07680

CROWN CENTRAL LLC
One North Charles Street, Suite 2200, Baltimore, Maryland 21201
(410) 539-7400

UST 34T DOCKETING

UST MAR 0 9 2017 PROGRAM

March 10, 2017

Mr. Lee Monts, Manager
Corrective Action Section
Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Dear Mr. Monts:

Crown Central, LLC is the responsible party for many sites in South Carolina most of which the environmental services are performed by Terracon Consultants, Inc. on behalf of Crown Central. As of March 10, 2017, the following Crown Central sites are transferred to Quality Environmental Solutions, Inc. (QES), a South Carolina class I Underground Storage Tank Site Rehabilitation Contractor certification # 461. Sites that have current work in process will remain with Terracon to the completion of that work. Please continue to direct all correspondence from DHEC to myself and the new environmental contractor to:

Quality Environmental Solutions, Inc.
Att: Alexander Smith-Jones
3440 Seabrook Island Road
Johns Island, SC 29455
410-841-5552

Attached is a listing of the sites that are to be transferred at this time. Please note that two sites will remain with Terracon as those sites have a Pay for Performance remediation in process (UST Permit #06443 , UST Permit # 07684). Should you have any questions regarding this please contact, Annie Smith-Jones at 410-841-5552. Thank you.

Sincerely,

Carol L Boemmel

Carol Boemmel
General Manager & Controller
(410) 347-7041

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

See attached sheet

As the UST Owner/Operator of the UST Permit #_____, I would like to use the contractor or person(s)* listed below and request that they represent me for:

IGWA

All future assessment scopes. ** Donald E. Jones

Name of Contractor/Person(s) Quality Environmental Solutions, Inc

Address 3340 Seabrook Island Road
John's Island, SC. 29455

Telephone Number 410 841-5552 Certification # 461

Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor.

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessment activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? _____ Yes CLB No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancée.

3. PAYMENT

The first $25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment.

For eligible costs exceeding the $25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one)

_____ For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor.

X For eligible costs exceeding the deductible, I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature Carol L Boemmel

Printed Name Carol L Boemmel

Date Signed March 8, 2017

Crown Central LLC
South Carolina Sites
SCDHEC SUPERB Rise-Based Corrective Action

Site	Address	SCDHEC UST Permit #	SCDHEC UST Project Manager
SC-002	Wade Hampton Blvd. Greenville, SC	09615	Barnes
SC-004	Fernwood G. Rd. Greenville, SC	08558	Rivers
SC-008	1510 W. Ezell Blvd. Spartanburg, SC	08579	Rivers
SC-011	538 St. Andrews Rd. Columbia, SC	07685	Kuhn
SC-015	3800 Devine St. Columia, SC	07680	Kuhn
SC-501	1430 Celanese Rd. Rock Hill, SC	09277	Looper
SC-510	2178 S. Pine St Spartanburg, SC	08436	Rivers
SC-515	756 Boundary Dr. Spartanburg, SC	08431	Rivers
SC-516	2796 Southport Rd. Spartanburg, SC	08467	Rivers
SC-517	Highway 150 Pacolet, SC	08466	Rivers
SC-518	4058 Reidville Rd. Spartanburg, SC	08432	Rivers
SC-528	922 Nance Street Newberry, SC	06547	Padgett
SC-532	409 Laurens Rd. Woodruff, SC	08626	Rivers
SC-550	5055 Old Buncome Rd. Trav.Rest, SC	04311	Barnes
SC-551	510 W. Georgia St. Simp	04593	Barnes
SC-553	3301 Wade Hampton Ta	15089	Barnes
SC-560	800 Broad St. Clinton, Sc	05670	Looper
SC-563	529 Church St. Laurens,	05671	Looper
SC-567	S. Main St. Clover, SC	09274	Martin
SC-596	1601 Anderson St. Willia	00554	Miner
SC-607	202 Hwy 123 Bypass Ser	06732	Padgett
SC-608	6340 St Andrews Rd. Co	06045	Kuhn
SC-609	4140 Board River Rd. Co	07891	Kuhn
SC-614	1424 North Lake Dr. Lex	06107	Kuhn
SC-615	441 Piney Grove Rd. Lex	07683	Kuhn
SC-627	2496 Old Dunbar Rd. Ca	06012	Kuhn

SC-628	3862 Highway 321 West	06106 Kuhn
SC-650	Highway 301 Summerto	02422 Thrash
SC-651	1600 Main St Conway, S	05180
SC-654	SC Hwy Pamplico, SC	03556 Martin
SC-657	901 Main St. Mullins, SC	06272 Martin
SC-659	Highway 9 Nichols, SC	06271 Looper
SC-668	201 East Main St. Andre	03700 Johnson
SC-671	3852 Byrnes Dr. St. Step	01213 Thrash
SC-676	Highway 17N Hardeevill	05290 Bryant
SC-685	34 W. Elm St. Hampton,	04856 Hornosky
SC-706	1170 Woodruff Rd. Gree	10194 Barnes

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AUG 0 4 2017

ANNIE SMITH-JONES
CROWN CENTRAL LLC C/O QES
40 HUDSON STREET SUITE 107
ANNAPOLIS MD 21401

UST 35 Tech DOCKETING

Re: **Site-Specific Work Plan Request for Groundwater Sampling**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
AFVR report received January 13, 2016
Richland County

Dear Ms. Smith-Jones:

The UST Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report and the next appropriate scope of work at the site is a comprehensive groundwater sampling event.

The groundwater sampling event should be conducted in accordance with your contractor's Annual Contractor Quality Assurance Plan (ACQAP), and must be conducted in compliance with all applicable regulations. Groundwater samples should be collected from all monitoring wells associated with the release and analyzed for BTEX, naphthalene, MTBE, 1,2-DCA, 8 oxygenates, and EDB. 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 the Site-Specific Work Plan and Cost Proposal within thirty (30) 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 regarding this site, please reference UST Permit # 07680. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0634, by fax at (803) 898-0673, or by e-mail at kuhnkm@dhec.sc.gov.

Sincerely,

Kimberly M Kuhn, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: QES, Inc., 3440 Seabrook Island Road, Johns Island, SC 29455
Technical File

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

UST
SEP 0 5 2017
DIVISION

To: Kimberly Kuhn (SCDHEC Project Manager)
From: Alexander Smith-Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 UST Permit #: 07680
Facility Address: 3800 Devine St., Columbia, SC
Responsible Party: Crown Central, LLC Phone: (410) 841-5552
RP Address: 40 Hudson Street, Suite 107, Annapolis, MD 21401
Property Owner (if different): The Niggel Family Partnership
Property Owner Address: P.O. Box 6573, Columbia, SC 29260
Current Use of Property: Pharmacy

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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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	3 Field Blank
25 Monitoring Wells	____ Surface Water	2 Duplicate	2 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: ____ Estimated Footage: ____ feet per point
# of recovery wells: ____ Estimated Footage: ____ feet per point
Comments, if warranted:

UST Permit #: 07680 Facility Name: Former SC-015

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 45 Field Work Completion: 60
Report Submittal: 90 # of Copies Provided to Property Owners: 3

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 150 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

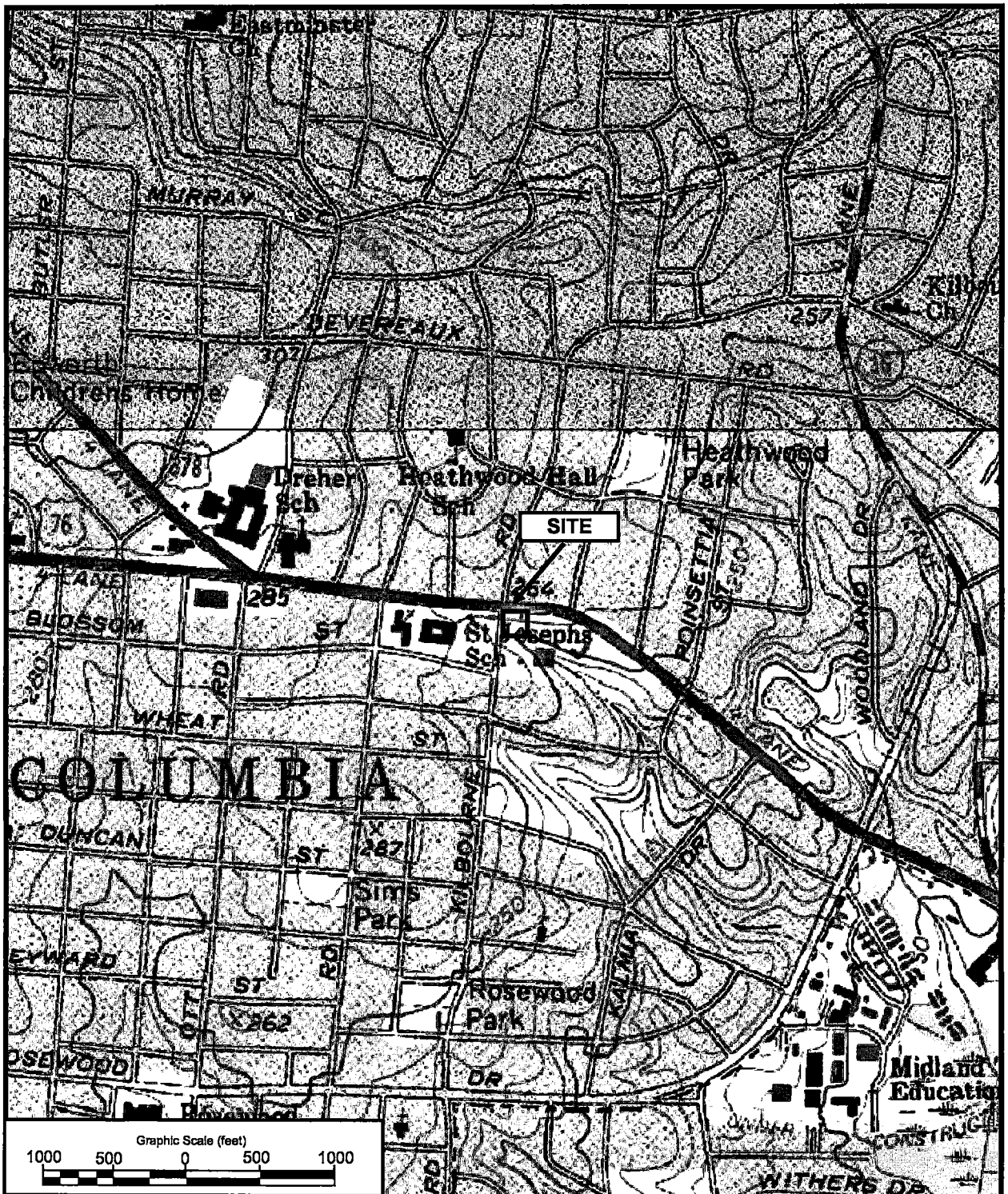
Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
All monitoring wells associated with the UST No. 07680 release will be sampled during this ground water sampling event.
If the groundwater level is bracketed within the screen interval, a grab sample will be collected.
All other monitoring wells will be purged utilizing the low-flow parametric method identified in the QES SOP.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

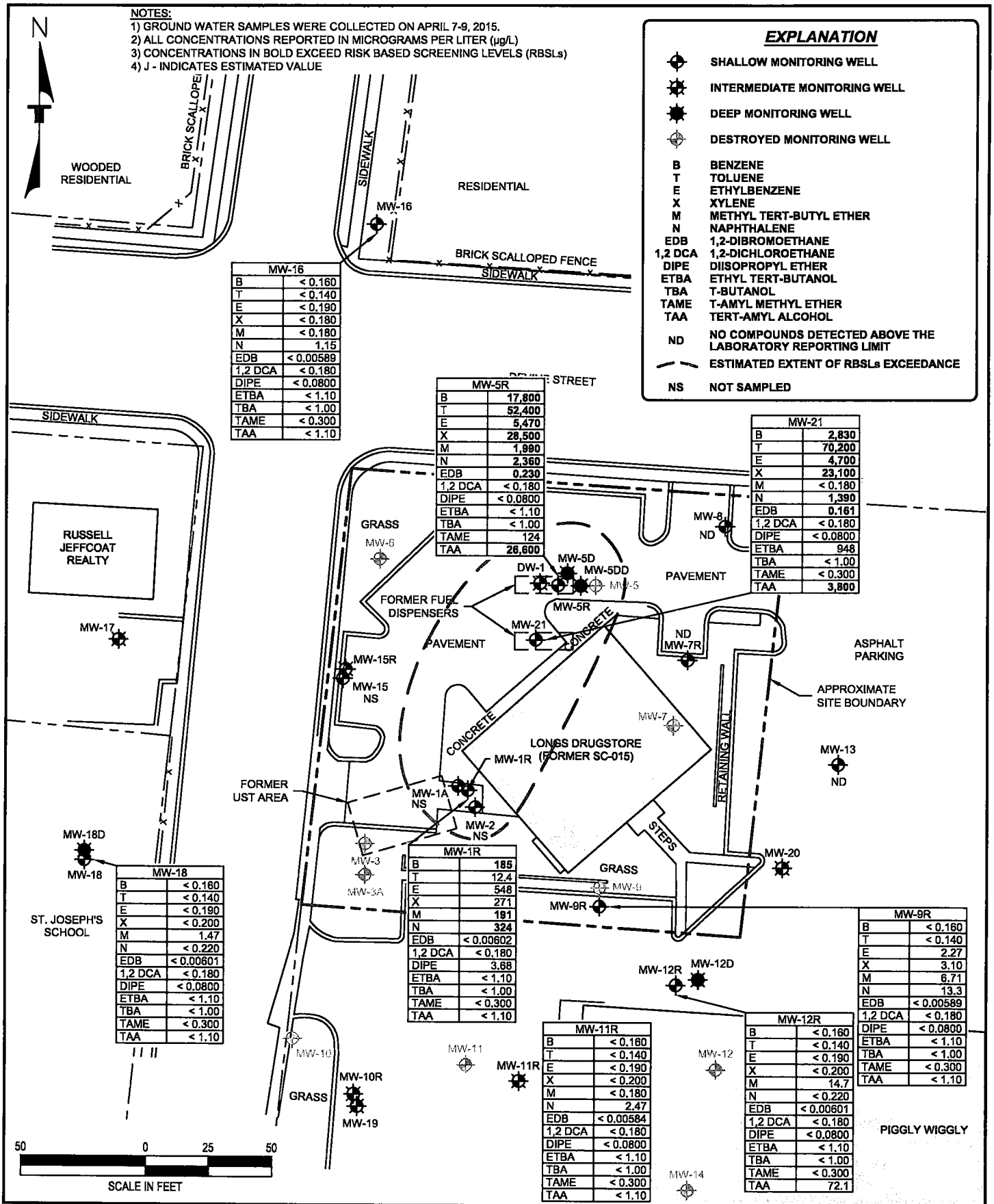
____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

Yes Other variations from ACQAP. Please describe below.
If a YSI 6820 is not available for rental, an Insitu Troll will be used. Calibration procedures are very similar. A quick cal solution is used to calibrate pH, conductivity and ORP (https://www.youtube.com/watch?v=YELjTcwuR2A). D.O. is calibrated with an internal barometer, 100% saturation and a zero point of sodium sulfite solution (https://www.youtube.com/watch?v=B4qSqYuO_AA). The operating manual for the water quality instrument can be found here: http://www.geotechenv.com/Manuals/In-Situ_Manuals/In-Situ_TROLL_9500_Manual.pdf

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



USGS TOPOGRAPHIC QUADRANGLE MAP FORT JACKSON SOUTH, SOUTH CAROLINA		Q_{ES}	**SITE LOCATION MAP** FORMER CROWN SC-015 3800 DEVINE STREET COLUMBIA, SOUTH CAROLINA UST PERMIT NO. 07680
DATE: 1982 SCALE: 1 INCH = 1000 FEET	N		**FIGURE 1: TOPOGRAPHIC MAP**
PROJECT NO. SC-015			



Project Mngr:	RWN
Drawn By:	PTK
Checked By:	RWN
Approved By:	PMH
Project No.	73078012A
Scale:	AS SHOWN
File No.	73078012A
Date:	JUNE 2015

Terracon
Consulting Engineers and Scientists
521 CLEMSON ROAD COLUMBIA, SC 29229
PH. (803) 741-9000 FAX. (803) 741-9900

SHALLOW COC CONCENTRATION MAP

FORMER SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT #07680

Fig No. 2

UST
SEP 0 5 2017
DIVISION

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ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 16, 2016

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:**

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		each	$1,020.00		$0.00
B1. Personnel **Sample, Disposal**	3	each	$423.00		$1,269.00
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 sample, 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		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)		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	25	per well/receptor	$60.00		$1,500.00
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)	2	per well/receptor	$28.00		$56.00
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	3	each	$24.60		$73.80

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:**

11. Laboratory Analyses-Groundwater					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	32	per sample	$122.00		$3,904.00
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	30	per sample	$45.20		$1,356.00
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	150	gallon	$0.56		$84.00
BB. Free Product		gallon	$0.50		$0.00
C1. Soil Treatment/Disposal		ton	$60.00		$0.00
D1. Drilling fluids		gallon	$0.42		$0.00
18. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00

UST SEP 05 2017 DIVISION

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:**

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	3	each	$50.00		$150.00
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
I1. 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 Coordination	12%	percent	$8,542.80		$1,025.14
TOTAL					$9,567.94

UST SEP 05 2017 DIVISION

*The appropriate mobilization cost can be added to complete these tasks, as necessary.

dhec
Healthy People. Healthy Communities.



OCT 1 3 2017

ANNIE SMITH-JONES
CROWN CENTRAL LLC C/O QES
40 HUDSON STREET SUITE 107
ANNAPOLIS MD 21401

Re: **Groundwater Sampling Directive**
SC015, 3800 Devine Street, Columbia, SC
UST#07680; CA#51847
Release reported August 15, 1989
Site-Specific Work Plan received September 5, 2017
Richland County

Dear Ms. Smith-Jones:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced Site-Specific Work Plan (SSWP) submitted on your behalf by Quality Environmental Solutions, Inc (QES). The next appropriate scope of work at the site is comprehensive groundwater sampling event. All work should be conducted in accordance with QES's approved SSWP and Annual Contractor Quality Assurance Plan (ACQAP), and must be conducted in compliance with all applicable regulations. QES can use the UST Quality Assurance Program Plan (QAPP) Revision 3.1 as a guideline. A copy of the UST QAPP is available at http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/.

Groundwater sampling activities at the site should begin immediately upon receipt of this letter. Cost agreement #51847 has been approved for the amount shown on the enclosed cost agreement form for sampling all monitoring wells associated with the referenced release. Groundwater samples should be collected and analyzed for BTEX, naphthalene, MTBE, 1, 2-DCA, 8 oxygenates and EDB.

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

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

QES 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.

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

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

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

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

On all correspondence regarding this site, please reference UST Permit #07680. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0634, by fax at (803) 898-0673, or by email at kuhnkm@dhec.sc.gov.

Sincerely,

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

Enc: Approved Cost Agreement

Cc: QES, Inc., 3440 Seabrook Island Road, Johns Island, SC 29455 (with enc.)
Technical File (with enc.)

Approved Cost Agreement 51847

Facility: 07680 SC015
KUHNKM
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						
		B1	PERSONNEL	3.0000	$423.000	1,269.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	25.0000	$60.000	1,500.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	2.0000	$28.000	56.00
		H1	FIELD BLANK	3.0000	$24.600	73.80
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	32.0000	$122.000	3,904.00
		F1	EDB BY 8011	30.0000	$45.200	1,356.00
17 DISPOSAL						
		AA	WASTEWATER	150.0000	$0.560	84.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0.1200	$8,542.800	1,025.14
25 WELL REPAIR						
		A1	ADDITIONAL COPIES OF REPORT	3.0000	$50.000	150.00
				Total Amount		9,567.94

Document Receipt Information

☒ Hard Copy ☒ CD ☐ Email

Date Received 1-8-18

Permit Number 07680

Project Manager Kim Kuhn

Name of Contractor QES

UST Certification Number _____

Docket Number 38Tech

Scanned _____

2017 GWA report

Quality Environmental Solutions, Inc.

40 Hudson Street, Suite 107
Annapolis, Maryland 21401

December 29, 2017

Ms. Kimberly Kuhn
South Carolina Department of Health and Environmental Control
UST Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2017 Groundwater Assessment Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Ms. Kuhn:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2017 Groundwater Assessment Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit # 07680. The subject property is currently operated as a Long's Drugstore; the underground storage tanks associated with the former Crown service station were removed in July 1991.

A directive for monitoring well sampling was issued by SCDHEC on October 13, 2017. The samples were collected on November 27 and 28, 2017 with the results presented in the attached report. Monitoring well sampling was delayed pending the securing of off-site access approvals. Light non-aqueous phase liquid (LNAPL) was not detected in any of the monitoring wells gauged and sampled during this event. The analytical results show continued dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) in the monitoring wells located in the immediate vicinity of the former dispenser islands and UST field. The previous aggressive fluid vapor recovery (AFVR) events and natural attenuation have been successful in reducing dissolved hydrocarbon concentrations and limiting further off-site migration. QES recommends completion of an additional AFVR event followed by a comprehensive groundwater sampling event and reporting of results to SCDHEC.

Please review the attached report and contact either of the undersigned at 410.841.5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,

Donald E. Jones
SCRPG #2676
Vice President

Alexander Smith-Jones
Project Manager

Attachment: 2017 Groundwater Assessment Report

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)
Ms. Elaine Fowler – Roman Catholic Diocese of Charleston (901 Orange Grove Road, Charleston SC 29407)
Mr. Carl L. Holloway – 3722 Devine Street Holdings, LLC (1712 St. Julian Pl., Columbia SC 29204)

QES File 201-189-SC 015

2017 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Ms. Kimberly Kuhn
South Carolina Department of Health
and Environmental Control
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Crown Central, LLC
40 Hudson Street, Suite 107
Annapolis, MD 21401

Prepared by:

Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455
Contractor Certification Number 461
410.841.5552

December 29, 2017

2017 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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2017 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2017 Groundwater Assessment Report* on behalf of Crown Central, LLC (Crown) for the former Crown-branded service station located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report presents the results of the November 2017 groundwater monitoring well gauging and sampling event. This event was conducted to provide additional data on groundwater quality trends associated with the August 1989 release attributed to Crown.

