 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 19:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 19:59	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/15/19 19:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 19:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 19:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/15/19 19:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	1 0	0.34	1		08/15/19 19:59	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 19:59	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/15/19 19:59	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 19:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	3.7	1		08/15/19 19:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/15/19 19:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/15/19 19:59	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 19:59	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 19:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		08/15/19 19:59	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		08/15/19 19 59	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		08/15/19 19.59	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 DUP **Lab ID: 92441444007** Collected: 08/13/19 14:29 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/15/19 20:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/15/19 20:16	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/15/19 20:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/15/19 20:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/15/19 20:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50 0	24.7	1		08/15/19 20:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/15/19 20:16	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/15/19 20:16	108-20-3	
Ethanol	ND	ug/L	200	98 8	1		08/15/19 20:16	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/15/19 20:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 7	1		08/15/19 20:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/15/19 20:16	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/15/19 20:16	91-20-3	
Toluene	ND	ug/L	1.0	0.24	1		08/15/19 20:16	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/15/19 20:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		08/15/19 20 16	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		08/15/19 20:16	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		08/15/19 20:16	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No.: 92441444

Sample: 01589 FB **Lab ID: 92441444008** Collected: 08/13/19 16:20 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/17/19 04:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/17/19 04:07	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/17/19 04:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/17/19 04:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/17/19 04:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/17/19 04:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.34	1		08/17/19 04:07	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.22	1		08/17/19 04:07	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/17/19 04:07	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0 26	1		08/17/19 04:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	3 7	1		08/17/19 04:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/17/19 04:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/17/19 04:07	91-20-3	
Toluene	**0.64J**	ug/L	1.0	0.24	1		08/17/19 04:07	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/17/19 04:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		08/17/19 04:07	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		08/17/19 04:07	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		08/17/19 04:07	2037-26-5	

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ANALYTICAL RESULTS

Project: DHEC0886
Pace Project No 92441444

Sample: 01589 TB **Lab ID: 92441444009** Collected: 08/14/19 00:00 Received: 08/14/19 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260B								
tert-Amyl Alcohol	ND	ug/L	100	53.9	1		08/17/19 04:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.5	1		08/17/19 04:24	994-05-8	
Benzene	ND	ug/L	1.0	0.15	1		08/17/19 04:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	62.0	1		08/17/19 04:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.3	1		08/17/19 04:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.7	1		08/17/19 04:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0 34	1		08/17/19 04:24	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0 22	1		08/17/19 04:24	108-20-3	
Ethanol	ND	ug/L	200	98.8	1		08/17/19 04:24	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.26	1		08/17/19 04:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.7	1		08/17/19 04:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.28	1		08/17/19 04:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.35	1		08/17/19 04:24	91-20-3	
Toluene	**0.75J**	ug/L	1.0	0.24	1		08/17/19 04:24	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.63	1		08/17/19 04:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		08/17/19 04:24	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		08/17/19 04:24	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		08/17/19 04:24	2037-26-5	

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QUALITY CONTROL DATA

Project: DHEC0886
Pace Project No.: 92441444

QC Batch: 492543 Analysis Method: EPA 8260B
QC Batch Method EPA 8260B Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92441444001, 92441444002, 92441444003, 92441444004, 92441444005, 92441444006, 92441444007

METHOD BLANK: 2655503 Matrix: Water
Associated Lab Samples: 92441444001, 92441444002, 92441444003, 92441444004, 92441444005, 92441444006, 92441444007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.34	08/15/19 15 16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	62 0	08/15/19 15 16	
Benzene	ug/L	ND	1.0	0.15	08/15/19 15:16	
Diisopropyl ether	ug/L	ND	1 0	0.22	08/15/19 15:16	
Ethanol	ug/L	ND	200	98.8	08/15/19 15:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.7	08/15/19 15:16	
Ethylbenzene	ug/L	ND	1.0	0.26	08/15/19 15:16	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.28	08/15/19 15:16	
Naphthalene	ug/L	ND	1.0	0.35	08/15/19 15:16	
tert-Amyl Alcohol	ug/L	ND	100	53.9	08/15/19 15:16	
tert-Amylmethyl ether	ug/L	ND	10.0	3.5	08/15/19 15:16	
tert-Butyl Alcohol	ug/L	ND	100	27.3	08/15/19 15:16	
tert-Butyl Formate	ug/L	ND	50.0	24.7	08/15/19 15:16	
Toluene	ug/L	ND	1.0	0.24	08/15/19 15:16	
Xylene (Total)	ug/L	ND	1.0	0.63	08/15/19 15:16	
1,2-Dichloroethane-d4 (S)	%	96	70-130		08/15/19 15 16	
4-Bromofluorobenzene (S)	%	102	70-130		08/15/19 15:16	
Toluene-d8 (S)	%	103	70-130		08/15/19 15:16	