Groundwater monitoring and reporting activities at the Site have been conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2016), the QES *Annual Contractor Quality Assurance Plan* (QES 2017), and the October 13, 2017 SCDHEC *Groundwater Sampling Directive* and *Approved Cost Agreement No. 51847* (SCDHEC 2017).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugs) Former UST Permit # 07680
Site Location	630 Kilbourne Road Columbia, Richland County, SC 803.254.4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803.782.6274
Current Property Use	Long's Drugstore

The Site is currently developed with a Long's Drugstore. The Site is located in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Map showing land use and other pertinent site features is included as **Figure 2**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989. The Crown release is currently classified as 3BF.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Subsurface assessments and remedial activities have been completed at the Site by Crown consultants. Past activities included:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL has not been detected in the replacement wells. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Thirteen aggressive fluid vapor recovery events have been completed at the Site between April 2010 and November 2015.
- The last comprehensive sampling event prior to November 2017 occurred in April 2015.

1.3 Site Geology and Hydrogeology

The Site is located in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

A directive for an additional full round of monitoring well sampling was issued by SCDHEC on October 13, 2017. Groundwater levels were measured in the monitoring wells on November 27, 2017 using a Solinst 122 Interface Meter. LNAPL was not detected in the monitoring wells. The depths to water in the shallow wells ranged from 14.36 to 20.18 feet below the top of casing (TOC). The depths to water in the intermediate depth wells ranged from 24.63 to 32.49 feet below TOC. The depths to water in the deep wells ranged from 36.82 to 42.11 feet below TOC. The depth to water in the one deeper monitoring well (MW-5DD) was 51.58 feet below TOC. A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Form is included in **Appendix B**. Groundwater flow in the uppermost perched zone is to the south, consistent with previous observations (see **Figure 5**).

Monitoring well MW-9 could not be located and monitoring wells MW-1A and MW-13 had shallow obstructions that prevented well gauging and sampling.

Groundwater samples were collected from the accessible monitoring wells on November 27 and 28, 2017. In accordance with SCDHEC groundwater sampling guidelines, if the water level was bracketed within the well screened interval, a grab sample was collected (SCDHEC 2016). Otherwise, the well was purged of a minimum of three well volumes prior to sample collection. Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. Purge water generated during the sampling event was stored in a sealed 55-gallon drum behind the Site building pending pick up and disposal by A&D Environmental Services of Lexington, South Carolina. A copy of the waste disposal manifest (**Appendix G)** will be submitted to SCDHEC upon receipt.

Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential and turbidity were measured with the In-Situ Aqua TROLL® 600 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The samples were placed on ice in coolers and delivered along with the chain-of-custody to Shealy Environmental Services, Inc. in Columbia, South Carolina. The groundwater monitoring well samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260B
1,2-Dibromoethane (EDB)	EPA Method 8011

One field duplicate sample was collected from a groundwater monitoring well each sampling day (MW-5R and MW-21, respectively). One field blank sample was collected each sampling day using laboratory supplied deionized water. One trip blank was supplied by Shealy. The quality assurance/quality control samples were analyzed for the above parameters, excluding the EDB analysis of the trip blank; there were no discrepancies noted in the analyses of the field duplicate, field blank or trip blank except for an erroneous labeling of a field blank as a trip blank, which was corrected by the laboratory.

3.0 GROUNDWATER ASSESSMENT RESULTS

Groundwater sampling of 22 on-site and off-site monitoring wells was completed on November 27 and 28, 2017. The laboratory analytical results included:

- Benzene (B) was detected in five of the monitoring wells with concentrations ranging from 1.0 micrograms per liter (µg/L) in MW-12R to a maximum of 13,000 µg/L in MW-5R;
- Toluene (T) was detected in three of the monitoring wells with concentrations ranging from an estimated 4.1 µg/L (MW-1R) to 43,000 µg/L (MW-21);
- Ethylbenzene (E) was detected in five of the monitoring wells with concentrations ranging from 4.5 µg/L (MW-7R) to a maximum of 3,500 µg/L (MW-21);
- Xylenes (total X) were detected in seven of the monitoring wells with concentrations ranging from an estimated 0.5 µg/L (MW-8) to a maximum of 17,000 µg/L (MW-5R and MW-21);
- MTBE was detected in seven of the monitoring wells with concentrations ranging from an estimated 0.99 µg/L (MW-8) to a maximum of 1,100 µg/L (MW-5R);
- Naphthalene (N) was detected in eight of the monitoring wells with concentrations ranging from an estimated 0.52 µg/L (MW-9R) to a maximum of 1,400 µg/L (MW-5R);
- 1,2-Dibromoethane (EDB) was detected in seven of the monitoring wells with concentrations ranging from an estimated 0.0054 µg/L (MW-12R) to a maximum of 0.24 µg/L (MW-21);
- 1,2-Dichloroethane (1,2-DCA) was not detected above the laboratory detection limits, which ranged from 0.40 µg/L to 200 µg/L;
- Ethanol was not detected above the laboratory detection limits, which ranged from 40 µg/L to 20,000 µg/L;
- Ethyl tert-butyl ether (ETBE) was not detected above the laboratory detection limits, which ranged from 4.0 µg/L to 200 µg/L;
- Di-isopropyl ether (DIPE) was detected in two of the monitoring wells with concentrations of 3.0 µg/L (MW-15) and 6.1 µg/L (MW-15R);
- Ethyl tert-butanol (ETBA) was not detected above the laboratory detection limits, which ranged from 8.0 µg/L to 4,000 µg/L;
- Tert-butyl alcohol (TBA) was detected in four of the monitoring wells with concentrations ranging from an estimated 8.2 µg/L (MW-9R) to 91 µg/L (MW-15R);
- Tert-amyl methyl ether (TAME) was detected in two of the monitoring wells with an estimated 0.86 µg/L (MW-12R) and 1.75 µg/L (MW-15R); and,
- Tert-amyl alcohol (TAA) was detected in three of the monitoring wells with concentrations ranging from 69 µg/L (MW-15R) to 15,000 µg/L (MW-5R); and,

The monitoring well analytical results are summarized in **Table 3A** (petroleum hydrocarbon compounds) and **Table 3B** (fuel oxygenates). The complete laboratory report is included in **Appendix B** and the Data Verification Checklist is included in **Appendix K**.

The SCDHEC RBSL's for one or more analyte were exceeded in the following monitoring wells:

- MW-1R (B, MTBE, N and 1,2-DCA);
- MW-5R (B, T, E, X, MTBE, EDB, and TAA);
- MW-8 (B and N), MW-15R (MTBE); and,
- MW-21 (B, T, E, X, N and EDB).

Monitoring wells MW-5R and MW-21 exhibited the highest dissolved hydrocarbon concentrations; each well is located at in the area of the two former dispenser islands. The other three monitoring wells with RBSL exceedances are located further away from the former dispensers and UST field. **Figure 4** depicts the analytical results for the monitoring wells with RBSL exceedances.

4.0 CONCLUSION AND RECOMMENDATION

An additional groundwater sampling event has been completed at the former Crown location in Columbia, South Carolina. The analytical results show continued dissolved hydrocarbon concentrations above SCDHEC RBSLs in the monitoring wells located in the immediate vicinity of the former dispenser islands and UST field. The analytical data for the monitoring wells with the highest dissolved hydrocarbon concentrations (MW-5R and MW-21) are lower than the levels detected during the previous April 2015 sampling event (with the exception of benzene in MW-21) and are lower than the previous historical levels. The previous AFVR events and natural attenuation have been successful in reducing Site dissolved hydrocarbon concentrations and limiting further off-site migration.

QES recommends the following based on the historical and most recent analytical results and past assessment and remediation activities:

- Review of historical Site information files following submittal of a Freedom of Information request and receipt of files from SCDHEC;
- Completion of an additional 96-hour AFVR event on MW-5R and MW-21;
- Completion of a comprehensive groundwater sampling event one month following completion of the AFVR event. The one-month period is recommended so that the AFVR wells will have time to re-equilibrate and provide representative groundwater samples; and,
- Submittal of an AFVR and Groundwater Sampling Report to SCDHEC that will include a more complete description of the Site history, dissolved hydrocarbon fate and transport, risk assessment and recommendations for future action.

REFERENCES

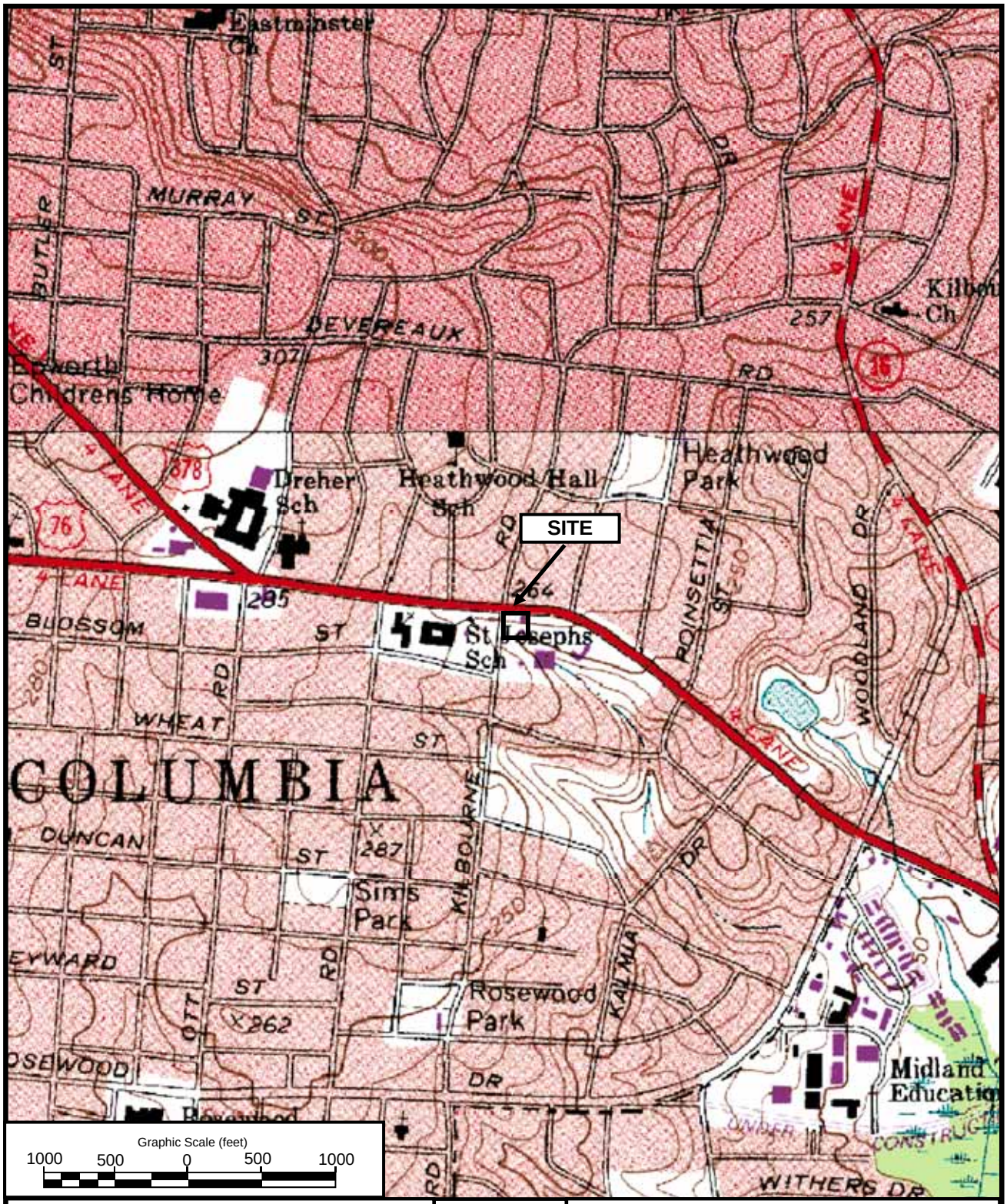
Quality Environmental Solutions, Inc. (QES), 2017. *Annual Contractor Quality Assurance Plan (ACQAP), Quality Environmental Solutions, Inc., 3340 Seabrook Island Road, Johns Island, South Carolina 29455.* June 2, 2017.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 3.1.* February 2016.

SCDHEC 2017. *Sample Directive, Former Crown SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA# 51847, Release reported August 15, 1989, Site-Specific Work Plan received September 5, 2017, Richland County.* August 29, 2017.

Terracon Consultants, Inc. (Terracon), 2015. *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680*. June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

FIGURE 1: SITE VICINITY MAP

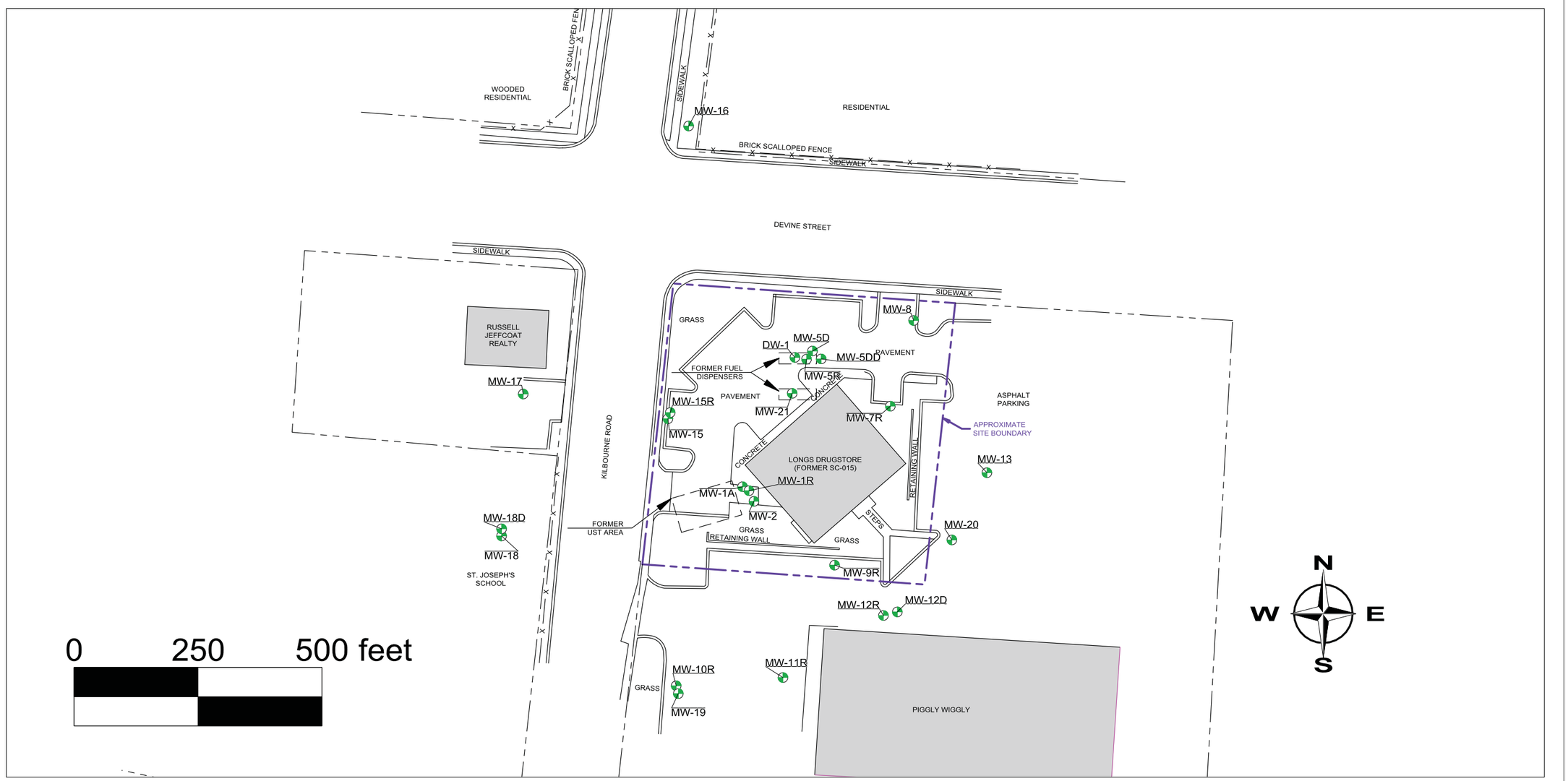


Figure 2: Site Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES
Sample Date: November 27 + 28, 2017

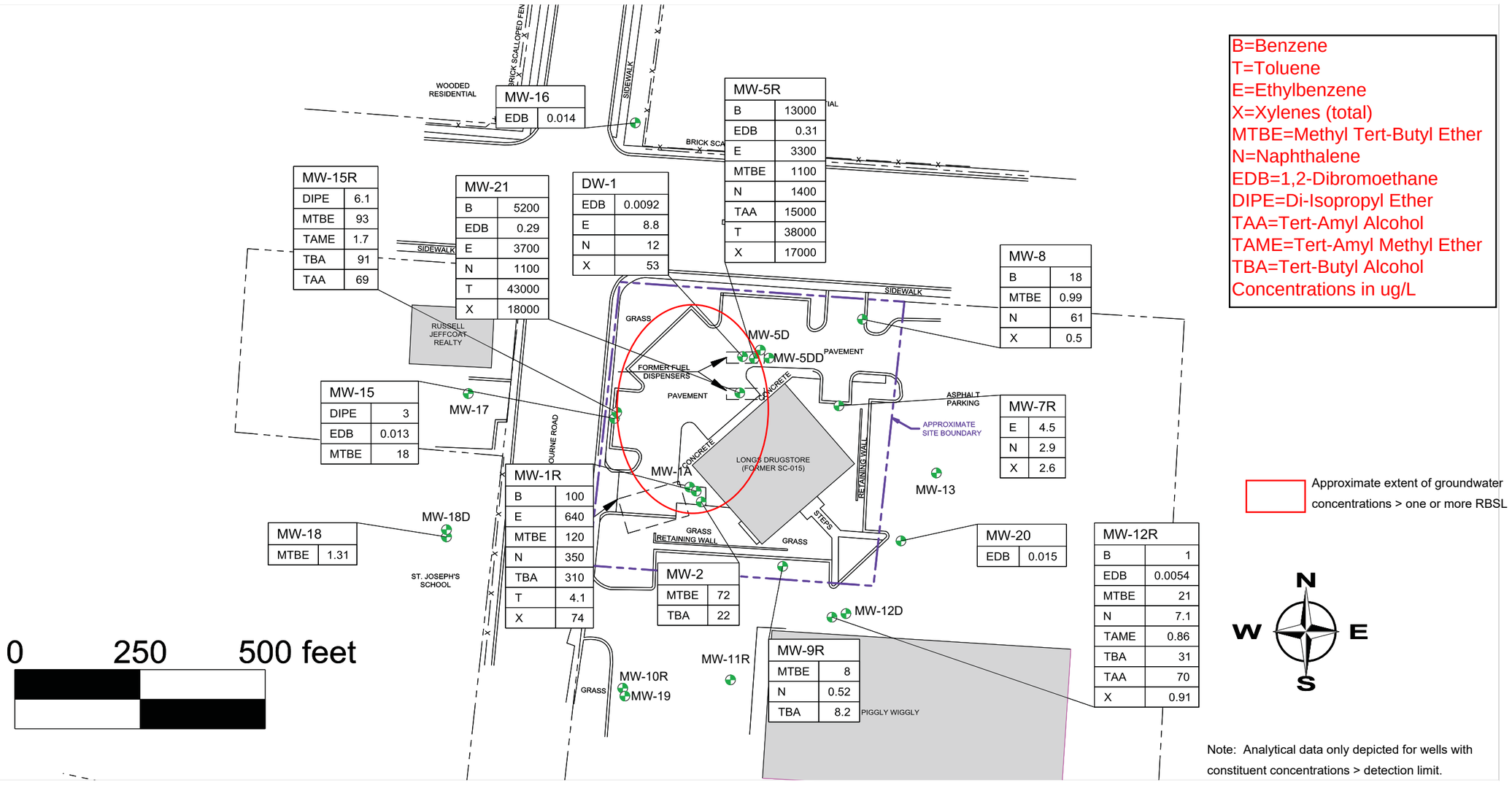


Figure 4: CoC Concentration Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES
Sample Date: November 27 + 28, 2017

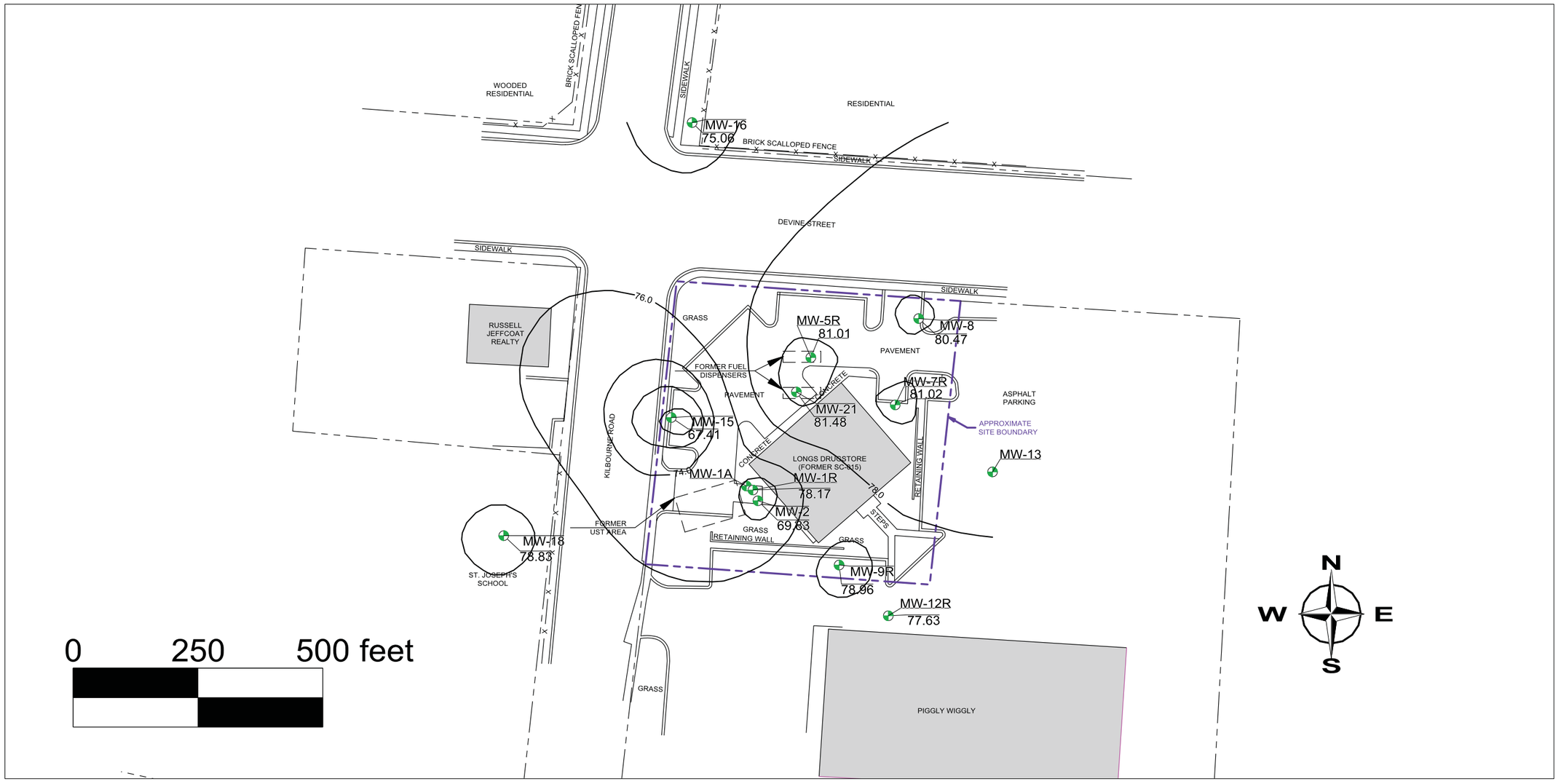


Figure 5: Potentiometric Surface Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES
Sample Date: November 27 + 28, 2017

TABLES

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit No. 07680

WELL ID	DATE	SCREEN INTERVAL (ft bgs)	TOP OF CASING ELEVATION (ft)*	DEPTH TO GROUND WATER (ft btoc)	PRODUCT THICKNESS (ft)	GROUND WATER ELEVATION (ft)
MW-1A	10/8/93	35-45	249.98	33.42	ND	216.56
	1/14/97			34.40	ND	215.58
	9/19/03			DRY	ND	ND
	12/3/07			DRY	ND	DRY
	6/3/08		98.41	DRY		
	7/22/13			DRY		
	4/7/15			DRY		
	11/27/17			Obstruction @ 8.7'		
MW-1R	1/8/09	13 - 28	98.35	15.19	ND	83.16
	7/22/13			14.28	ND	84.07
	4/7/15			15.96	ND	82.39
	11/27/17			20.18	ND	78.17
MW-2	7/16/93	?-30	261.98	DRY	ND	ND
	1/14/97			15.90	ND	246.08
	9/19/03			DRY	ND	ND
	12/3/07			DRY	ND	ND
	6/3/08		98.45	DRY	ND	DRY
	7/22/13			29.67	ND	68.78
	4/7/15			DRY		
	11/27/17			28.62	ND	69.83
MW-3	10/8/93	3-18	248.72	15.94	ND	232.78
	1/14/97			16.09	ND	232.63
	9/19/03			DESTROYED		
MW-3A	10/8/93	35-45	248.63	31.77	ND	216.86
	1/14/97			32.80	ND	215.83
	9/19/03			NR	ND	ND
	12/3/07			DESTROYED		
MW-5	10/8/93	15-25	250.52	20.18	1.31	230.34
	1/14/97			DRY	ND	ND
	9/19/03			DESTROYED		
MW-5R	5/14/08	5-20	98.29	15.19	ND	83.1
	1/20/09			14.71	ND	83.58
	7/22/13			12.67	ND	85.62
	4/7/15			14.36	ND	83.93
	11/27/17			17.28	ND	81.01
MW-5D	1/23/09	80-85	98.49	49.32	ND	49.17
	7/22/13			47.90	ND	50.59
	4/7/15			43.15	ND	55.34
	11/27/17			42.11	ND	56.38
MW-5DD	3/23/09	112 - 117	98.83	54.16	ND	44.67
	7/22/13			54.57	ND	44.26
	4/7/15			52.52	ND	46.31
	11/27/17			51.58	ND	47.25
MW-6	10/8/93	12.5-22.5	250.83	19.56	ND	231.27
	1/14/97			20.34	0.04	230.49
	9/19/03			DESTROYED		

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit No. 07680

WELL ID	DATE	SCREEN INTERVAL (ft bgs)	TOP OF CASING ELEVATION (ft)*	DEPTH TO GROUND WATER (ft btoc)	PRODUCT THICKNESS (ft)	GROUND WATER ELEVATION (ft)
MW-7	10/8/93	15.7-25.7	250.18	19.80	ND	230.38
	1/14/97			20.52	ND	229.66
	9/19/03			DESTROYED		
MW-7R	5/14/08	10-25	98.85	15.46	ND	83.39
	1/20/09			14.95	ND	83.90
	7/22/13			12.25	ND	86.60
	4/7/15			14.40	ND	84.45
	11/27/17			17.83	ND	81.02
MW-8	10/8/93	15-25	250.55	19.23	ND	231.32
	1/14/97			20.53	ND	230.02
	9/19/03			14.81	ND	235.74
	12/3/07			14.44	ND	236.11
	5/15/08		99.48	16.21	ND	83.27
	1/20/09			15.97	ND	83.51
	7/22/13			13.28	ND	86.20
	4/7/15			15.71	ND	83.77
	11/27/17			19.01	ND	80.47
MW-9	10/8/93	10-20	244.41	14.60	ND	229.81
	1/14/97			15.49	ND	228.92
	9/19/03			DRY	ND	ND
	12/3/07			NOT LOCATED		
MW-9R	5/14/08	5-20	93.32	12.79	ND	80.53
	1/20/09			12.18	ND	81.14
	7/22/13			9.90	ND	83.42
	4/7/15			11.13	ND	82.19
	11/27/17			14.36	ND	78.96
MW-10	10/8/93	12.5-22.5	247.94	18.80	ND	229.14
	1/14/97			18.66	ND	229.28
	9/19/03			DESTROYED		
MW-10R	5/14/08	15-30	95.71	DRY		
	7/22/13			29.99	ND	65.72
	4/7/15			29.85	ND	65.86
	11/27/17			28.30	ND	67.41
MW-11	10/8/93	5.8-15.8	247.57	14.65	ND	232.92
	1/14/97			14.60	ND	232.97
	9/19/03			DESTROYED		
MW-11R	5/14/08	15-30	92.26	29.28	ND	62.98
	1/20/09			28.76	ND	63.50
	7/22/13			28.80	ND	63.46
	4/7/15			26.53	ND	65.73
	11/27/17			25.45	ND	66.81
MW-12	10/8/93	8.2-18.2	240.78	14.65	ND	226.13
	1/14/97			15.30	ND	225.48
	9/19/03			DESTROYED		

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit No. 07680

WELL ID	DATE	SCREEN INTERVAL (ft bgs)	TOP OF CASING ELEVATION (ft)*	DEPTH TO GROUND WATER (ft btoc)	PRODUCT THICKNESS (ft)	GROUND WATER ELEVATION (ft)
MW-12R	5/14/08	5-20	92.43	14.34	ND	78.09
	1/20/09			13.95	ND	78.48
	7/22/13			10.62	ND	81.81
	4/7/15			11.55	ND	80.88
	11/27/17			14.80	ND	77.63
MW-12D	1/23/09	60-75	92.51	41.25	ND	51.26
	7/22/13			40.84	ND	51.67
	4/7/15			38.30	ND	54.21
				36.82	ND	55.69
MW-13	10/8/93	6.5-16.5	243.12	13.73	ND	229.39
	1/14/07			14.51	ND	228.61
	9/19/03			10.85	ND	232.27
	12/3/07			10.91	ND	232.21
	6/3/08		94.26	13.70	ND	80.56
	1/20/09			14.60	ND	79.66
	7/22/13			9.81	ND	84.45
	4/7/15			10.40	ND	83.86
	11/27/17			Obstruction @ 12.2'		
MW-14	10/8/93	8-18	241.51	13.98	ND	227.53
	1/14/97			14.10	ND	227.41
	9/19/03			DESTROYED		
MW-15	1/14/97	20-35	249.43	DRY		
	9/19/03			33.86	ND	215.57
	12/3/07			34.09	ND	215.34
	5/15/08		99.70	DRY		
	7/22/13			34.18	ND	65.52
	4/7/15			33.85	ND	65.85
	11/27/17			32.29	ND	67.41
MW-15R	1/20/09	24.2-39.2	100.47	35.52	ND	64.95
	7/22/13			DRY		
	4/7/15			24.23	ND	76.24
	11/27/17			32.06	ND	68.41
MW-16	1/14/97	20-35	251.74	27.45	ND	224.29
	9/19/03			26.56	ND	225.18
	12/3/07			27.89	ND	223.85
	5/15/08		102.85	26.96	ND	75.89
	1/20/09			26.76	ND	76.09
	7/22/13			26.68	ND	76.17
	4/7/15			26.65	ND	76.20
	11/27/17			27.79	ND	75.06
MW-17	5/14/08	25.5-39.5	100.84	36.70	ND	64.14
	1/20/09			36.02	ND	64.82
	7/22/13			36.04	ND	64.80
	4/7/15			33.58	ND	67.26
	11/27/17			32.49	ND	68.35

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit No. 07680

WELL ID	DATE	SCREEN INTERVAL (ft bgs)	TOP OF CASING ELEVATION (ft)*	DEPTH TO GROUND WATER (ft btoc)	PRODUCT THICKNESS (ft)	GROUND WATER ELEVATION (ft)
MW-18	1/20/09	15-30	103.46	22.21	ND	81.25
	7/22/13			19.69	ND	83.77
	4/7/15			20.00	ND	83.46
	11/28/17			24.63	ND	78.83
MW-18D	1/23/09	57-62	103.28	49.20	ND	54.08
	7/22/13			44.64	ND	58.64
	4/7/15			41.60	ND	61.68
	11/28/17			39.26	ND	64.02
MW-19	1/20/09	19.6-34.6	95.74	31.30	ND	64.44
	7/22/13			31.47	ND	64.27
	4/7/15			29.27	ND	66.47
	11/27/17			28.29	ND	67.45
MW-20	1/20/09	18.7-33.7	92.93	29.94	ND	62.99
	7/22/13			29.97	ND	62.96
	4/7/15			27.88	ND	65.05
	11/27/17			26.91	ND	66.02
MW-21	4/16/09	5-20	98.89	15.42	ND	83.47
	7/22/13			12.86	ND	86.03
	4/7/15			14.53	ND	84.36
	11/27/17			17.41	ND	81.48
DW-1	5/15/08	35-40	98.48	35.31	ND	63.17
	1/20/09			34.84	ND	63.64
	7/11/11		97.48	NR	NR	NR
	7/22/13			34.65	ND	62.83
	4/7/15			32.33	ND	65.15
	11/27/27			31.31	ND	66.17

NOTES:
1) bgs = below ground surface
2) btoc = below top-of-casing
3) ND = not detected
4) NR = Not Recorded. Water levels had not stabilized during sampling (rising in well)
5) * = Top-of-casing elevations were altered during site redevelopment. A new survey was conducted in 2008 by Jay Joshi, PLS #14811, as part of an additional assessment event.

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Hydrocarbon Compounds

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

WELL ID	SAMPLE DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	MTBE (µg/L)	NAPHTH-ALENE (µg/L)	EDB (µg/L)	LEAD (mg/l)
RBSL		*5*	*1,000*	*700*	*10,000*	*40*	*25*	*0.05*	*0.015*
MW-1A	7/16/93	< 1.00	< 1.00	< 1.00	< 1.00	2	NA	NA	NA
	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA
	9/19/03	DRY							
	12/3/07	DRY							
	6/3/08	DRY							
	7/22/13	DRY							
	4/7/15	DRY							
	11/27/17	OBSTRUCTION @ 8.7'							
MW-1R	1/20/09	**388**	113	310	786	**546**	**89.3**	< 0.00350	< 0.0027
	7/22/13	**13.1**	1.56 J	207	263	16.1	**132**	< 0.0039	NA
	4/7/15	**185**	12.4	548	271	**191**	**324**	< 0.00602	NA
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.0048	NA
MW-2	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA
	9/19/03	DRY							
	12/3/07	DRY							
	6/3/08	DRY							
	7/22/13	NOT SAMPLED*							
	4/7/15	DRY							
	11/27/17	<0.40	<0.40	<0.40	<0.40	72	<0.40	<0.0050	NA
MW-3	7/16/93	5	13	1	5	< 1.00	NA	NA	NA
	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA
	9/19/03	DESTROYED							
MW-3A	7/16/93	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA	NA
	1/14/97	< 1.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA
	9/19/03	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	NA	NA
	12/3/07	DESTROYED							
MW-5	7/26/93	**19,000**	**86,000**	**3,500**	**22,000**	**4,000**	**6,000**	NA	NA
	9/19/03	DESTROYED							
MW-5R	5/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	< 2,500	**4.84**	< 0.015
	1/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	**0.019**
	7/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	NA
	4/9/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	NA
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	NA
MW-5R DUP	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.220**	NA
MW-5D	1/12/09	**51.9**	346	65.2	331	< 0.385	**28.5**	NA	NA
	1/24/09	**124**	624	88.8	333	12.1	**33.5 J**	< 0.0035	0.42
	7/23/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00577	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0049	NA
MW-5DD	3/23/09	1.85	11.1	3.98	18.0	< 0.077	7.24	< 0.0035	< 0.003
	7/23/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	8.40	< 0.00588	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0048	NA

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Hydrocarbon Compounds

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

WELL ID	SAMPLE DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	MTBE (µg/L)	NAPHTH-ALENE (µg/L)	EDB (µg/L)	LEAD (mg/l)
RBSL		*5*	*1,000*	*700*	*10,000*	*40*	*25*	*0.05*	*0.015*
MW-6	7/26/93	**9,600**	**2,200**	**1,900**	9,300	< 1.00	NA	NA	NA
	9/19/03	DESTROYED							
MW-7	7/16/93	**19,000**	**86,000**	3,500	2,200	**4,000**	NA	NA	NA
	1/14/97	**7,000**	**8,900**	**1,700**	3,200	**4,300**	**150**	NA	NA
	9/19/03	DESTROYED							
MW-7R	5/14/08	**37.1**	355	68.1	91.8	< 5.00	**29.7**	< 0.010	**0.023**
	1/20/09	2.33	78.5	126	106	< 0.077	15.7	< 0.003	< 0.003
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00583	NA
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.0049	NA
MW-7R DUP	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00578	NA
MW-8	7/16/93	**130**	**1,100**	73	730	< 5.00	NA	NA	NA
	1/14/97	**40**	1.70	1.60	32	< 1.00	31	NA	NA
	9/19/03	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	NA	NA
	12/3/07	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	NA	NA
	5/15/08	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	< 0.010	< 0.015
	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	< 0.077	2.44 J	< 0.003	< 0.003
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00598	NA
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.0049	NA
MW-9	7/16/93	< 10	< 10	< 10	< 10	**10,000**	NA	NA	NA
	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	**3,800**	**500**	NA	NA
	12/3/07	WELL NOT LOCATED							
MW-9R	5/14/08	**34.9**	11.9	126	249	34.1	**175**	< 0.010	< 0.015
	1/20/09	4.36	< 0.076	16.6	< 0.183	11.7	8.86	< 0.003	< 0.003
	7/22/13	**21.8**	2.82	114	25.4	19.7	**92.2**	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	2.27	3.10	6.71	13.3	< 0.00589	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.0048	NA
MW-10	7/16/93	< 1.00	< 1.00	< 1.00	< 1.00	**970**	NA	NA	NA
	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	32	< 1.00	NA	NA
	9/19/03	DESTROYED							
MW-10R	6/3/08	DRY							
	1/20/09	DRY							
	7/22/13	NOT SAMPLED*							
	4/7/15	NOT SAMPLED*							
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0050	NA
MW-11	7/16/93	3	< 1.00	< 1.00	< 1.00	**56**	NA	NA	NA
	1/14/97	**13**	< 1.00	< 1.00	< 1.00	**190**	**500**	NA	NA
	9/19/03	DESTROYED							
MW-11R	5/15/08	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	< 0.010	< 15
	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	< 0.077	2.50 J	< 0.003	0.0086 B
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	2.47	< 0.00584	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0049	NA

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Hydrocarbon Compounds

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

WELL ID	SAMPLE DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	MTBE (µg/L)	NAPHTH-ALENE (µg/L)	EDB (µg/L)	LEAD (mg/l)
RBSL		*5*	*1,000*	*700*	*10,000*	*40*	*25*	*0.05*	*0.015*
MW-12	7/26/93	**1,200**	29	150	110	**1,000**	NA	NA	NA
	1/14/97	4.90	< 1.00	1.20	< 1.00	**74**	< 1.00	NA	NA
	9/19/03	DESTROYED							
MW-12R	5/14/08	**74.4**	2.46	52.3	25.2	**145**	**138**	< 0.010	**34**
	1/20/09	3.02	< 0.076	< 0.065	< 0.183	**64.1**	< 0.118	< 0.003	< 0.003
	7/22/13	2.27	< 0.122	< 0.109	< 0.179	13.3	< 0.176	< 0.0039	NA
	4/9/15	< 0.160	< 0.140	< 0.190	< 0.200	14.7	< 0.220	< 0.00601	NA
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.0054 J	NA
MW-12D	1/7/09	< 0.065	< 0.076	< 0.065	5.62	**52.9**	< 0.118	NA	NA
	1/23/09	< 0.065	1.17	< 0.065	2.29J	< 0.077	2.36 J	< 0.0035	< 0.003
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/9/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00607	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0048	NA
MW-13	7/26/93	< 1.00	4.00	< 1.00	5.00	< 1.00	NA	NA	NA
	1/14/97	**18**	< 1.00	< 1.00	< 1.00	28	1.20	NA	NA
	9/19/03	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	NA	NA
	12/3/07	1.33	< 1.00	< 1.00	< 3.00	5.99	< 5.00	NA	NA
	6/3/08	< 1.00	< 1.00	< 1.00	< 3.00	< 1.00	< 5.00	< 0.010	**0.037**
	1/20/09	DRY							
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00596	NA
	11/27/17	OBSTRUCTION @ 12.2'							
MW-14	10/1/93	< 1.00	< 1.00	< 1.00	< 1.00	**270**	NA	NA	NA
	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	14	< 1.00	NA	NA
	9/19/03	DESTROYED							
MW-15	9/19/03	< 1.00	< 1.00	< 1.00	< 3.00	**300**	< 5.00	NA	NA
	12/3/07	< 1.00	< 1.00	< 1.00	< 3.00	**160**	< 5.00	NA	NA
	5/15/08	DRY							
	7/22/13	NOT SAMPLED*							
	4/7/15	NOT SAMPLED*							
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	NA
MW-15R	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	**185**	2.59 J	< 0.003	**0.075**
	7/22/13	DRY							
	4/9/15	< 0.160	< 0.140	< 0.190	5.00	**185**	8.47	< 0.00586	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.0049	NA
MW-16	1/14/97	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	NA
	9/19/03	2.60	< 1.00	< 1.00	< 3.00	5.66	< 5.00	NA	NA
	12/3/07	**58.5**	< 1.00	< 1.00	4.06	29.5	5.23	NA	NA
	5/15/08	< 1.00	< 1.00	< 1.00	< 1.00	1.75	< 1.00	NA	< 0.015
	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	1.11	< 0.118	< 0.003	< 0.003
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	1.6	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.180	< 0.180	1.15	< 0.00589	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	NA

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Hydrocarbon Compounds

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

WELL ID	SAMPLE DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	MTBE (µg/L)	NAPHTH-ALENE (µg/L)	EDB (µg/L)	LEAD (mg/l)
RBSL		*5*	*1,000*	*700*	*10,000*	*40*	*25*	*0.05*	*0.015*
MW-17	5/14/08	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	NA	< 15
	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	0.550 J	< 0.118	< 0.003	< 0.003
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00586	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	NA
MW-18	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	4.68	< 0.118	< 0.003	0.0074 B
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	1.24	< 0.176	< 0.0039	NA
	4/9/15	< 0.160	< 0.140	< 0.190	< 0.200	1.47	< 0.220	< 0.00601	NA
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.0048	NA
MW-18 DUP	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	1.31	< 0.176	< 0.0039	NA
MW-18D	1/23/09	< 0.065	< 0.076	< 0.065	< 0.183	< 0.077	2.47 J	< 0.035	0.0088 B
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/9/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00602	NA
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0048	NA
MW-19	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	< 0.077	< 0.118	< 0.003	0.034
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	2.33	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00592	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0048	NA
MW-20	1/20/09	< 0.065	< 0.076	< 0.065	< 0.183	0.853 J	< 0.118	< 0.003	0.069
	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	1.07	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	3.07	< 0.220	< 0.00591	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	NA
MW-21	1/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	0.018
	7/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	NA
	4/7/15	**2,830**	**70,200**	**4,700**	**23,100**	< 0.180	**1,390**	**0.161**	NA
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.29**	NA
MW-21 DUP	7/23/13	**10,800**	**45,000**	**4,980**	**23,900**	**142 J**	**1,320**	**0.065**	NA
	4/7/15	**2,480**	**78,600**	**4,640**	**22,600**	< 0.180	**1,240**	**0.0957**	NA
	11/27/17	**5,100**	**43,000**	**3,500**	**17,000**	<200	**1,000**	**0.24**	NA
DW-1	5/15/08	**17.1**	96.6	19.2	104	3.53	**43.8**	< 0.010	< 0.015
	1/20/09	**5.80**	< 0.076	3.68	12.5	< 0.077	7.22	< 0.003	**0.036**
	8/9/13	1.97	<0.122	<0.109	0.999J	<0.078	1.03J	<0.0039	NA
	4/8/15	< 0.160	10.2	10.10	69.3	< 0.180	20.3	< 0.00593	NA
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.0092 J	NA
DW-1 DUP	8/9/13	1.77	<0.122	0.627J	1.08J	<0.078	0.934J	<0.0039	NA
Field Blank	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	7/23/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	8/9/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	< 0.0039	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00582	NA
	4/8/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00574	NA
	4/9/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	< 0.00599	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.0049	NA