LABORATORY CONTROL SAMPLE: 2655504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.0	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1090	109	70-130	
Benzene	ug/L	50	52.1	104	70-130	
Diisopropyl ether	ug/L	50	55.7	111	70-130	
Ethanol	ug/L	2000	2070	103	70-130	
Ethyl-tert-butyl ether	ug/L	100	101	101	70-130	
Ethylbenzene	ug/L	50	50.9	102	70-130	
Methyl-tert-butyl ether	ug/L	50	56.4	113	70-130	
Naphthalene	ug/L	50	51.8	104	70-130	
tert-Amyl Alcohol	ug/L	1000	1080	108	70-130	
tert-Amylmethyl ether	ug/L	100	107	107	70-130	
tert-Butyl Alcohol	ug/L	500	452	90	70-130	
tert-Butyl Formate	ug/L	400	447	112	70-130	
Toluene	ug/L	50	49 6	99	70-130	
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			98	70-130	

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QUALITY CONTROL DATA

Project DHEC0886
Pace Project No.: 92441444

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2655505 2655506

Parameter	Units	92440775001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	250	250	284	281	114	112	70-130	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	5000	5000	4240	4360	85	87	70-130	3	30	
Benzene	ug/L	ND	250	250	289	289	116	116	70-130	0	30	
Diisopropyl ether	ug/L	ND	250	250	284	289	114	116	70-130	2	30	
Ethanol	ug/L	ND	10000	10000	10100	10300	101	103	70-130	3	30	
Ethyl-tert-butyl ether	ug/L	ND	500	500	506	521	101	104	70-130	3	30	
Ethylbenzene	ug/L	ND	250	250	285	281	114	112	70-130	1	30	
Methyl-tert-butyl ether	ug/L	ND	250	250	286	295	115	118	70-130	3	30	
Naphthalene	ug/L	ND	250	250	264	273	105	109	70-130	4	30	
tert-Amyl Alcohol	ug/L	ND	5000	5000	4400	4580	88	92	70-130	4	30	
tert-Amylmethyl ether	ug/L	ND	500	500	539	534	108	107	70-130	1	30	
tert-Butyl Alcohol	ug/L	ND	2500	2500	2210	2420	88	97	70-130	9	30	
tert-Butyl Formate	ug/L	ND	2000	2000	1270	1320	64	66	70-130	4	30	P5
Toluene	ug/L	ND	250	250	275	273	110	109	70-130	1	30	
Xylene (Total)	ug/L	ND	750	750	848	857	113	114	70-130	1	30	
1,2-Dichloroethane-d4 (S)	%						108	105	70-130			
4-Bromofluorobenzene (S)	%						102	98	70-130			
Toluene-d8 (S)	%						101	97	70-130			

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QUALITY CONTROL DATA

Project: DHEC0886
Pace Project No.: 92441444

QC Batch: 492887 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92441444008, 92441444009

METHOD BLANK: 2656929 | Matrix: Water
Associated Lab Samples: 92441444008, 92441444009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.34	08/17/19 03:49	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	62.0	08/17/19 03:49	
Benzene	ug/L	ND	1.0	0.15	08/17/19 03:49	
Diisopropyl ether	ug/L	ND	1.0	0.22	08/17/19 03:49	
Ethanol	ug/L	ND	200	98.8	08/17/19 03.49	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.7	08/17/19 03:49	
Ethylbenzene	ug/L	ND	1.0	0.26	08/17/19 03:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.28	08/17/19 03:49	
Naphthalene	ug/L	ND	1.0	0.35	08/17/19 03:49	
tert-Amyl Alcohol	ug/L	ND	100	53 9	08/17/19 03:49	
tert-Amylmethyl ether	ug/L	ND	10.0	3.5	08/17/19 03:49	
tert-Butyl Alcohol	ug/L	ND	100	27.3	08/17/19 03:49	
tert-Butyl Formate	ug/L	ND	50 0	24.7	08/17/19 03:49	
Toluene	ug/L	ND	1.0	0.24	08/17/19 03:49	
Xylene (Total)	ug/L	ND	1.0	0.63	08/17/19 03:49	
1,2-Dichloroethane-d4 (S)	%	90	70-130		08/17/19 03:49	
4-Bromofluorobenzene (S)	%	110	70-130		08/17/19 03:49	
Toluene-d8 (S)	%	99	70-130		08/17/19 03:49	