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Hydrocarbon Compounds

Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

WELL ID	SAMPLE DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	MTBE (µg/L)	NAPHTH-ALENE (µg/L)	EDB (µg/L)	LEAD (mg/l)
RBSL		*5*	*1,000*	*700*	*10,000*	*40*	*25*	*0.05*	*0.015*
Trip Blank	7/22/13	< 0.111	< 0.122	< 0.109	< 0.179	< 0.078	< 0.176	NA	NA
	8/9/13	<0.111	<0.122	<0.109	<0.179	<0.078	<0.176	NA	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	NA	NA
	4/7/15	< 0.160	< 0.140	< 0.190	< 0.200	< 0.180	< 0.220	NA	NA
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NA	NA

Notes:
1) Results shown in boldface type indicate concentrations which exceed the RBSL for that compound
2) µg/L - micrograms per liter or parts per billion
3) NA = Not Analyzed
4) RBSL- Risk-Based Screening Level as defined by the SCDHEC RBCA Document
5) NS = Not Sampled
6) < 1.00 = below laboratory detection limit
8) J = estimated value
7) B = result between the Reporting Detection Limit and the Method Detection Limit
8) * = insufficient water in well to collect representative water sample

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Additives (Oxygenates)

Former Crown SC-015
Columbia, South Carolina

UST Permit # 07680

WELL ID	SAMPLE DATE	1,2-DCA (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	DIPE (µg/L)	ETBA (µg/L)	TBA (µg/L)	TAME (µg/L)	TAA (µg/L)	TBF (µg/L)
ALs	-	*5*	*10,000*	*47*	*150*	*NE*	*1,400*	*128*	*240*	*NE*
MW-1A	5/14/08	DRY								
	7/22/13	DRY								
	4/7/15	DRY								
	11/27/17	OBSTRUCTION @ 8.7'								
MW-1R	1/20/09	**12.9 J**	< 202	< 1.30	8.40 J	< 21.8	911	< 1.74	280	< 1.79
	7/22/13	< 0.232	< 250	< 0.468	< 0.472	< 75.2	< 0.580	< 0.480	< 2.03	< 0.974
	4/7/15	< 0.180	< 8.00	< 0.300	3.68	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<4.0	<400	<4.0	<4.0	<80	310	<4.2	<80	<20
MW-2	5/14/08	DRY								
	7/22/13	NOT SAMPLED*								
	4/7/15	DRY								
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	22	<0.42	<8.0	<2.0
MW-5R	5/15/08	< 2,500	< 10,000	< 500	< 500	< 1,000	**6,880**	< 500	**46,900**	< 1,000
	1/20/09	< 44.9	< 20,200	< 130	< 265	< 2,180	**6,230**	< 174	**39,500**	< 179
	7/23/13	**< 58.1**	**< 62,500**	**< 117**	< 118	< 18,800	< 145	< 120	**29,300**	< 243
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	124	**26,600**	< 1.00
	11/27/17	<200	<20,000	<200	<200	<4,000	<4,000	<210	**15,000**	<1,000
MW-5R DUP	11/27/17	<200	<20,000	<200	<200	<4,000	<4,000	<210	**11,000**	<1,000
MW-5D	1/24/09	< 0.89	< 403	< 2.59	< 5.29	< 43.6	< 4.12	< 3.48	< 15.6	<0.357
	7/23/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-5DD	3/23/09	< 0.89	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	<0.348	< 15.6	< 0.357
	7/23/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-7R	5/14/08	< 25.0	< 100	< 5.00	< 5.00	< 10.0	< 50.0	< 5.00	125	< 10.0
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Additives (Oxygenates)

Former Crown SC-015
Columbia, South Carolina

UST Permit # 07680

WELL ID	SAMPLE DATE	1,2-DCA (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	DIPE (µg/L)	ETBA (µg/L)	TBA (µg/L)	TAME (µg/L)	TAA (µg/L)	TBF (µg/L)
ALs	-	*5*	*10,000*	*47*	*150*	*NE*	*1,400*	*128*	*240*	*NE*
MW-7R DUP	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
MW-8	5/15/08	< 5.00	< 20.0	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	< 10.0	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-9R	5/14/08	< 25.0	< 100	< 5.00	< 5.00	< 10.0	< 50.0	< 5.00	< 50.0	< 10.0
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	6.93 J	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	6.48 J	< 0.240	13.3 J	< 0.487
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.0
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	8.2 J	<0.42	<8.0	<2.0
MW-10R	5/14/08	DRY								
	7/22/13	NOT SAMPLED*								
	4/7/15	NOT SAMPLED*								
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-11R	5/15/08	< 5.00	71.6	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	< 10.0	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-12R	5/14/08	< 5.00	59.2	< 1.00	< 1.00	< 2.00	89.6	5.28	141	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	27.0	< 0.348	47.8	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	21.6	< 0.487
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	72.1	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	31	0.86 J	70.0	<2.0
MW-12D	1/23/09	< 0.09	< 403	< 2.59	< 5.29	< 43.6	< 41.2	< 3.48	< 156	< 3.57
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-13	6/3/08	< 5.00	49.4	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	< 10.0	< 2.00
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	OBSTRUCTION @ 12.2'								

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Additives (Oxygenates)

Former Crown SC-015
Columbia, South Carolina

UST Permit # 07680

WELL ID	SAMPLE DATE	1,2-DCA (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	DIPE (µg/L)	ETBA (µg/L)	TBA (µg/L)	TAME (µg/L)	TAA (µg/L)	TBF (µg/L)
ALs	-	*5*	*10,000*	*47*	*150*	*NE*	*1,400*	*128*	*240*	*NE*
MW-15	5/15/08	DRY								
	7/22/13	NOT SAMPLED*								
	4/7/15	NOT SAMPLED*								
	11/27/17	<0.40	<40	<0.40	3.0	<8.0	<8.0	<0.42	<8.0	<2.0
MW-15R	1/20/09	0.924 J	< 40.3	< 0.259	6.08	< 4.36	155	< 0.348	44.6	< 0.357
	7/22/13	DRY								
	4/9/15	1.01	< 8.00	< 0.300	8.69	75	182	< 0.300	131	< 1.00
	11/27/17	<0.40	<40	<0.40	6.1	<8.0	91	1.7 J	69	<2.0
MW-16	5/15/08	< 5.00	43.9	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	< 10.0	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-17	5/14/08	< 5.00	47.1	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	< 10.0	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/8/15	< 0.180	< 0.800	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-18	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/28/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-18 DUP	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
MW-18D	1/23/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/28/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-19	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Additives (Oxygenates)

Former Crown SC-015
Columbia, South Carolina

UST Permit # 07680

WELL ID	SAMPLE DATE	1,2-DCA (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	DIPE (µg/L)	ETBA (µg/L)	TBA (µg/L)	TAME (µg/L)	TAA (µg/L)	TBF (µg/L)
ALs	-	*5*	*10,000*	*47*	*150*	*NE*	*1,400*	*128*	*240*	*NE*
MW-20	1/20/09	< 0.091	< 40.4	< 0.259	< 0.529	< 4.36	< 4.12	< 0.349	< 15.7	< 0.358
	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
MW-21	1/23/09	< 45	< 20200	< 130	<265	<2180	<2060	<174	<7800	<179
	7/23/13	**< 29.0**	**< 31,200**	**< 58.5**	< 59.0	< 9,400	< 72.5	< 60.0	**4,870 J**	< 122
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	948	< 1.00	< 0.300	**3,800**	< 1.00
	11/27/17	<200	<20,000	<200	<200	<4,000	<4,000	<210	<4,000	<1,000
MW-21 DUP	7/23/13	**< 29.0**	**< 31,200**	**< 58.5**	< 59.0	< 9,400	< 72.5	< 60.0	**4,430 J**	< 122
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.800	933	< 1.00	< 0.300	**3,690**	< 1.00
	11/27/17	<200	<20,000	<200	<200	<4,000	<4,000	<210	<4,000	<1,000
DW-1	5/15/08	< 5.00	45.7	< 1.00	< 1.00	< 2.00	< 10.0	< 1.00	35.5	< 2.00
	1/20/09	< 0.090	< 40.3	< 0.259	< 0.529	< 4.36	< 4.12	< 0.348	< 15.6	< 0.357
	8/9/13	<0.116	< 125	<0.234	<0.236	<37.6	<0.290	<0.240	<1.01	<0.487
	4/8/15	<0.180	<8.00	<0.300	<0.0800	<1.10	<1.00	<0.300	<1.10	<1.00
	11/27/17	<2.0	<200	<2.0	<2.0	<40	<40	<2.1	<40	<10
DW-1 DUP	8/9/13	<0.116	< 125	<0.234	<0.236	<37.6	<0.290	<0.240	<1.01	<0.487
Field Blank	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	7/23/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	< 0.290	< 0.240	< 1.01	< 0.487
	8/9/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	7.47 J	< 0.240	< 1.01	< 0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	4/8/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	4/9/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0
Trip Blank	7/22/13	< 0.116	< 125	< 0.234	< 0.236	< 37.6	5.32 J	< 0.240	< 1.01	< 0.487
	8/9/13	**5.42**	<125	<0.234	<0.236	<37.6	<0.290	<0.240	<1.01	<0.487
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	4/7/15	< 0.180	< 8.00	< 0.300	< 0.0800	< 1.10	< 1.00	< 0.300	< 1.10	< 1.00
	11/27/17	<0.40	<40	<0.40	<0.40	<8.0	<8.0	<0.42	<8.0	<2.0

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Petroleum Additives (Oxygenates)

Former Crown SC-015
Columbia, South Carolina

UST Permit # 07680

WELL ID	SAMPLE DATE	1,2-DCA (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	DIPE (µg/L)	ETBA (µg/L)	TBA (µg/L)	TAME (µg/L)	TAA (µg/L)	TBF (µg/L)
ALs	-	*5*	*10,000*	*47*	*150*	*NE*	*1,400*	*128*	*240*	*NE*

Notes:
1) Results shown in boldface type indicate concentrations which exceed the AL for that compound
2) µg/L = micrograms per liter or parts per billion
3) AL = SCDHEC Action Level
4) NE = Not Established
5) 1,2-DCA = 1,2-dichloroethane
6) Oxygenates abbreviated as:
   - ETBE = ethyl tert-butyl ether
   - DIPE = d-iisopropyl ether
   - ETBA = ethyl tert-butanol
   - TBA = tert-butyl alcohol
   - TAME = tert-amyl methyl ether
   - TAA = tert-amyl alcohol
   - TBF = tert-butyl formate
7) * = insufficient water in well to collect representative water sample

APPENDIX B

SAMPLING LOGS, LABORATORY DATA SHEETS AND CHAIN-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurment Form

Gauging Date: 11/27/17	**QES Associate(s):** Alex Smith-Jones
Project Number: SC-015/UST 07680	**Others Present:**
Project Name: Columbia Longo Drugstore	**QES Associate Signature:**

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Notes - Well Specific (roadbox condition, well cap and lock condition, etc.)
MW-15	—	32.25	—	34.4	0830	2/2 good
MW-15R	—	32.06	—	38.9	0835	2/2 good; ID tag incorrect depth
MW-8	—	19.01	—	22.7	0846	0 bolts; well lid upsidedown to fit cap
MW-7R	—	17.83	—	24.5	0857	0 bolts – H_2O in box
MW-13	—	ND/dry	—	12.2	0911	2/2 - box full of roots & dirt
MW-20	—	26.91	—	33.8	0919	1/2 bolts; no seal around casing
MW-12D	—	36.82	—	76.0	0924	1/2 bolts; poor seal
MW-12R	—	14.80	—	18.8	0930	0 bolts box full of mud; poor cap seal
MW-11R	—	25.45	—	30.0	0942	0 bolts
MW-19	—	28.29	—	34.8	0952	2/2 no well cap or casing seal
MW-10R	—	28.30	—	30.1	0950	0 bolts; well cap not in casing upon arrival
MW-16	—	27.79	—	34.8	1002	2/2 good; no seal around casing
MW-17	—	32.49	—	39.5	1009	well box/pad need reinstallation
DW-2						next to MW-17/ # 19560
MW-1A	—	—	—	8.7	1017	obstruction/dry
MW-1R	—	20.18	—	28.4	1020	0/2 bolts both broken off – well cap broke
MW-2	—	28.62	—	30.1	1024	2/2
MW-5DD	—	51.58	—	~~115.8~~ 1193	1030	2/2 well cap broken
MW-5D	—	42.11	—	85.0	1036	0/2 bolts – nitrile as "well cap"
DW-1	—	31.31	—	39.0	1048	2 id tags say DW-5
MW-21	—	17.41	—		1052	0/2 bolts H_2O in box
MW-5R	—	17.28	—	19.8	1055	0 bolts; well cap not in TOC upon arrival
MW-9R	—	14.36	—	19.7	1416	2/2 box full H_2O V. Soft bottom

Comments (Discussion, Required Action, Health and Safety Concerns):

MW-5D no apparent seal between 2 casings

School Wells MW-18 DTW – 24.63 DTB – 29.8

MW-18D DTW – 35.26 DTB – 49.2

Quality Environmental Solutions, Inc.
Low Flow Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015/UST 07680	**Others Present:**	
Project Name:	Longs Drugstore – Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1447			22.04	6.07	1.11	335.60	-29.0	9.05	

Gauging Time:		**Sample Time:**	1447
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-1R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Low Flow Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	—
Project Name:	Longs Drugstore – Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1459			21.52	11.02	6.17	4303.8	-351.7	17.65	- WOW

Gauging Time:		**Sample Time:**	1459
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Stabilization = 3 successive readings of:

Well Number:

MW-2

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Low Flow Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST #680	**Others Present:**	
Project Name:	Longs Drugstore – Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	Grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1522			21.75	5.72	0.46	544.05	-41.5	34.88	

Gauging Time:		**Sample Time:**	1522
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	12

Dup1 – 1527

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-5R

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longo Drugstore — Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	82.5

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1739		Start Purge (0)	19.66	4.58	2.76	60.17	240.2	9.82	
1746		7.5	19.79	5.26	2.71	57.69	199.7 ~~275.41~~		2479.41 tur
1750		~~15.0~~ 82	purged to pump inlet						
		~~22.4~~	20.01	5.35	2.70	62.79	152.0	4024.7	

Gauging Time:		**Sample Time:**	1800
Depth to Water (ft.):	42.11		
Well Depth (ft.):	85.0	**# of Containers:**	6

V = 7.5 3V = 22.4

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-5D

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore - Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	117

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1657		Start Purge (0)	19.06	4.56	5.71	45.38	138.1	7.90	
1708		11.8	15.46	4.26	7.25	41.09	157.3	96.14	
1718		23.6	15.45	4.21	7.33	40.45	226.2	40.56	
1728		35.3	15.44	4.22	7.35	40.21	230.1	8.38	

Gauging Time:		**Sample Time:**	1733
Depth to Water (ft.):	51.59		
Well Depth (ft.):	119.3	**# of Containers:**	6

v= 11.8 3v= 3v = 35.3

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW - 5DD

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / ~~bailer~~
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1212			21.46	6.64	0.75	557.05	-63.8	194.26	

Gauging Time:		**Sample Time:**	1212
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW-7R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	—
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / (bailer)
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1206			21.67	5.24	1.67	170.88	20.1	211.16	

Gauging Time:		**Sample Time:**	1206
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-8

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Low Flow Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015/<ST 07680	**Others Present:**	
Project Name:	Longs Drugstore Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1420			20.57	6.29	1.51	290.07	-27.9	34.51	

Gauging Time:	1416	**Sample Time:**	1420
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-5R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-615/ UST 20.7690	**Others Present:**	
Project Name:	Longs Drugstore, Columbia	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
						2.55			
1321			19.37	5.08	6.06	~~6.06~~	140.6	155.90	

Gauging Time:		**Sample Time:**	1321
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-10R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1251			21.23	5.81	6.54	70.49	-20.9	26.29	
~~1256~~									

Gauging Time:		**Sample Time:**	1251
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:

MW-11R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	Grab

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1239			21.00	6.19	1.02	544.40	-67.0	26.61	

Gauging Time:		**Sample Time:**	1239
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-12R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore - Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	~~76.5~~ 74'

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1830		Start Purge (0)	19.11	4.08	1.97	68.00	244.7	57.28	
1835		6.8	18.58	4.23	6.30	65.03	251.4	42710	
1840		13.6	19.92	4.28	6.19	63.78	263.5	~~70~~.79	
1846		20.5	20.02	4.25	6.24	63.69	272.7	13.70	

Gauging Time:		**Sample Time:**	1850
Depth to Water (ft.):	36.82		
Well Depth (ft.):	76.0	**# of Containers:**	6

1V = 6.8 3V = 20.5

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-12D

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	—
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / ~~bailer~~
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1133			19.85	5.77	3.23	319.12	217.7	105.54	

Gauging Time:		**Sample Time:**	1133
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Field Blank — 1121

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-15

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	—
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	[signature]
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / (bailer)
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	Grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
									screen full of mud -
1140			19.01	6.19	0.98	625.88	-7.6	385.61	partial obstruction @ 30'

Gauging Time:		**Sample Time:**	1140
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-15R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC 015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / ~~bailer~~
Analysis Requested:	VOC ~~tox~~ EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1350			13.44	4.60	6.16	200.49	184.2	65.24	

Gauging Time:		**Sample Time:**	1350
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-16

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 UST 07680	**Others Present:**	
Project Name:	Longs Drugstore, Columbia SC	**ES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1407			19.01	4.97	6.01	103.71	188.8	286.47	

Gauging Time:		**Sample Time:**	1407
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:
MW-17

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/28/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	Talia Holday
Project Name:	Longo Drugstore - Columbia, SC	**QES Signature:**	[signature]
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
0901			18.12	4.97	6.19	259.71	272.2	284.61	

Gauging Time:	0840	**Sample Time:**	0901
Depth to Water (ft.):	~~39.26~~ 24.63		
Well Depth (ft.):	~~49.2~~ 29.8	**# of Containers:**	6

V = ACSV 3V = TOS Field Blank - 0800

Stabilization = 3 successive readings of:

Well Number: *+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU*

MW-18

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/28/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	Talia Hobday
Project Name:	Longs Drugstore – Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	47

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
0913		Start Purge (0)	18.88	4.08	3.80	23.61	284.6	843.58	
0915		1.7	19.63	4.18	3.83	22.86	295.7	569.53	
0916		3.42.2	19.56	5.47	3.96	33.97	252.6	304.43	purged to pump inlet

Gauging Time:	0845	**Sample Time:**	0920
Depth to Water (ft.):	39.26		
Well Depth (ft.):	45.2	**# of Containers:**	6

v= 1.7 3v= 5.2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-18D

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC 615 UST 07680	**Others Present:**	
Project Name:	Longs Drugstore	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1315			19.79	4.86	7.08	67.91	120.1	14.96	

Gauging Time:		**Sample Time:**	1315
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number:

MW-19

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore, Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	submersible pump / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	grab

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1221			22.02	6.02	5.87	91.63	22.6	19.93	

Gauging Time:		**Sample Time:**	1221
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW-20

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Low Flow Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC-015 / UST 07680	**Others Present:**	
Project Name:	Longs Drugstore — Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	bailer
Analysis Requested:	VOC + EDB	**Pump Intake at:**	grab

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1545									
~~1550~~			21.12	5.31	0.70	221.74	32.0	109.76	

Gauging Time:		**Sample Time:**	1545
Depth to Water (ft.):			
Well Depth (ft.):		**# of Containers:**	12

Dup 2 - 1550

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Well Number:
MW-21

Quality Environmental Solutions, Inc.
Ground Water Sampling Field Form

Date:	11/27/17	**QES Associate(s):**	Alex Smith-Jones
Project Number:	SC015 / UST 07690	**Others Present:**	—
Project Name:	Longo Drugstore – Columbia, SC	**QES Signature:**	
Analytical Laboratory:	Shealy	**Purge Method:**	~~submersible pump~~ / bailer
Analysis Requested:	BTEXMN, 1-2DCA, Oxys, EDB	**Pump Intake at:**	~~37~~

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1622		Start Purge (0)	20.28	5.26	1.20	243.87	58.2	12.65	
1626		1.4	20.04	5.67	2.48	249.51	34.0	1148.5	
1630		2.8	19.87	5.70	2.52	246.38	36.0	1134.3	
1634		4.0	19.82	5.68	2.65	241.10	45.2	1156.8	

Gauging Time:		**Sample Time:**	1634
Depth to Water (ft.):	31.31		
Well Depth (ft.):	39.0	**# of Containers:**	6

V = 1.34 3V = 4.0

Stabilization = 3 successive readings of:

Well Number:
DW-1

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455
Attention: Alexander Smith-Jones

Project Name: Longs Drugstore - Columbia, SC

Project Number: SC-015/UST 07680

Lot Number:**SK28010**

Date Completed:12/05/2017

12/05/2017 1:14 PM
Approved and released by:
Project Manager: Kelly M. Nance

The electronic signature above is the equivalent of a handwritten signature.
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Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Case Narrative
Quality Environmental Solutions, Inc.
Lot Number: SK28010

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.

Volatiles

The matrix spike/matrix spike duplicate (MS/MSD) associated with sample -015 had tert-butyl formate recovered outside of the acceptance limits. The laboratory control spike (LCS) was recovered within the required acceptance limits; therefore, this likely demonstrates a matrix effect.

The MS associated with sample -015 had one surrogate recovered below the acceptance limits. The method blank, LCS and sample had the surrogate recovered within the required acceptance limits. The sample results are reported and no corrective action is required.

Sample -021 was diluted 5X due to the sample matrix. The reporting limits have been raised accordingly.

Sample Summary
Quality Environmental Solutions, Inc.
Lot Number: SK28010

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	Trip Blank	Aqueous	11/27/2017	11/28/2017
002	07680-Field Blank	Aqueous	11/27/2017 1121	11/28/2017
003	07680-MW-15	Aqueous	11/27/2017 1133	11/28/2017
004	07680-MW-15R	Aqueous	11/27/2017 1140	11/28/2017
005	07680-MW-8	Aqueous	11/27/2017 1206	11/28/2017
006	07680-MW-7R	Aqueous	11/27/2017 1212	11/28/2017
007	07680-MW-20	Aqueous	11/27/2017 1221	11/28/2017
008	07680-MW-12R	Aqueous	11/27/2017 1239	11/28/2017
009	07680-MW-11R	Aqueous	11/27/2017 1251	11/28/2017
010	07680-MW-19	Aqueous	11/27/2017 1315	11/28/2017
011	07680-MW-10R	Aqueous	11/27/2017 1321	11/28/2017
012	07680-MW-16	Aqueous	11/27/2017 1350	11/28/2017
013	07680-MW-17	Aqueous	11/27/2017 1407	11/28/2017
014	07680-MW-9R	Aqueous	11/27/2017 1420	11/28/2017
015	07680-MW-1R	Aqueous	11/27/2017 1447	11/28/2017
016	07680-MW-2	Aqueous	11/27/2017 1459	11/28/2017
017	07680-MW-5R	Aqueous	11/27/2017 1522	11/28/2017
018	07680-Dup1	Aqueous	11/27/2017 1527	11/28/2017
019	07680-MW-21	Aqueous	11/27/2017 1545	11/28/2017
020	07680-Dup 2	Aqueous	11/27/2017 1550	11/28/2017
021	07680-DW-1	Aqueous	11/27/2017 1634	11/28/2017
022	07680-MW-5DD	Aqueous	11/27/2017 1733	11/28/2017
023	07680-MW-5D	Aqueous	11/27/2017 1800	11/28/2017
024	07680-MW-12D	Aqueous	11/27/2017 1850	11/28/2017
025	07680-Field Blank	Aqueous	11/28/2017 0800	11/28/2017
026	07680-MW-18	Aqueous	11/28/2017 0901	11/28/2017
027	07680-MW-18D	Aqueous	11/28/2017 0920	11/28/2017

(27 samples)

Detection Summary

Quality Environmental Solutions, Inc.

Lot Number: SK28010

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
003	07680-MW-15	Aqueous	Diisopropyl ether (IPE)	8260B	3.0		ug/L	9
003	07680-MW-15	Aqueous	Methyl tertiary butyl ether	8260B	18		ug/L	9
003	07680-MW-15	Aqueous	1,2-Dibromoethane (EDB)	8011	0.013	J	ug/L	9
004	07680-MW-15R	Aqueous	tert-Amyl alcohol (TAA)	8260B	69		ug/L	10
004	07680-MW-15R	Aqueous	tert-Amyl methyl ether	8260B	1.7	J	ug/L	10
004	07680-MW-15R	Aqueous	Diisopropyl ether (IPE)	8260B	6.1		ug/L	10
004	07680-MW-15R	Aqueous	Methyl tertiary butyl ether	8260B	93		ug/L	10
004	07680-MW-15R	Aqueous	tert-butyl alcohol (TBA)	8260B	91		ug/L	10
005	07680-MW-8	Aqueous	tert-Amyl alcohol (TAA)	8260B	190		ug/L	11
005	07680-MW-8	Aqueous	Benzene	8260B	18		ug/L	11
005	07680-MW-8	Aqueous	Methyl tertiary butyl ether	8260B	0.99	J	ug/L	11
005	07680-MW-8	Aqueous	Naphthalene	8260B	61		ug/L	11
005	07680-MW-8	Aqueous	Xylenes (total)	8260B	0.50	J	ug/L	11
006	07680-MW-7R	Aqueous	Ethylbenzene	8260B	4.5		ug/L	12
006	07680-MW-7R	Aqueous	Naphthalene	8260B	2.9		ug/L	12
006	07680-MW-7R	Aqueous	Xylenes (total)	8260B	2.6		ug/L	12
007	07680-MW-20	Aqueous	1,2-Dibromoethane (EDB)	8011	0.015	J	ug/L	13
008	07680-MW-12R	Aqueous	tert-Amyl alcohol (TAA)	8260B	70		ug/L	14
008	07680-MW-12R	Aqueous	tert-Amyl methyl ether	8260B	0.86	J	ug/L	14
008	07680-MW-12R	Aqueous	Benzene	8260B	1.0		ug/L	14
008	07680-MW-12R	Aqueous	Methyl tertiary butyl ether	8260B	21		ug/L	14
008	07680-MW-12R	Aqueous	Naphthalene	8260B	7.1		ug/L	14
008	07680-MW-12R	Aqueous	tert-butyl alcohol (TBA)	8260B	31		ug/L	14
008	07680-MW-12R	Aqueous	Xylenes (total)	8260B	0.91	J	ug/L	14
008	07680-MW-12R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.0054	J	ug/L	14
012	07680-MW-16	Aqueous	1,2-Dibromoethane (EDB)	8011	0.014	J	ug/L	18
013	07680-MW-17	Aqueous	1,2-Dibromoethane (EDB)	8011	0.013	J	ug/L	19
014	07680-MW-9R	Aqueous	Methyl tertiary butyl ether	8260B	8.0		ug/L	20
014	07680-MW-9R	Aqueous	Naphthalene	8260B	0.52	J	ug/L	20
014	07680-MW-9R	Aqueous	tert-butyl alcohol (TBA)	8260B	8.2	J	ug/L	20
015	07680-MW-1R	Aqueous	Benzene	8260B	100		ug/L	21
015	07680-MW-1R	Aqueous	Ethylbenzene	8260B	640		ug/L	21
015	07680-MW-1R	Aqueous	Methyl tertiary butyl ether	8260B	120		ug/L	21
015	07680-MW-1R	Aqueous	Naphthalene	8260B	350		ug/L	21
015	07680-MW-1R	Aqueous	tert-butyl alcohol (TBA)	8260B	310		ug/L	21
015	07680-MW-1R	Aqueous	Toluene	8260B	4.1	J	ug/L	21
015	07680-MW-1R	Aqueous	Xylenes (total)	8260B	74		ug/L	21
016	07680-MW-2	Aqueous	Methyl tertiary butyl ether	8260B	72		ug/L	22
016	07680-MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	22		ug/L	22
017	07680-MW-5R	Aqueous	tert-Amyl alcohol (TAA)	8260B	15000		ug/L	23
017	07680-MW-5R	Aqueous	Benzene	8260B	13000		ug/L	23
017	07680-MW-5R	Aqueous	Ethylbenzene	8260B	3300		ug/L	23
017	07680-MW-5R	Aqueous	Methyl tertiary butyl ether	8260B	1100		ug/L	23
017	07680-MW-5R	Aqueous	Naphthalene	8260B	1400		ug/L	23
017	07680-MW-5R	Aqueous	Toluene	8260B	38000		ug/L	23

Detection Summary (Continued)

Lot Number: SK28010

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
017	07680-MW-5R	Aqueous	Xylenes (total)	8260B	17000		ug/L	23
017	07680-MW-5R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.31		ug/L	23
018	07680-Dup1	Aqueous	tert-Amyl alcohol (TAA)	8260B	11000		ug/L	24
018	07680-Dup1	Aqueous	Benzene	8260B	10000		ug/L	24
018	07680-Dup1	Aqueous	Ethylbenzene	8260B	2800		ug/L	24
018	07680-Dup1	Aqueous	Methyl tertiary butyl ether	8260B	830		ug/L	24
018	07680-Dup1	Aqueous	Naphthalene	8260B	890		ug/L	24
018	07680-Dup1	Aqueous	Toluene	8260B	34000		ug/L	24
018	07680-Dup1	Aqueous	Xylenes (total)	8260B	15000		ug/L	24
018	07680-Dup1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.22		ug/L	24
019	07680-MW-21	Aqueous	Benzene	8260B	5200		ug/L	25
019	07680-MW-21	Aqueous	Ethylbenzene	8260B	3700		ug/L	25
019	07680-MW-21	Aqueous	Naphthalene	8260B	1100		ug/L	25
019	07680-MW-21	Aqueous	Toluene	8260B	43000		ug/L	25
019	07680-MW-21	Aqueous	Xylenes (total)	8260B	18000		ug/L	25
019	07680-MW-21	Aqueous	1,2-Dibromoethane (EDB)	8011	0.29		ug/L	25
020	07680-Dup 2	Aqueous	Benzene	8260B	5100		ug/L	26
020	07680-Dup 2	Aqueous	Ethylbenzene	8260B	3500		ug/L	26
020	07680-Dup 2	Aqueous	Naphthalene	8260B	1000		ug/L	26
020	07680-Dup 2	Aqueous	Toluene	8260B	43000		ug/L	26
020	07680-Dup 2	Aqueous	Xylenes (total)	8260B	17000		ug/L	26
020	07680-Dup 2	Aqueous	1,2-Dibromoethane (EDB)	8011	0.24		ug/L	26
021	07680-DW-1	Aqueous	Ethylbenzene	8260B	8.8		ug/L	27
021	07680-DW-1	Aqueous	Naphthalene	8260B	12		ug/L	27
021	07680-DW-1	Aqueous	Xylenes (total)	8260B	53		ug/L	27
021	07680-DW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.0092	J	ug/L	27
026	07680-MW-18	Aqueous	Methyl tertiary butyl ether	8260B	0.41	J	ug/L	32

(72 detections)

Client: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-001
Description: Trip Blank
Matrix: Aqueous
Date Sampled: 11/27/2017
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0059	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		81	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		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

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: SK28010-002
Description: 07680-Field Blank | Matrix: Aqueous
Date Sampled: 11/27/2017 1121
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0124	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		78	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1017	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-15
Date Sampled: 11/27/2017 1133
Date Received: 11/28/2017

Laboratory ID: SK28010-003
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0351	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	3.0		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	18		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1028	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.013	J	0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-15R
Date Sampled: 11/27/2017 1140
Date Received: 11/28/2017

Laboratory ID: SK28010-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0416	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	69		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	1.7	J	10	0.42	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	6.1		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	93		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	91		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		78	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1038	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-8
Date Sampled: 11/27/2017 1206
Date Received: 11/28/2017

Laboratory ID: SK28010-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0440	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	190		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260B	18		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	0.99	J	1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	61		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.50	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		78	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1049	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-7R
Date Sampled: 11/27/2017 1212
Date Received: 11/28/2017

Laboratory ID: SK28010-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 0504	BWS		58375

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	4.5		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	2.9		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	2.6		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		79	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1059	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-007
Description: 07680-MW-20
Matrix: Aqueous
Date Sampled: 11/27/2017 1221
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1126	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		80	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1110	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.015	J	0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-008
Description: 07680-MW-12R
Matrix: Aqueous
Date Sampled: 11/27/2017 1239
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1828	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	70		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	0.86	J	10	0.42	ug/L	1
Benzene	71-43-2	8260B	1.0		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	21		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	7.1		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	31		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.91	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1121	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.0054	J	0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-11R
Date Sampled: 11/27/2017 1251
Date Received: 11/28/2017

Laboratory ID: SK28010-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	11/30/2017 1145	JJG		58516

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	2
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	2
Ethanol	64-17-5	8260B	ND		100	40	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	2
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		90	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1131	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		71	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-010
Description: 07680-MW-19
Matrix: Aqueous
Date Sampled: 11/27/2017 1315
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1216	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1142	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-10R
Date Sampled: 11/27/2017 1321
Date Received: 11/28/2017

Laboratory ID: SK28010-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1241	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		78	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1152	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-16
Date Sampled: 11/27/2017 1350
Date Received: 11/28/2017

Laboratory ID: SK28010-012
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1305	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		77	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1203	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.014	J	0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-17
Date Sampled: 11/27/2017 1407
Date Received: 11/28/2017

Laboratory ID: SK28010-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	11/30/2017 1210	JJG		58516

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	2
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	2
Ethanol	64-17-5	8260B	ND		100	40	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	2
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1214	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.013	J	0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-9R
Date Sampled: 11/27/2017 1420
Date Received: 11/28/2017

Laboratory ID: SK28010-014
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1853	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	8.0		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	0.52	J	1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	8.2	J	20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		77	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1224	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		68	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-1R
Date Sampled: 11/27/2017 1447
Date Received: 11/28/2017

Laboratory ID: SK28010-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	11/29/2017 1600	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		200	80	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		100	4.2	ug/L	1
Benzene	71-43-2	8260B	100		10	4.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		10	4.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	4.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		200	80	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	400	ug/L	1
Ethylbenzene	100-41-4	8260B	640		10	4.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	120		10	4.0	ug/L	1
Naphthalene	91-20-3	8260B	350		10	4.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	310		200	80	ug/L	1
Toluene	108-88-3	8260B	4.1	J	10	4.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	74		10	4.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		71	70-130
Bromofluorobenzene		79	70-130
Toluene-d8		85	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1235	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		71	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-2
Date Sampled: 11/27/2017 1459
Date Received: 11/28/2017

Laboratory ID: SK28010-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1355	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	72		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	22		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		85	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/29/2017 1245	DAL1	11/28/2017 1950	58348

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-5R
Date Sampled: 11/27/2017 1522
Date Received: 11/28/2017

Laboratory ID: SK28010-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	500	11/30/2017 1754	JJG		58516

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	15000		10000	4000	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	210	ug/L	2
Benzene	71-43-2	8260B	13000		500	200	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2500	1000	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		500	200	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	200	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	4000	ug/L	2
Ethanol	64-17-5	8260B	ND		50000	20000	ug/L	2
Ethylbenzene	100-41-4	8260B	3300		500	200	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	200	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	1100		500	200	ug/L	2
Naphthalene	91-20-3	8260B	1400		500	200	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	4000	ug/L	2
Toluene	108-88-3	8260B	38000		500	200	ug/L	2
Xylenes (total)	1330-20-7	8260B	17000		500	200	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1856	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.31		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		77	57-137

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: Quality Environmental Solutions, Inc. | Laboratory ID: SK28010-018
Description: 07680-Dup1 | Matrix: Aqueous
Date Sampled: 11/27/2017 1527
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	500	11/29/2017 1649	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	11000		10000	4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	210	ug/L	1
Benzene	71-43-2	8260B	10000		500	200	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2500	1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	200	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	4000	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	20000	ug/L	1
Ethylbenzene	100-41-4	8260B	2800		500	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	200	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	830		500	200	ug/L	1
Naphthalene	91-20-3	8260B	890		500	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	4000	ug/L	1
Toluene	108-88-3	8260B	34000		500	200	ug/L	1
Xylenes (total)	1330-20-7	8260B	15000		500	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		73	70-130
Bromofluorobenzene		81	70-130
Toluene-d8		86	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1906	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.22		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-019
Description: 07680-MW-21
Matrix: Aqueous
Date Sampled: 11/27/2017 1545
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	500	11/29/2017 1713	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		10000	4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	210	ug/L	1
Benzene	71-43-2	8260B	5200		500	200	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2500	1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	200	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	4000	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	20000	ug/L	1
Ethylbenzene	100-41-4	8260B	3700		500	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	200	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	200	ug/L	1
Naphthalene	91-20-3	8260B	1100		500	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	4000	ug/L	1
Toluene	108-88-3	8260B	43000		500	200	ug/L	1
Xylenes (total)	1330-20-7	8260B	18000		500	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1917	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.29		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		65	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-Dup 2
Date Sampled: 11/27/2017 1550
Date Received: 11/28/2017

Laboratory ID: SK28010-020
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	500	11/29/2017 1738	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		10000	4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	210	ug/L	1
Benzene	71-43-2	8260B	5100		500	200	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2500	1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	200	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	4000	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	20000	ug/L	1
Ethylbenzene	100-41-4	8260B	3500		500	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	200	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	200	ug/L	1
Naphthalene	91-20-3	8260B	1000		500	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	4000	ug/L	1
Toluene	108-88-3	8260B	43000		500	200	ug/L	1
Xylenes (total)	1330-20-7	8260B	17000		500	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		81	70-130
Toluene-d8		86	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1927	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.24		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		68	57-137

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: Quality Environmental Solutions, Inc. | Laboratory ID: SK28010-021
Description: 07680-DW-1 | Matrix: Aqueous
Date Sampled: 11/27/2017 1634
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	11/29/2017 1803	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	40	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	2.1	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	2.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	10	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	2.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	40	ug/L	1
Ethanol	64-17-5	8260B	ND		500	200	ug/L	1
Ethylbenzene	100-41-4	8260B	8.8		5.0	2.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	2.0	ug/L	1
Naphthalene	91-20-3	8260B	12		5.0	2.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	40	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	53		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		86	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1938	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.0092	J	0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		75	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-5DD
Date Sampled: 11/27/2017 1733
Date Received: 11/28/2017

Laboratory ID: SK28010-022
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1420	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		83	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 1949	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		129	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-5D
Date Sampled: 11/27/2017 1800
Date Received: 11/28/2017

Laboratory ID: SK28010-023
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1445	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		86	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 2021	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-024
Description: 07680-MW-12D
Matrix: Aqueous
Date Sampled: 11/27/2017 1850
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1510	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		73	70-130
Bromofluorobenzene		82	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 2031	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

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: Quality Environmental Solutions, Inc.
Laboratory ID: SK28010-025
Description: 07680-Field Blank
Matrix: Aqueous
Date Sampled: 11/28/2017 0800
Date Received: 11/28/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1101	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 2042	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-18
Date Sampled: 11/28/2017 0901
Date Received: 11/28/2017

Laboratory ID: SK28010-026
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/29/2017 1535	JJG		58404

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	40	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	0.41	J	1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		70	70-130
Bromofluorobenzene		78	70-130
Toluene-d8		86	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 2053	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		64	57-137

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: Quality Environmental Solutions, Inc.
Description: 07680-MW-18D
Date Sampled: 11/28/2017 0920
Date Received: 11/28/2017

Laboratory ID: SK28010-027
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	12/04/2017 2231	BWS		58803

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	8.0	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.42	ug/L	2
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	2.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1.0	0.40	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	8.0	ug/L	2
Ethanol	64-17-5	8260B	ND		100	40	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.40	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	8.0	ug/L	2
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/30/2017 2103	DAL1	11/28/2017 1950	58349

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		71	57-137

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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QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ58375-001
Batch: 58375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	11/28/2017 2232
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	11/28/2017 2232
Benzene	ND		1	1.0	0.40	ug/L	11/28/2017 2232
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	11/28/2017 2232
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	11/28/2017 2232
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	11/28/2017 2232
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	11/28/2017 2232
Ethanol	ND		1	100	40	ug/L	11/28/2017 2232
Ethylbenzene	ND		1	1.0	0.40	ug/L	11/28/2017 2232
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	11/28/2017 2232
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	11/28/2017 2232
Naphthalene	ND		1	1.0	0.40	ug/L	11/28/2017 2232
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	11/28/2017 2232
Toluene	ND		1	1.0	0.40	ug/L	11/28/2017 2232
Xylenes (total)	ND		1	1.0	0.40	ug/L	11/28/2017 2232

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		75	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ58375-002
Batch: 58375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	830		1	83	70-130	11/28/2017 2131
tert-Amyl methyl ether (TAME)	50	45		1	90	70-130	11/28/2017 2131
Benzene	50	45		1	90	70-130	11/28/2017 2131
tert-Butyl formate (TBF)	250	250		1	99	70-130	11/28/2017 2131
1,2-Dichloroethane	50	42		1	83	70-130	11/28/2017 2131
Diisopropyl ether (IPE)	50	46		1	92	70-130	11/28/2017 2131
3,3-Dimethyl-1-butanol	1000	800		1	80	60-140	11/28/2017 2131
Ethanol	5000	3800		1	76	60-140	11/28/2017 2131
Ethylbenzene	50	49		1	98	70-130	11/28/2017 2131
Ethyl-tert-butyl ether (ETBE)	50	42		1	83	70-130	11/28/2017 2131
Methyl tertiary butyl ether (MTBE)	50	43		1	86	70-130	11/28/2017 2131

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 - LCS

Sample ID: SQ58375-002
Batch: 58375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	48		1	97	70-130	11/28/2017 2131
tert-butyl alcohol (TBA)	1000	830		1	83	70-130	11/28/2017 2131
Toluene	50	49		1	97	70-130	11/28/2017 2131
Xylenes (total)	100	97		1	97	70-130	11/28/2017 2131

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		72	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		87	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ58404-001
Batch: 58404
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	11/29/2017 1023
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	11/29/2017 1023
Benzene	ND		1	1.0	0.40	ug/L	11/29/2017 1023
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	11/29/2017 1023
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	11/29/2017 1023
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	11/29/2017 1023
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	11/29/2017 1023
Ethanol	ND		1	100	40	ug/L	11/29/2017 1023
Ethylbenzene	ND		1	1.0	0.40	ug/L	11/29/2017 1023
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	11/29/2017 1023
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	11/29/2017 1023
Naphthalene	ND		1	1.0	0.40	ug/L	11/29/2017 1023
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	11/29/2017 1023
Toluene	ND		1	1.0	0.40	ug/L	11/29/2017 1023
Xylenes (total)	ND		1	1.0	0.40	ug/L	11/29/2017 1023

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		94	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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ58404-002
Batch: 58404
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	790		1	79	70-130	11/29/2017 0919
tert-Amyl methyl ether (TAME)	50	44		1	88	70-130	11/29/2017 0919
Benzene	50	43		1	86	70-130	11/29/2017 0919
tert-Butyl formate (TBF)	250	240		1	97	70-130	11/29/2017 0919
1,2-Dichloroethane	50	41		1	82	70-130	11/29/2017 0919
Diisopropyl ether (IPE)	50	44		1	88	70-130	11/29/2017 0919
3,3-Dimethyl-1-butanol	1000	780		1	78	60-140	11/29/2017 0919
Ethanol	5000	3500		1	71	60-140	11/29/2017 0919
Ethylbenzene	50	48		1	96	70-130	11/29/2017 0919
Ethyl-tert-butyl ether (ETBE)	50	41		1	81	70-130	11/29/2017 0919
Methyl tertiary butyl ether (MTBE)	50	42		1	84	70-130	11/29/2017 0919
Naphthalene	50	48		1	95	70-130	11/29/2017 0919
tert-butyl alcohol (TBA)	1000	780		1	78	70-130	11/29/2017 0919
Toluene	50	48		1	96	70-130	11/29/2017 0919
Xylenes (total)	100	95		1	95	70-130	11/29/2017 0919