LABORATORY CONTROL SAMPLE 2656930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	55.3	111	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	954	95	70-130	
Benzene	ug/L	50	51.4	103	70-130	
Diisopropyl ether	ug/L	50	60.0	120	70-130	
Ethanol	ug/L	2000	2170	109	70-130	
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	52.3	105	70-130	
Methyl-tert-butyl ether	ug/L	50	61.3	123	70-130	
Naphthalene	ug/L	50	54.2	108	70-130	
tert-Amyl Alcohol	ug/L	1000	995	100	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	442	88	70-130	
tert-Butyl Formate	ug/L	400	480	120	70-130	
Toluene	ug/L	50	46.9	94	70-130	
Xylene (Total)	ug/L	150	159	106	70-130	
1,2-Dichloroethane-d4 (S)	%			114	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			95	70-130	

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QUALITY CONTROL DATA

Project: DHEC0886
Pace Project No.: 92441444

MATRIX SPIKE SAMPLE: 2656932

Parameter	Units	92441402003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.6	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	426	106	70-130	
Benzene	ug/L	ND	20	19.2	96	70-130	
Diisopropyl ether	ug/L	ND	20	25.9	129	70-130	
Ethanol	ug/L	ND	800	943	118	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	45.2	113	70-130	
Ethylbenzene	ug/L	ND	20	22.3	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	23.2	116	70-130	
Naphthalene	ug/L	ND	20	17.7	89	70-130	
tert-Amyl Alcohol	ug/L	ND	400	542	135	70-130	M1
tert-Amylmethyl ether	ug/L	ND	40	44.4	111	70-130	
tert-Butyl Alcohol	ug/L	ND	200	370	185	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	13	70-130	M1
Toluene	ug/L	ND	20	19 5	98	70-130	
Xylene (Total)	ug/L	ND	60	66.0	110	70-130	
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				112	70-130	
Toluene-d8 (S)	%				89	70-130	

SAMPLE DUPLICATE: 2656931

Parameter	Units	92441402002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	108	97			
4-Bromofluorobenzene (S)	%	97	100			
Toluene-d8 (S)	%	104	98			

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QUALIFIERS

Project: DHEC0886
Pace Project No.: 92441444

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

M1	Matrix spike recovery exceeded QC limits Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DHEC0886
Pace Project No.: 92441444

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92441444001	**01589 SW-2**	EPA 8260B	492543		
92441444002	**01589 SW-3**	EPA 8260B	492543		
92441444003	**01589 SW-6**	EPA 8260B	492543		
92441444004	**01589 SW-7**	EPA 8260B	492543		
92441444005	**01589 SW-8**	EPA 8260B	492543		
92441444006	**01589 SW-9**	EPA 8260B	492543		
92441444007	**01589 DUP**	EPA 8260B	492543		
92441444008	**01589 FB**	EPA 8260B	492887		
92441444009	**01589 TB**	EPA 8260B	492887		

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WO# : 92441444

92441444

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Lc
MTJL

ALL SHADED AR

Company: ATC	Billing Information: Same
Address: 7499 Parklane Rd, Ste 12 Columbia SC 29223	
Report To: Fred Lyke	Email To: fred.lyke@atcgs.com
Copy To:	Site Collection Info/Address: 4315 Savannah Hwy
Customer Project Name/Number: DHEC0886	State: SC / County/City: Ravenel / Time Zone Collected: [ ] PT [ ] MT [ ] CT [✓] ET
Phone: 803 735-0003 Email:	Site/Facility ID #: 01589 / Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Corinne Lally	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): Corinne Lally	Turnaround Date Required: ~~Standard TAT~~ NO Cd 8/14/19 / Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: ____ [ ] Hold: ____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [✓] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: ____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: 3

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

Analyses: 8260B - BTEX, Naph, MTBE, 1ZDC4+ (X)

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: ____	
Sample pH Acceptable	Y N NA
pH Strips: ____	
Sulfide Present	Y N NA
Lead Acetate Strips: ____	

LAB USE ONLY:
Lab Sample # / Comments:

92441444

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260B - BTEX, Naph, MTBE, 1ZDC4+ (X)	Lab Sample # / Comments
01589 SW-2		G	8/13/19	1547				3	3	001
SW-3		G	8/13/19	1612				3	3	002
SW-6		G	8/13/19	1415				3	3	003
SW-7		G	8/13/19	1427				3	3	004
SW-8		G	8/13/19	1456				3	3	005
SW-9		G	8/13/19	1521				3	3	006
Dup		G	8/13/19	1429				3	3	007
FB		—	8/13/19	1620				3	3	008
TB		—	—	—				2	2	009

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: Bubble Bags

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2418101

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 927048
Cooler 1 Temp Upon Receipt: 3.4 oC
Cooler 1 Therm Corr. Factor: 0 oC
Cooler 1 Corrected Temp: 3.4 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Corinne Lally	8/14/19	J Granger PACE	8/14 1355
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
J G PACE	8/14 1541	S Roper Pace	8-14-19 1541
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____