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		76	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: SK28010-015MS
Batch: 58404
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	10000	8100		10	81	70-130	11/29/2017 1918
tert-Amyl methyl ether (TAME)	ND	500	450		10	90	70-130	11/29/2017 1918
Benzene	100	500	550		10	90	70-130	11/29/2017 1918
tert-Butyl formate (TBF)	ND	2500	640	N	10	25	70-130	11/29/2017 1918
1,2-Dichloroethane	ND	500	430		10	86	70-130	11/29/2017 1918
Diisopropyl ether (IPE)	ND	500	450		10	91	70-130	11/29/2017 1918
3,3-Dimethyl-1-butanol	ND	10000	7800		10	78	60-140	11/29/2017 1918
Ethanol	ND	50000	36000		10	72	60-140	11/29/2017 1918
Ethylbenzene	640	500	1100		10	98	70-130	11/29/2017 1918
Ethyl-tert-butyl ether (ETBE)	ND	500	410		10	83	70-130	11/29/2017 1918
Methyl tertiary butyl ether (MTBE)	120	500	550		10	87	70-130	11/29/2017 1918

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 - MS

Sample ID: SK28010-015MS
Batch: 58404
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	350	500	840		10	96	70-130	11/29/2017 1918
tert-butyl alcohol (TBA)	310	10000	9300		10	90	70-130	11/29/2017 1918
Toluene	4.1	500	490		10	98	70-130	11/29/2017 1918
Xylenes (total)	74	1000	1100		10	98	70-130	11/29/2017 1918

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4	N	64	70-130
Bromofluorobenzene		73	70-130
Toluene-d8		76	70-130

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SK28010-015MD
Batch: 58404
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	10000	7900		10	78	3.5	70-130	20	11/29/2017 1943
tert-Amyl methyl ether (TAME)	ND	500	440		10	89	1.3	70-130	20	11/29/2017 1943
Benzene	100	500	550		10	88	1.5	70-130	20	11/29/2017 1943
tert-Butyl formate (TBF)	ND	2500	620	N	10	25	2.4	70-130	20	11/29/2017 1943
1,2-Dichloroethane	ND	500	420		10	83	3.0	70-130	20	11/29/2017 1943
Diisopropyl ether (IPE)	ND	500	450		10	89	1.9	70-130	20	11/29/2017 1943
3,3-Dimethyl-1-butanol	ND	10000	7600		10	76	3.1	60-140	20	11/29/2017 1943
Ethanol	ND	50000	33000		10	67	7.8	60-140	20	11/29/2017 1943
Ethylbenzene	640	500	1100		10	94	1.9	70-130	20	11/29/2017 1943
Ethyl-tert-butyl ether (ETBE)	ND	500	410		10	82	1.1	70-130	20	11/29/2017 1943
Methyl tertiary butyl ether (MTBE)	120	500	540		10	85	1.3	70-130	20	11/29/2017 1943
Naphthalene	350	500	830		10	95	0.55	70-130	20	11/29/2017 1943
tert-butyl alcohol (TBA)	310	10000	9100		10	88	3.0	70-130	20	11/29/2017 1943
Toluene	4.1	500	490		10	96	1.8	70-130	20	11/29/2017 1943
Xylenes (total)	74	1000	1000		10	95	2.6	70-130	20	11/29/2017 1943

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		71	70-130
Bromofluorobenzene		82	70-130
Toluene-d8		84	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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ58516-001
Batch: 58516
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	11/30/2017 1042
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	11/30/2017 1042
Benzene	ND		1	1.0	0.40	ug/L	11/30/2017 1042
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	11/30/2017 1042
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	11/30/2017 1042
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	11/30/2017 1042
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	11/30/2017 1042
Ethanol	ND		1	100	40	ug/L	11/30/2017 1042
Ethylbenzene	ND		1	1.0	0.40	ug/L	11/30/2017 1042
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	11/30/2017 1042
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	11/30/2017 1042
Naphthalene	ND		1	1.0	0.40	ug/L	11/30/2017 1042
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	11/30/2017 1042
Toluene	ND		1	1.0	0.40	ug/L	11/30/2017 1042
Xylenes (total)	ND		1	1.0	0.40	ug/L	11/30/2017 1042

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ58516-002
Batch: 58516
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	104	70-130	11/30/2017 0939
tert-Amyl methyl ether (TAME)	50	51		1	102	70-130	11/30/2017 0939
Benzene	50	53		1	106	70-130	11/30/2017 0939
tert-Butyl formate (TBF)	250	260		1	103	70-130	11/30/2017 0939
1,2-Dichloroethane	50	52		1	104	70-130	11/30/2017 0939
Diisopropyl ether (IPE)	50	53		1	105	70-130	11/30/2017 0939
3,3-Dimethyl-1-butanol	1000	1100		1	106	60-140	11/30/2017 0939
Ethanol	5000	5200		1	103	60-140	11/30/2017 0939
Ethylbenzene	50	53		1	107	70-130	11/30/2017 0939
Ethyl-tert-butyl ether (ETBE)	50	52		1	105	70-130	11/30/2017 0939
Methyl tertiary butyl ether (MTBE)	50	51		1	101	70-130	11/30/2017 0939

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 - LCS

Sample ID: SQ58516-002
Batch: 58516
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	53		1	107	70-130	11/30/2017 0939
tert-butyl alcohol (TBA)	1000	1000		1	104	70-130	11/30/2017 0939
Toluene	50	54		1	107	70-130	11/30/2017 0939
Xylenes (total)	100	110		1	107	70-130	11/30/2017 0939

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ58803-001
Batch: 58803
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	12/04/2017 2117
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	12/04/2017 2117
Benzene	ND		1	1.0	0.40	ug/L	12/04/2017 2117
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	12/04/2017 2117
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	12/04/2017 2117
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	12/04/2017 2117
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	12/04/2017 2117
Ethanol	ND		1	100	40	ug/L	12/04/2017 2117
Ethylbenzene	ND		1	1.0	0.40	ug/L	12/04/2017 2117
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	12/04/2017 2117
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	12/04/2017 2117
Naphthalene	ND		1	1.0	0.40	ug/L	12/04/2017 2117
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	12/04/2017 2117
Toluene	ND		1	1.0	0.40	ug/L	12/04/2017 2117
Xylenes (total)	ND		1	1.0	0.40	ug/L	12/04/2017 2117

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		92	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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ58803-002
Batch: 58803
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	106	70-130	12/04/2017 2015
tert-Amyl methyl ether (TAME)	50	51		1	101	70-130	12/04/2017 2015
Benzene	50	52		1	104	70-130	12/04/2017 2015
tert-Butyl formate (TBF)	250	280		1	111	70-130	12/04/2017 2015
1,2-Dichloroethane	50	49		1	98	70-130	12/04/2017 2015
Diisopropyl ether (IPE)	50	54		1	108	70-130	12/04/2017 2015
3,3-Dimethyl-1-butanol	1000	960		1	96	60-140	12/04/2017 2015
Ethanol	5000	6400		1	127	60-140	12/04/2017 2015
Ethylbenzene	50	52		1	103	70-130	12/04/2017 2015
Ethyl-tert-butyl ether (ETBE)	50	55		1	109	70-130	12/04/2017 2015
Methyl tertiary butyl ether (MTBE)	50	54		1	108	70-130	12/04/2017 2015
Naphthalene	50	51		1	102	70-130	12/04/2017 2015
tert-butyl alcohol (TBA)	1000	1100		1	108	70-130	12/04/2017 2015
Toluene	50	51		1	101	70-130	12/04/2017 2015
Xylenes (total)	100	100		1	102	70-130	12/04/2017 2015

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		90	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

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EDB & DBCP by Microextraction - MB

Sample ID: SQ58348-001
Batch: 58348
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	11/29/2017 0814

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		84	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: SQ58348-002
Batch: 58348
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.22		1	88	60-140	11/29/2017 0824

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		68	57-137

EDB & DBCP by Microextraction - MB

Sample ID: SQ58349-001
Batch: 58349
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	11/30/2017 1834

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		92	57-137

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

EDB & DBCP by Microextraction - LCS

Sample ID: SQ58349-002
Batch: 58349
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.21		1	86	60-140	11/30/2017 1845

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		89	57-137

EDB & DBCP by Microextraction - MS

Sample ID: SK28010-022MS
Batch: 58349
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.19		1	76	60-140	11/30/2017 2000

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		99	57-137

EDB & DBCP by Microextraction - MSD

Sample ID: SK28010-022MD
Batch: 58349
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/28/2017 1950

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.19		1	79	4.4	60-140	20	11/30/2017 2010

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		108	57-137

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

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and

Miscellaneous Documents

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Telephone No. 803-791-9700 Fax No. 803-791-9111
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Number 78326

Client: Quality Environmental Solutions, Inc.	Report to Contact: Alex Smith-Jones	Telephone No. / E-mail	Quote No.
Address: 3340 Seabrook Island Rd	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 1 of 3
City: Johns Island / State: SC / Zip Code: 29455	Printed Name: Alex Smith-Jones		
Project Name: Longo Drugstore – Columbia, SC			
Project No.: SC-015 / UST 07680	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Soil	Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	VOC 8260	EDB 8011	Remarks / Cooler I.D.
Trip Blank				X						2			X		SK28010 – BTEX NM, 1,2-DCA, OXYs, Ethanol
07680 – Field Blank	11/27/17	1124	G	X						6			X	X	
07680 – MW-15	11/27/17	1133	G	X						6			X	X	
07680 – MW-15R	11/27/17	1140	G	X						6			X	X	
07680 – MW-8	11/27/17	1206	G	X						6			X	X	
07680 – MW-7R	11/27/17	1212	G	X						6			X	X	
07680 – MW-20	11/27/17	1221	G	X						6			X	X	
07680 – MW-12R	11/27/17	1239	G	X						6			X	X	
07680 – MW-11R	11/27/17	1251	G	X						6			X	X	
07680 – MW-19	11/27/17	1315	G	X						6			X	X	

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	11/28/17	1017	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: L Hicks	11-28-17	1017

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. 5.4 °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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Number 78327

Client: QES
Address: 3340 Seabrook Island Rd
City: Johns Island | State: SC | Zip Code: 29455
Project Name: Longs Drugstore - Columbia, SC
Project No.: SC-015
P.O. No.:

Report to Contact: A. Smith-Jones
Sampler's Signature: X [signature]
Printed Name: Alex Smith-Jones

Telephone No. / E-mail: alex@qualityenvironmental.net
Analysis (Attach list if more space is needed)

Quote No.:
Page 2 of 3

SK28010

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	H2SO4	HNO3	HCl	NaOH	6006 Alt	VOC 8260	EDB 8011	Remarks / Cooler I.D.
07680-MW-10R	11/27/17	1321	G	X						6			X	X	- BTEX NM
07680-MW-16	11/27/17	1350	G	X						6			X	X	1,2DCA, OXYs,
07680-MW-17	11/27/17	1407	G	X						6			X	X	Ethanol
07680-MW-9R	11/27/17	1420	G	X						6			X	X	
07680-MW-1R	11/27/17	1447	G	X						6			X	X	
07680-MW-2	11/27/17	1459	G	X						6			X	X	
07680-MW-5R	11/27/17	1522	G	X						6			X	X	
07680-Dup1	11/27/17	1527	G	X						6			X	X	
07680-MW-21	11/27/17	1545	G	X						6			X	X	
07680-Dup2	11/27/17	1550	G	X						6			X	X	

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]	11/28/17	1017	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by L Hill	11-28-17	1017

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 5.4 °C

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

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

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Chain of Custody Record

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Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 78328

Client: QES	Report to Contact:	Telephone No. / E-mail:	Quote No.
Address: 3340 Seabrook Island Rd	Sampler's Signature: X _____	Analysis (Attach list if more space is needed)	Page 3 of 3
City: Johns Island / State: SC / Zip Code: 29455	Printed Name:		
Project Name: Longs Drugstore			SK28010
Project No.: SC-015/UST 07680	P.O. No.:		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Comp	Matrix: Aqueous	Matrix: Solid/Non-Aqueous	No of Containers by Preservative Type: Unpres	H2SO4	HNO3	HCl	NaOH	NaOH/ZnAc	VOC 8260	EDB 8011	Remarks / Cooler I.D.
07680-DW-1	11/27/17	1634	G	X					6			X	X	- BTEX/MN,
07680-MW-5DD	11/27/17	1733	G	X					6			X	X	1,2DCA, OXYs,
07680-MW-5D	11/27/17	1800	G	X					6			X	X	Ethanol
07680-MW-12D	11/27/17	1850	G	X					6			X	X	
07680-Field Blank	11/28/17	0800	G	X					6			X	X	
07680-MW-18	11/28/17	0901	G	X					6			X	X	
07680-MW-18D	11/28/17	0920	G	X					6			X	X	

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	11/28/17	1017	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: L Hill	11-28-17	1017

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. 5.4 °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: ME0018C-09

Page 1 of 1
Effective Date: 07/28/2017
Expiry Date: 07/28/2022

Sample Receipt Checklist (SRC)

Client: QES Cooler Inspected by/date: SBE / 11/28/17 Lot #: SK28010 SK28009 SBE 11/28/17

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:			Cl strip ID:
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: 5.4 / 5.4 °C ___ / ___ / ___ °C ___ / ___ / ___ °C ___ / ___ / ___ °C			
Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C			
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ 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 ☑	SBE	5. Were proper custody procedures (relinquished/received) followed? no date/time
Yes ☑	No ☐	11/28/17	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 ☑	SBE	10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐	11/28/17	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. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any 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 NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. 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 ☑		22. Was the quote number used taken from the container label?

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 _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____.

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

Samples(s) _____ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.

SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____

Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____

Sample labels applied by: SBE Date: 11/28/17

Comments: field blank labeled as trip blank on ~~with~~ vials SBE 11/28/17

APPENDIX G

DISPOSAL MANIFEST

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)		X	
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information?

50. Waste has not yet been removed from the Site. The waste manifest will be forwarded to SCDHEC once it becomes available.

Signature: Alexander Smith-Jones

Project Verifier: Alexander Smith-Jones Date: 12-20-17

dhec
Healthy People. Healthy Communities.

CAROL BOEMMEL
GENERAL MANAGER & CONTROLLER
CROWN CENTRAL LLC
ONE NORTH CHARLES STREET
SUITE 2200
BALTIMORE MD 21201

FEB 1 2018

UST 39 Clear DOCKETING

Re: **Site-Specific Work Plan Request for Well Installation**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Monitoring Report received January 8, 2018
Richland County

Dear Ms. Smith-Jones:

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 Quality Environmental Solutions, Inc. (QES), as your contractor. The next appropriate scope of work at the site is to install three recovery wells near the vicinity of MW-5R and MW-21, and replacement wells MW-1A, MW-13, and MW-15R.

The well installation should be conducted in accordance with QES's Annual Contractor Quality Assurance Plan (ACQAP), and must be conducted in compliance with all applicable regulations. A copy of DHEC's Quality Assurance Program Plan 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 (30) 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 # 07680.** If there are any questions concerning this project, please contact me at (803) 898-0634 or by email at kuhnkm@dhec.sc.gov.

Sincerely,

Kimberly M Kuhn, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
Bureau of Land and Waste Management

cc: QES, Inc., 3440 Seabrook Island Road, Johns Island, SC 29455
Technical File

dhec

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

UST DOCKETING 40 Tech

To: Ms. Kimberly M. Kuhn (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: 40 Hudson Street, Suite 107, Annapolis, MD 21401
Property Owner (if different): Niggel Family Partnership, LLC
Property Owner Address: 1219 Sanford Drive Columbia, SC 29206
Current Use of Property: Drug Store

UST MAR 16 2018 DIVISION

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☑ Monitoring Well Installation
- ☐ Groundwater Sampling
- ☑ Other Recovery Well Installation
- ☐ 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
- ☐ 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: 1 Estimated Footage: 20 feet per point
# of deep wells: 2 Estimated Footage: 40 feet per point
# of recovery wells: 3 Estimated Footage: 25 feet per point

Comments, if warranted:

Replacement monitoring wells for damaged MW-1A (40'), MW-13 (20') & MW-15R (40')
Three recovery wells near MW-5R & MW-21 (25')

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 30 Field Work Completion: 45
Report Submittal: 90 # of Copies Provided to Property Owners: 3

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: 15 Tons Purge Water: _____ Gallons
Drilling Fluids: 500 Gallons Free-Phase Product: _____ Gallons

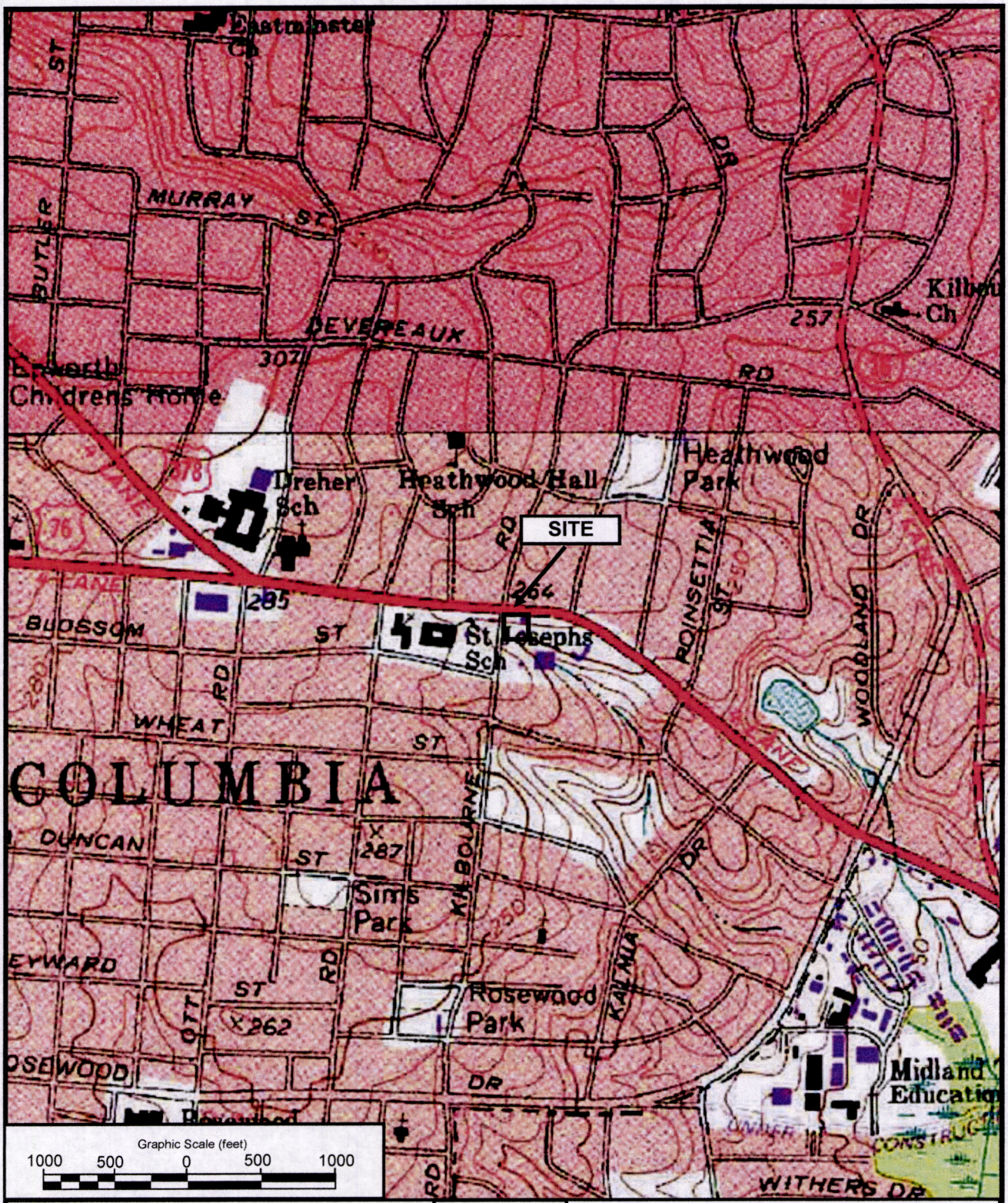
Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
The three existing damaged wells to be replaced witll be evaluated by the driller to determine if repairs/redevelopment will result in a usable well instead of the need to replace the well.

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: _____

No Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: ARM Environmental Services (Joshua Register)
SCLLR Certification Number: 1921

____ Other variations from ACQAP. Please describe below.

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



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

FIGURE 1: SITE VICINITY MAP

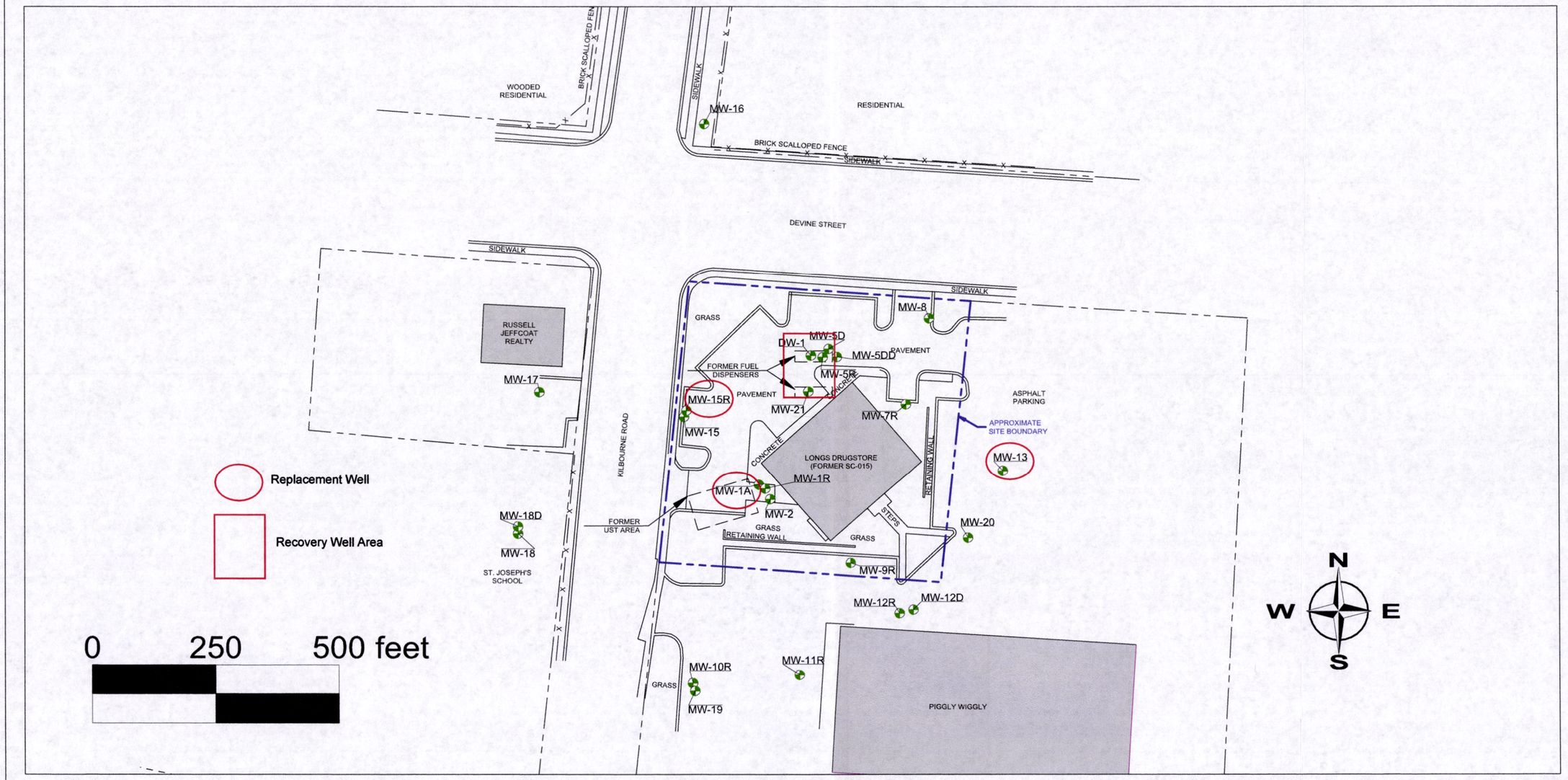


Figure 2: Site Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES
Sample Date: November 27 + 28, 2017

dhec
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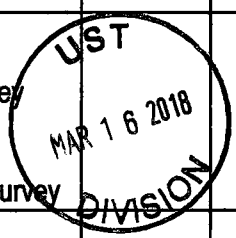
ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 16, 2016

Facility Name: Former Crown SC-015 (Long's Drug Store)

UST Permit #: 07680 **Cost Agreement #:** _____



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	1	each	$1,020.00	$1,020.00
B1. Personnel	3	each	$423.00	$1,269.00
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)	100	per foot	$38.00	$3,800.00
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)	75	per foot	$45.00	$3,375.00
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
G1. Passive Diffusion Bag		each	$26.00	$0.00
H1. Field Blank		each	$24.60	$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*	1	each	$260.00		$260.00
17. Disposal (gallons or tons)*					
AA. Wastewater		gallon	$0.56		$0.00
BB. Free Product		gallon	$0.50		$0.00
C1. Soil Treatment/Disposal	15	ton	$60.00		$900.00
D1. Drilling fluids	500	gallon	$0.42		$210.00
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

UST
MAR 16 2018
DIVISION

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 Deli	3	each	$50.00		$150.00
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
I1. 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	$11,134.00		$1,336.08
TOTAL					$12,470.08

UST
MAR 16 2018
VISION

DHEC 8-2016 *The appropriate mobilization cost can be added to complete these tasks, as necessary

dhec
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APR 2 4 2018

UST 41 Tech DOCKETING

MS CAROL BOEMMEL
CROWN CENTRAL LLC
1 NORTH CHARLES STREET
SUITE 2200
BALTIMORE MD 21201-3759

Re: **Well Installation and Aggressive Fluid Vapor Recovery Directive**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA #56804; UMW-26993
Release reported August 15, 1989
Site-Specific Work Plan received March 16, 2018
Richland County

Dear Mr. Jansen:

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 utilizing Quality Environmental Solutions, Inc (QES, Inc). The next appropriate scope of work at the site is a 96 Hour Aggressive Fluid and Vapor Recovery (AFVR) event, installation of one (1) shallow well, two (2) deep wells, and three (3) recovery wells. In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations, a 96-hour AFVR event may commence as outlined in this correspondence and the UST Quality Assurance Program Plan (QAPP) Revision 3.1. The three newly installed recovery wells should be utilized during this event. The stingers shall be lowered at six inch intervals starting at the water table interface to a target depth near the bottom of each well. Please strive to reach the target depth within the first 8 hours. A copy of UST QAPP Version 3.1 for the Underground Storage Tank Division is available at http://www.dhec.sc.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/.

As soon as the beginning date of the event has been scheduled, please contact Kim Kuhn at kuhnkm@dhec.sc.gov.

The AFVR Report should be submitted within 90 days from the date of this correspondence. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Cost Agreement #56804 has been approved in the amount shown on the enclosed cost agreement. QES, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. If the invoice and completed report are 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 is obtained from the UST Management Division. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by DHEC for the cost to be paid. DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

DHEC grants preapproval for transportation of virgin petroleum-contaminated groundwater from the referenced site to a permitted treatment facility.

On all correspondence concerning this site, please reference UST Permit #07680. If you have any questions, please contact me at (803) 898-0634 or by e-mail at kuhnkm@dhec.sc.gov.

Sincerely,



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

enc: Approved Cost Agreement
Monitoring Well Approval Form

cc: Technical File (with enclosure)
Quality Environmental Solutions, Inc., 3340 Seabrook Island Road, Johns Island, SC 29455 (with enclosure)

Healthy People. Healthy Communities.

Monitoring Well Approval Form

Approval is hereby granted to: Quality Environmental Solutions, Inc.
(on behalf of): Crown Central LLC
Facility: 3800 Devine Street, Columbia, SC
UST Permit Number: 07680
County: Richland

This approval is for the installation of one (1) shallow well, two (2) deep wells, three (3) recovery wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by 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 Kimberly Kuhn (tel: (803) 898-0634 or e-mail: kuhnkm@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 the site during well installation.

Date of Issuance: April 10, 2018 **Approval #: UMW-26993**

Kimberly M Kuhn, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 56804

Facility: 07680 SC015
KUHNKM
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	3.0000	$423.000	1,269.00
09 WELL INSTALLATION						
		B1	WATER TABLE (DRILL RIG)	100.0000	$38.000	3,800.00
		HH	RECOVERY WELL (4 INCH DIA)	75.0000	$45.000	3,375.00
16 SUBSEQUENT SURVEY						
		A1	SUBSEQUENT SURVEY	1.0000	$260.000	260.00
17 DISPOSAL						
		C1	SOIL TREATMENT DISPOSAL	15.0000	$60.000	900.00
		D1	DRILLING FLUIDS	500.0000	$0.420	210.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0.1200	$33,876.250	4,065.15
23 EFR						
		A4	96 HOUR EVENT	1.0000	$12,567.500	12,567.50
		C4	OFF GAS TREATMENT 96 HOUR	1.0000	$780.000	780.00
		D	SITE RECONNAISSANCE	1.0000	$203.250	203.25
		F1	EFFLUENT DISPOSAL	20,000.0000	$0.440	8,800.00
		G	AFVR EQUIPMENT MOB	1.0000	$391.500	391.50
25 WELL REPAIR						
		A1	ADDITIONAL COPIES OF REPORT	3.0000	$50.000	150.00
					Total Amount	37,941.40

Quality Environmental Solutions, Inc

3340 Seabrook Island Road
Johns Island, SC 29455

UST
AUG 06 2018
PROGRAM

August 2, 2018

Ms. Carolyn Moores
South Carolina Department of Health and Environmental Control
UST Management Division
2600 Bull Street
Columbia, SC 29201-1708

UST
42
DOCKET

SUBJECT: 2018 Recovery Well Installation and AFVR Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Ms. Moores:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2018 Recovery Well Installation and AFVR Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit # 07680. The subject property is currently operated as a Long's Drugstore; the underground storage tanks associated with the former Crown service station were removed in July 1991.

A directive for the installation of three recovery wells (RWs), installation of three replacement monitoring wells (MWs) and completion of an aggressive fluid-vapor recovery (AFVR) event was issued by SCDHEC on April 24, 2018. The three RWs were installed on June 13 and 14, 2018. One replacement MW was installed on June 14, 2018 (MW-1AR). The two other replacement MWs were not installed as the driller determined that well redevelopment was all that was required to return the wells to functionality. Monitoring wells MW-1AR and MW-15R were developed on June 19, 2018 and MW-13 was developed on July 19, 2018.

A 96-hour AFVR event was completed July 2-6, 2018 utilizing the new recovery wells RW-1, RW-2 and RW-3.

QES recommends completion of an additional comprehensive groundwater sampling event to evaluate the effectiveness of the AFVR event.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,

Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2018 Recovery Well Installation and AFVR Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File 201-189-SC 015

2018 RECOVERY WELL INSTALLATION AND AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Ms. Carolyn Moores
South Carolina Department of Health
and Environmental Control
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central, LLC
3340 Seabrook Island Road
John island, SC 29455

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455
Contractor Certification Number 461
410.841.5552

August 2, 2018

2018 RECOVERY WELL INSTALLATION AND AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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2018 RECOVERY WELL INSTALLATION AND AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2018 Recovery Well Installation and Aggressive Fluid-Vapor Recovery (AFVR) Report* on behalf of Crown Central, LLC (Crown) for the former Crown-branded service station located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the installation of three recovery wells, repairs to two monitoring wells and completion of a 96-hour AFVR event utilizing the three new recovery wells.

Groundwater monitoring and reporting activities at the Site have been conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2016), the QES *Annual Contractor Quality Assurance Plan* (QES 2017), and the April 24, 2018 SCDHEC *Well Installation and Aggressive Fluid-Vapor Recovery Directive* and *Approved Cost Agreement No. 56804* (SCDHEC 2018).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugs) Former UST Permit # 07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803.254.4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803.782.6274
Current Property Use	Long's Drugstore

The Site is currently developed with a Long's Drugstore. The Site is located in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Map showing land use and other pertinent site features is included as **Figure 2**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989. The Crown release is currently classified as 3BF.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Subsurface assessments and remedial activities have been completed at the Site by Crown consultants. Past activities included:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD LNAPL has not been detected in the replacement wells. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Thirteen aggressive fluid vapor recovery events have been completed at the Site between April 2010 and November 2015.
- The last comprehensive sampling event occurred in November 2017.

1.3 Site Geology and Hydrogeology

The Site is located in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 WELL INSTALLATION METHODOLOGY

A directive for the installation of three recovery wells and the replacement of three damaged monitoring wells (MW-1A, MW-13 and MW-15) was issued by SCDHEC on April 24, 2018. The work scope was subsequently modified to include the replacement of the damaged MW-1A and redevelopment of the other two monitoring wells based on the driller assessment of each well condition. The revised work scope included the installation of one 45-feet deep Type III two-inch diameter monitoring well (MW-1AR) to replace MW-1A, redevelopment of MW-13 and MW-15 and the installation of three four-inch diameter recovery wells with completion depths of 25 feet (RW-1, RW-2 and RW-3). The monitoring and recovery well locations are depicted on **Figure 2**.

The QES Geologist and South Carolina licensed well driller from *ARM Environmental Services* mobilized to the Site on June 13, 2018 to complete the drilling activities. Monitoring wells MW-1A, MW-13 and MW-15 were gauged and inspected to determine if well replacement would be necessary. The four-inch diameter MW-1A was found to have an obstruction at 8.7 feet below ground surface (bgs) and the driller determined that it required replacement. Monitoring wells MW-13 and MW-15 contained mud and slime that the driller determined could be removed with redevelopment of the wells. The SCDHEC case manager was apprised of the situation and concurred with the driller's recommendations

The replacement well MW-1AR was drilled and installed on June 14 and 15, 2018. The boring was initially drilled to a depth of 34 feet bgs followed by the installation of six-inch casing that was subsequently grouted to the surface. The grout was allowed to set overnight and the boring was advanced through the grout to a depth of 45 feet bgs utilizing mud rotary drilling. The two-inch diameter telescoping well was completed with five feet of 0.010-inch slotted screen and 40 feet of solid casing. The well annulus was backfilled with #2 filter pack to two feet above the screen (38 feet bgs) followed by a bentonite/cement grout to the surface.

The three recovery wells were drilled to a depth of 25 feet bgs utilizing hollow-stem augers. Each four-inch diameter recovery well was completed with 20 feet of 0.010-inch slotted screen and five feet of solid casing. Sand filter pack (#2) was backfilled around the well material annulus to a depth of three feet bgs (two feet above the top of screen) followed by a bentonite/cement seal to the surface. The wells were completed with a flush-mounted protective road box set in a two-feet square concrete pad. The QES drilling logs for the replacement well and recovery wells are included in **Appendix D**. Copies of the driller-supplied *Water Well Records* are included in **Appendix E**.

The replacement well MW-1AR was developed and MW-13 and MW-15 redeveloped by the driller by surging the well and removing water and sediment with a submersible pump. Water quality parameters (pH, specific conductivity, temperature and turbidity) and physical characteristics (odor, water level, well depth and gallons removed) were recorded by the driller during the well development. The stated well development goal is a change in turbidity readings of < 10 NTU and +/- 10% change for the other water quality parameters. Copies of the driller-supplied *Well Development Data Verification Forms* are included in **Appendix E**.

The three recovery wells were developed during the completion of the 96-hour AFVR event during the week of July 2, 2018.

Grab soil samples of the drill cuttings were collected at approximate five-foot intervals for field classification and characterization with a photo-ionization detector (PID). Soil samples were not collected for laboratory analyses.

3.0 DISCUSSION OF WELL INSTALLATION RESULTS

The following presents the details of replacement monitoring well installation and redevelopment and installation of the three recovery wells:

- Replacement shallow well MW-1AR is located adjacent to the damaged MW-1A (**Figure 2**). The telescoping well was drilled and installed on June 14 and 15, 2018. Grab drill cutting soil samples were characterized at five-foot intervals from five feet to 45 feet bgs. The lithology consisted of approximately ten feet of clayey sand and sandy clay overlying sandy silt and clay to a depth of 30 feet bgs. A very dense white silt was present at a depth of approximately 30 feet bgs with saturated silty sandy clay present at 35 feet bgs. Water-saturated fine to medium sand was present from approximately 40 feet bgs to the boring completion depth of 45 feet bgs. The PID readings ranged from 0.0 to 270 ppm/v with the highest readings between ten and 20 feet bgs. The depth to water in the well was 32.94 feet below the top-of-casing (TOC) the following day and 33.01 feet below TOC on July 19, 2018. LNAPL has not been detected in this well. The QES Drilling Log is included in **Appendix D** and the *Water Well Record* completed by the driller is included in **Appendix E**.
- Recovery well RW-1 is located adjacent to MW-21 with both located in the area of one of the two former dispenser islands (**Figure 2**). The well was drilled and installed on June 13, 2018. Grab drill cutting soil samples were characterized at five-foot intervals from five feet to 25 feet bgs The lithology consisted of silty and clayey sand and gravel fill material to a depth of 13 feet bgs underlain by sandy gravelly clay to a depth of 18 feet bgs. This was underlain by sandy clay followed by a dense rose-colored silt to the completion depth. The PID readings ranged from 55 to 492 ppm/v with the highest readings between five and 20 feet bgs. The depth to water in the well was 17.00 feet below TOC the following day and 17.30 feet below TOC on July 19, 2018. LNAPL has not been detected in this well. The QES Drilling Log is included in **Appendix D** and the *Water Well Record* completed by the driller is included in **Appendix E**.
- Recovery well RW-2 is located adjacent to DW-1 with both located in the area of one of the two former dispenser islands (**Figure 2**). The well was drilled and installed on June 13, 2018. Grab drill cutting soil samples were characterized at five-foot intervals from five feet to 25 feet bgs. The lithology consisted of silty and clayey material to a depth of approximately 21 feet bgs followed by a two-feet thick silt layer underlain by silty clay to the completion depth. The PID readings ranged from 3.1 to 1,736 ppm/v with the highest readings between ten and 23 feet bgs. The depth to water in the well was 17.62 feet below TOC with 0.40 feet of LNAPL the following day and 17.89 feet below TOC with no LNAPL present on July 19, 2018. The QES Drilling Log is included in **Appendix D** and the *Water Well Record* completed by the driller is included in **Appendix E**.
- Recovery well RW-3 is located between MW-5R and MW-5D in the area of one of the two former dispenser islands (**Figure 2**). The well was drilled and installed on June 14, 2018. Grab drill cutting soil samples were characterized at five-foot intervals from five feet to 25 feet bgs. The lithology consisted of sandy clay and silty sand to a depth of 20 feet bgs underlain by dense white and rose-colored silt to the completion depth. The PID readings ranged from 23 to 362 ppm/v with the highest readings between ten and 20 feet bgs. The depth to water in the well was 18.06 feet below TOC with 0.99 feet of LNAPL the following day and 18.27 feet below TOC with no LNAPL present on July 19, 2018. The QES Drilling Log is included in **Appendix D** and the *Water Well Record* completed by the driller is included in **Appendix E.**

- A total of 14 drums of drill cuttings and 118.5 gallons of development and decontamination water were generated during the completion of the replacement monitoring well and redevelopment of MW-13 and MW-15 (80 gallons for MW-1AR and MW-13 and 38.5 gallons for MW-15). Copies of the soil and development water waste manifests are included in **Appendix G**.

The *Data Verification Checklist* for the well installation activities is included in **Appendix K**.

4.0 AFVR EVENT

The April 24, 2018 SCDHEC Directive included completion of a 96-hour AFVR event at the Site utilizing the three new recovery wells. The 96-hour event targeted mass removal from the three recovery wells from July 2 to 6, 2018. Vacuum pressure readings and depths to water were measured in adjacent monitoring wells MW-5R and MW-21 during the AFVR event. The locations of the target recovery wells (RW-1, RW-2 and RW-3) and the adjacent monitoring wells (MW-5R and MW-21) are shown on **Figure 2**.

The AFVR was conducted by ARM Environmental Services, Inc. (ARM) with oversight by QES. A Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute and 25 inches of mercury, with off-gas treatment through vapor-phase granular activated carbon scrubber, was utilized to complete the event. The AFVR event commenced at 10:00 AM on July 2 and was completed at 10:00 AM on July 6, 2018.

LNAPL was not present in RW-1, but was present in RW-2 (0.40 feet) and RW-3 (0.01 feet) prior to commencement of the AFVR event. LNAPL was not present in the recovery wells at the conclusion of the AFVR event or when the wells were gauged on July 19, 2018. Field notes summarizing the data collected during the AFVR event are included in Appendix A of the ARM July 23, 2018 letter report included as **Appendix X** of this report. A total of 832 gallons of petroleum impacted groundwater was extracted from the recovery wells during the event. Vacuum pressures were monitored at MW-5R and MW-21 during the event. System readings were recorded for off-gas concentrations, flow measurements, and vacuum pressure throughout the event.

VOC concentrations measured during extraction were 190,000 parts per million (PPM) at the start of the event decreasing to 52,730 PPM at the completion of the event. The lowest VOC concentration, 42,960 PPM, was measured at 8:00 AM on July 5, 2018, 26 hours before the 96-hour event was completed. A total of 456 pounds (equivalent to 74 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the 96-hour event based on the data collected throughout the event. The calculations used to determine the Pollutant Mass Removal are included in Appendix B of the attached ARM letter report. The vacuum influence ranged from 0.22 to 0.44 inches of mercury in MW-21 and 0.25 to 0.34 inches of mercury in MW-5R

The disposal manifest for the 832 gallons of petroleum-impacted groundwater generated during the AFVR event is included in **Appendix G**. The quantity of waste fluid generated during the event was determined by weight scales before and after off-loading the storage vessel at the disposal facility.

5.0 CONCLUSION AND RECOMMENDATION

Three recovery wells were installed at the locations of the former Crown dispenser islands. The PID readings of the drill cuttings document the presence of petroleum-impacted soil beneath the former dispenser islands with decreasing levels at the 25-feet bgs well completion depth. The AFVR event produced 832 gallons of impacted water with recovery of approximately 74 gallons of petroleum equivalent vapors. A damaged monitoring well was replaced with a new well MW-1AR and two other damaged wells were redeveloped to remove accumulated sediment.

QES recommends completion of an additional comprehensive groundwater sampling event to evaluate the effectiveness of the AFVR event.

REFERENCES

Quality Environmental Solutions, Inc. (QES), 2017. *Annual Contractor Quality Assurance Plan (ACQAP), Quality Environmental Solutions, Inc., 3340 Seabrook Island Road, Johns Island, South Carolina 29455.* June 2, 2017.

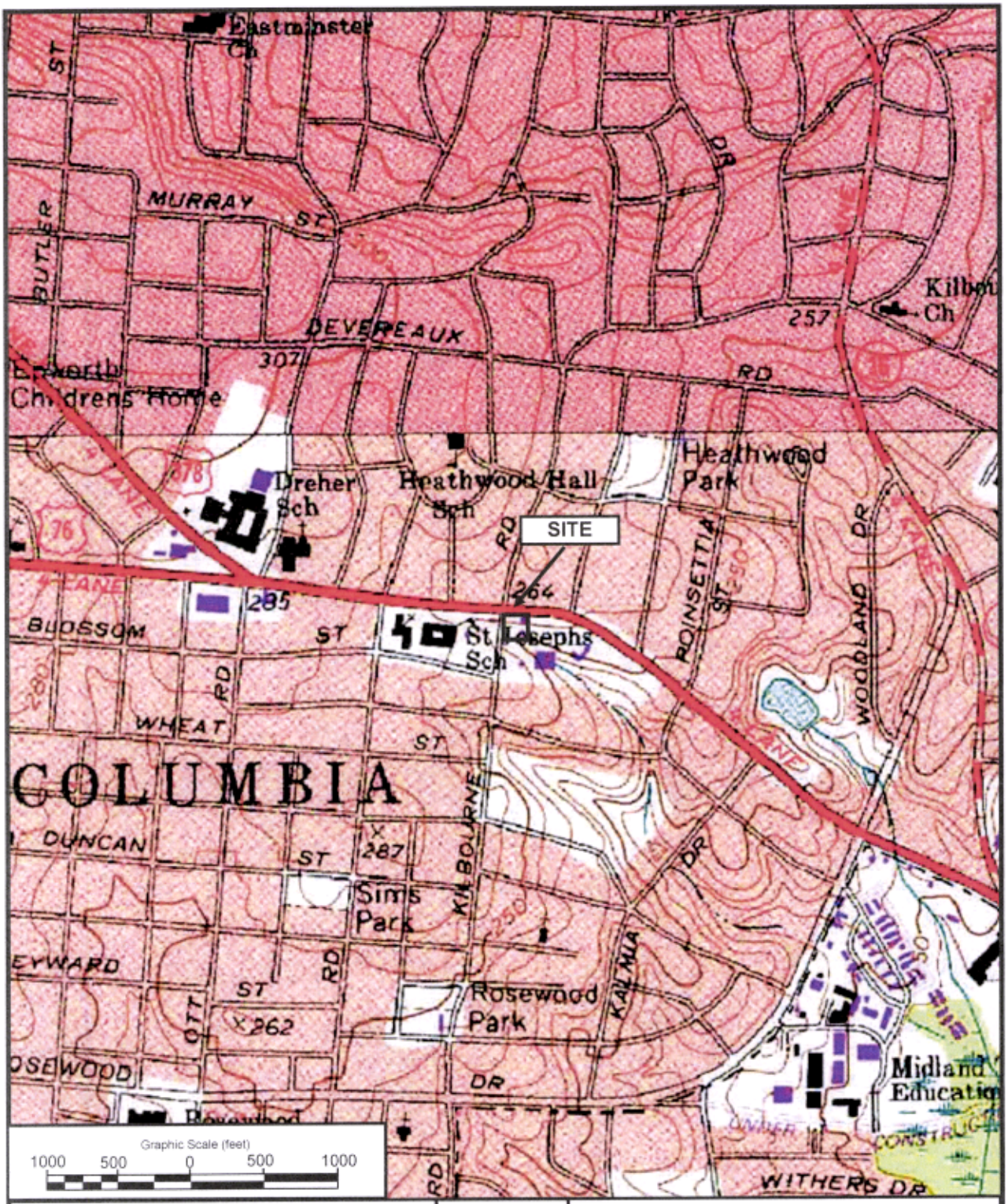
Quality Environmental Solutions, Inc. (QES), 2017. *2017 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. December 29, 2017.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 3.1.* February 2016.

SCDHEC 2018. *Well Installation and Aggressive Fluid Vapor Recovery Directive, SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA# 56804, Release reported August 15, 1989, Site-Specific Work Plan received March 16, 2018, Richland County.* April 24, 2018.

Terracon Consultants, Inc. (Terracon), 2015. *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680.* June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP FORT JACKSON SOUTH, SOUTH CAROLINA	QES	SITE LOCATION MAP FORMER CROWN SC-015 3800 DEVINE STREET COLUMBIA, SOUTH CAROLINA UST PERMIT NO. 07680
DATE: 1982 SCALE: 1 INCH = 1000 FEET PROJECT NO. SC-015	N	FIGURE 1: SITE VICINITY MAP

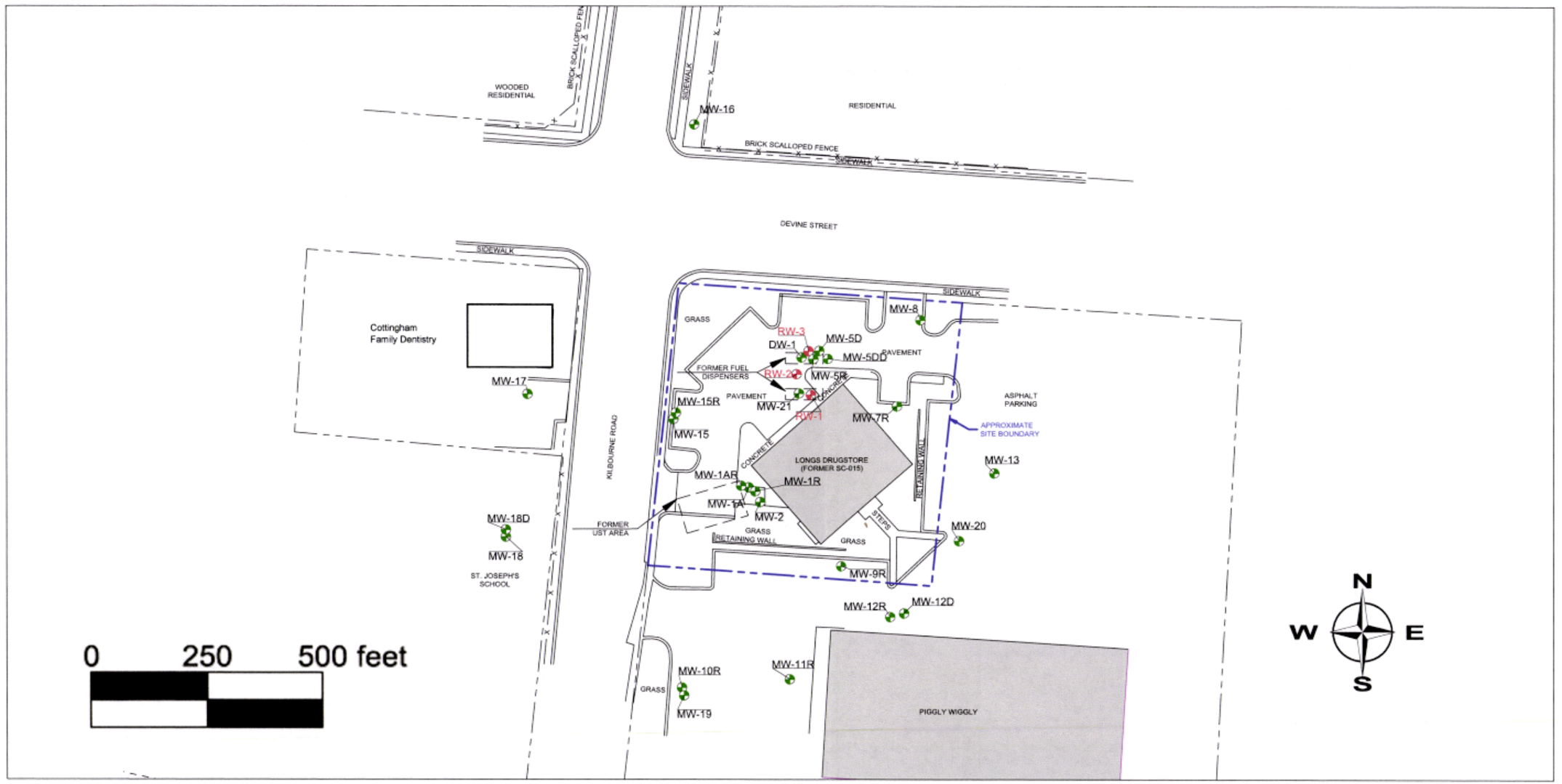


Figure 2: Site Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

APPENDIX D

GEOLOGIST DRILLING LOGS

Quality Environmental Solutions, Inc.

Drilling Log: RW-1

Project Number :	SC-015	Project Name : Former Crown SC-015, Columbia SC	
Date Drilled :	6/13/2018	Drilling Company : ARM Environmental	
SC Driller :	Josh Register	Log By : D. Jones	
Drilling Method :	Hollow-Stem Auger	Screen Length : 20'	
Depth of Hole :	25'	Casing Length : 5'	
Well Diameter :	2"	Well Material : PVC	
Screen Slot Size :	0.010"	Development Method : AFVR	

Depth	PID(ppm)	Blows/6"	Recovery	Material	Remarks
1'				Asphalt	
2'				Dark Gray Silty Clayey Sand and Gravel Fill	
3'					
4'					
5'	492			Brown Silty CLAY	
6'				Petroleum Odor	
7'					
8'					
9'					
10'					
11'					
12'	335			Red/Brown Sandy Gravelly CLAY	
13'				Petroleum Odor	
14'					
15'					
16'					
17'					
18'	133			Tan/Light Brown Sandy CLAY	
19'					
20'					
21'					
22'	54.9			Rose-Colored Sandy SILT	
23'					
24'				Very Dense Rose-Colored SILT	
25'					
26'					
27'				Drilled to 25' - installed 20' screen + 5' casing to surface	
28'				Sand pack (#2) to 2' above screen followed by	
29'				bentonite/cement grout to surface	
30'					

Quality Environmental Solutions, Inc.

Drilling Log: RW-2

Project Number :	SC-015	Project Name : Former Crown SC-015, Columbia SC	
Date Drilled :	6/13/2018	Drilling Company : ARM Environmental	
SC Driller :	Josh Register	Log By : D. Jones	
Drilling Method :	Hollow-Stem Auger	Screen Length : 20'	
Depth of Hole :	25'	Casing Length : 5'	
Well Diameter :	2"	Well Material : PVC	
Screen Slot Size :	0.010"	Development Method : AFVR	

Depth	PID(ppm)	Blows/6"	Recovery	Material	Remarks
1'				Asphalt	
2'				Dark Gray Silty Clayey Sand and Gravel Fill	
3'					
4'					
5'	3.1			Dark Gray Sandy CLAY	
6'					
7'					
8'					
9'					
10'				Dark Brown Sandy CLAY over	
11'	102			Red/Brown Sandy Gravelly CLAY	
12'					
13'					
14'					
15'	1,667			Red/Brown Clayey SAND	
16'					
17'					
18'					
19'					
20'					
21'	693			Tan/White SILT	
22'					
23'	1,736			Tan/White Silty CLAY	
24'					
25'	350				
26'					
27'				Drilled to 25' - installed 20' screen + 5' casing to surface	
28'				Sand pack (#2) to 2' above screen followed by	
29'				bentonite/cement grout to surface	
30'					

Quality Environmental Solutions, Inc.

Drilling Log: RW-3

Project Number :	SC-015	Project Name : Former Crown SC-015, Columbia SC	
Date Drilled :	6/14/2018	Drilling Company : ARM Environmental	
SC Driller :	Josh Register	Log By : D. Jones	
Drilling Method :	Hollow-Stem Auger	Screen Length : 20'	
Depth of Hole :	25'	Casing Length : 5'	
Well Diameter :	2"	Well Material : PVC	
Screen Slot Size :	0.010"	Development Method : AFVR	

Depth	PID(ppm)	Blows/6"	Recovery	Material	Remarks
1'				Asphalt	
2'				Dark Gray Silty Clayey Sand and Gravel Fill	
3'					
4'					
5'	52.6			Brown Sandy CLAY	
6'					
7'					
8'					
9'					
10'	22.6			Red/Brown Silty SAND	
11'					
12'					
13'					
14'					
15'	362			Red/Brown Silty SAND	
16'					
17'					
18'					
19'					
20'	101			White/Light Gray Sandy SILT	
21'					
22'					
23'					
24'					
25'	195			Rose-Colored SILT	
26'					
27'				Drilled to 25' - installed 20' screen + 5' casing to surface	
28'				Sand pack (#2) to 2' above screen followed by	
29'				bentonite/cement grout to surface	
30'					

Quality Environmental Solutions, Inc.

Drilling Log: MW-1AR

Project Number :	SC-015	Project Name : Former Crown SC-015, Columbia SC	
Date Drilled :	6/14-15/2018	Drilling Company : ARM Environmental	
SC Driller :	Josh Register	Log By : D. Jones	
Drilling Method :	HAS/Mud Rotary	Screen Length : 5'	
Depth of Hole :	45'	Casing Length : 40'	
Well Diameter :	2"	Well Material : PVC	
Screen Slot Size :	0.010"	Development Method : Surge + Submersible Pump	

Depth	PID(ppm)	Blows/6"	Recovery	Material	Remarks
				Asphalt	
	0.0			Brown Silty Clayey SAND	
10'	114			Gray/Brown Sandy CLAY	
15'	36.4			White/Gray Sandy Silty CLAY to	
	96.7			Rose-Colored SILT	
20'	270			Red/Brown Sandy SILT	
25'	4.9			Red/Brown Sandy SILT	
30'	3.7			Very Dense White/Gray SILT	
35'	0.1			Saturated Gray Silty Sandy CLAY	
40'	0.0			Tan/Black Fine to Medium SAND	

Drilled to 34' and grouted; telescoping well drilled to 45' following day
Installed 5' screen and 40' casing
Sand pack (#2) to 2' above screen; bentonite/cement grout to surface

APPENDIX E

DRILLER WATER WELL RECORDS AND WELL DEVELOPMENT DATA VERIFICATION FORMS

ARM ENVIRONMENTAL SERVICES, INC.

Well Installation Notes

Site: Former Crown SC-015

Personnel: JR/KD/LD

Well #	Groundwater Depth	Total Depth of Well	~~Surface~~ Casing Depth	Drilling Date(s)	Driller Name	Drill Method & Other Notes
RW-1		25'	5'	6-13-18	JR	HSA
RW-2		25'	5'	6-13-18	JR	HSA
RW-3		25'	5'	6-14-18	JR	HSA
MW-1AR	6-14-18 outer 6-15-18 inner	45'	8" 40' / 5" 34'		JR	HSA / Mud Rotary

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

D H E C — PROMOTE. PROTECT. PROSPER

1. WELL OWNER INFORMATION:
Name: Crown Central LLC (last) (first)
Address: 3340 Seabrook Island Road
City: Johns Island State: SC Zip: 29455
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Richland
Name: Former Crown SC-015
Street Address: 3800 Devine Street
City: Columbia Zip: 29205
Latitude: N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-1AR, Bentonite from 36.0 to 38.0 ft

6. TYPE: ☑ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UMW-26993

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 6/14/18
45.0 ft Date Completed 6/15/18

10. CASING: ☑ Threaded ☐ Welded
Diam: 2.0", 6.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 40.0 ft. depth
6.0 in to 34.0 ft. depth
Height: Above /Below Surface 0.0' ft
Weight _____ lb /ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type PVC Diam. 2.0"
Slot/Gauge 0.010" Length 5.0'
Set Between 40.0 ft and 45.0 ft
_____ ft and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 32.94 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 38.0 ft to 45.0 ft
Effective size #2 Uniformity Coefficient ~1

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 38.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☑ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☑
Mfr. Name: _____ Model No.. _____
H P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE. ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joshua Register CERT. NO.: 1921
Address: (Print) Level: A B C D (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.: 803-783-3314 Fax No . 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: _____ Well Driller Date 7/19/18

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name. Crown Central LLC (last) (first)
Address 3340 Seabrook Island Road
City. Johns Island State: SC Zip: 29455
Telephone Work Home:

2. LOCATION OF WELL: COUNTY: Richland
Name: Former Crown SC-015
Street Address. 3800 Devine Street
City: Columbia Zip: 29205
Latitude: N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-1, Bentonite from 1.0 to 3.0 ft

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UMW-26993

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft Date Started: 6/13/18 Date Completed 6/13/18

10. CASING: ☑ Threaded ☐ Welded
Diam 4.0"
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in to 5.0 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface 0.0 ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam: 4.0"
Slot/Gauge 0.010" Length 20.0'
Set Between. 5.0 ft and 25.0 ft.
_____ ft. and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.00 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 3.0 ft. to 25.0 ft.
Effective size #2 Uniformity Coefficient ~1

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 3.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☑ No Type: _____ Amount: _____

18. PUMP: Date installed. _____ Not installed ☑
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joshua Register **CERT. NO.:** 1921
Address: (Print) Level: A B C D (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.. 803-783-3314 Fax No 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 7/19/18
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name. Crown Central LLC (last) (first)
Address: 3340 Seabrook Island Road
City. Johns Island State SC Zip. 29455
Telephone: Work. Home

2. LOCATION OF WELL: **COUNTY:** Richland
Name: Former Crown SC-015
Street Address: 3800 Devine Street
City: Columbia Zip: 29205
Latitude. N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-2, Bentonite from 1.0 to 3.0 ft

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UMW-26993

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 6/13/18
25.0 ft Date Completed 6/13/18

10. CASING: ☑ Threaded ☐ Welded
Diam 4.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in to 5.0 ft depth
_____ in to _____ ft depth
Height: Above /Below Surface 0.0' ft
Weight _____ lb./ft
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam 4.0"
Slot/Gauge. 0.010" Length 20.0'
Set Between 5.0 ft and 25.0 ft
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.62 (0.40 ft FP) 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 3.0 ft to 25.0 ft
Effective size #2 Uniformity Coefficient ~1

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 3.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft____ direction
Type _____
Well Disinfected ☐ Yes ☑ No Type. _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☑
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft Capacity ___ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joshua Register **CERT. NO.:** 1921
Address (Print) Level: A B C ✔ D (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.: 803-783-3314 Fax No. 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed: _____ Date: 7/19/18
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Crown Central LLC (last) (first)
Address: 3340 Seabrook Island Road
City: Johns Island State: SC Zip: 29455
Telephone: Work. Home

2. LOCATION OF WELL: COUNTY: Richland
Name: Former Crown SC-015
Street Address: 3800 Devine Street
City: Columbia Zip: 29205
Latitude: N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from ____ ft. to ____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-3, Bentonite from 1.0 to 3.0 ft

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UMW-26993

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft Date Started: 6/14/18 Date Completed: 6/14/18

10. CASING: ☑ Threaded ☐ Welded
Diam: 4.0"
Type. ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in to 5.0 ft. depth
____ in to ____ ft. depth
Height: Above /Below Surface 0.0' ft.
Weight ____ lb./ft
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam: 4.0"
Slot/Gauge: 0.010" Length 20.0'
Set Between: 5.0 ft and 25.0 ft. NOTE: MULTIPLE SCREENS
____ ft and ____ ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.06 (0.99 ft FP) 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 3.0 ft. to 25.0 ft.
Effective size #2 Uniformity Coefficient ~1

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other ____
Depth From 0.0 ft to 3.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. ____ direction
Type ____
Well Disinfected ☐ Yes ☑ No Type: ____ Amount: ____

18. PUMP: Date installed: ____ Not installed ☑
Mfr. Name ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joshua Register **CERT. NO.:** 1921
Address: (Print) Level: A B C D (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.: 803-783-3314 Fax No. 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: ____ Date: 7/19/18
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Well Development Data Verfication Form
Underground Storage Tank Management Division

Facility Name: Former SC Crown 065 Site ID#: 07680

Date: 6-19-18 Field Personnel: Josh Register / Andrew Desilet

Drilling Company: ARM Environmental Driller's Name: Josh Register

Driller's Certification Number: 1921 Weather Conditions: Sunny, 94°

Well Development Method

Surge Block (1) ✓ Submersible Pump (1) ✓ 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.	609136	serial no.	609136	serial no. 609136	serial no.	170601058845
pH=4.0	4.04	standard	1413		NTU=1.0	9.96
pH=7.0	6.98				NTU=20	20.1
pH=10.0	10.03				NTU=100	102
					NTU=800	804

Drilling Method

Hollow Stem Augers ○ Solid Flight Augers ○ Direct Push ○

Air Rotary ○ Mud Rotary ○ Sonic ○

Monitoring Well ID# MW-1AR Well Casing Diameter 2" inches Borehole Diameter _____ inches

Depth to Ground Water (DGW) 32.80' ft. Screen Length/Slot Size 5 ft./ 0.010 in.

Total Well Depth (TWD) 45.0' ft. Screen Interval 45 ft. to 40 ft.

Length of water column (LWC=TWD-DGW) 12.20' ft Type of Drilling Fluids used: /

Total Gallons of Water Removed: 56.5 gals. Drilling Fluids recovered / gals.

Time (military)	1240	1305	1317	1330	1334	1338	1342
pH (s.u.)*	12.86 (11.86)	11.92	11.95	11.92	11.82	11.79	11.77
Specific Conductivity (mmhos/cm)*	261.4	476.8	475.8	451.5	441.5	438.6	443.2
Water Temperature (C)*	24.3°	24.0°	24.0°	24.0°	24.0°	23.8°	24.0°
Turbidity (NTU) *	134	86.5	44.0	24.0	17.4	10.2	7.39
Physical Characteristics (color/odor)	Cloudy	Cloudy	Clear	Clear	Clear	Clear	Clear
Water Level Measurement (ft) from TOC	32.95'	33.10'	33.16'	33.18'	33.20'	33.23'	33.25'
Total Well Depth (ft) from TOC	45.0'	45.0'	45.0'	45.0'	45.0'	45.0'	45.0'
Cumulative Gallons Removed	51 gals	53 gals	54 gals	55 gals	55.5 gals	56 gals	56.5 gals

* Development is completed once groundwater turbidity is ≤ 10 NTU and all parameters are ± 10%.

Detailed description of Well Development process: Surged well with surge block, then removed silt & sediment with submersible pump. Afterwards began development with geo-tech pump. ~50 gal

Driller Signature: _____ Date: _____

D H E C
PROMOTE PROTECT PROSPER

Well Development Data Verfication Form
Underground Storage Tank Management Division

Facility Name: Former SC Crown 015 Site ID#: 07680

Date: 6-19-18 Field Personnel: Josh Register / Andrew Desilet

Drilling Company: ARM Environmental Driller's Name: Josh Register

Driller's Certification Number: Weather Conditions: Sunny, 90°

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.	609136	serial no.	609136	serial no. 609136	serial no.	170601068845
pH=4.0	4.04	standard	1413		NTU=0	9.94
pH=7.0	6.99				NTU=20	19.7
pH=10.0	10.02				NTU=100	102
					NTU=800	798

Drilling Method

Hollow Stem Augers ○ Solid Flight Augers ○ Direct Push ○

Air Rotary ○ Mud Rotary ○ Sonic ○

Monitoring Well ID# MW-15R Well Casing Diameter 2" inches Borehole Diameter ____ inches

Depth to Ground Water (DGW) 33.75' ft. Screen Length/Slot Size 15 ft./ 0.010 in.

Total Well Depth (TWD) 39.2' ft. Screen Interval 39.2 ft. to 24.2 ft.

Length of water column (LWC=TWD-DGW) 5.47' ft. Type of Drilling Fluids used: ✓

Total Gallons of Water Removed: 62 gals. Drilling Fluids recovered ✓ gals.

Time (military)	1130	1143	1155	1158	1202	1206	1210
pH (s.u.)*	5.59	5.12	5.12	5.14	5.12	5.11	5.11
Specific Conductivity (mmhos/cm)*	147.9	140.5	165.8	160.4	150.6	149.5	149.2
Water Temperature (C)*	24.7°C	23.7°C	23.5°C	23.4°C	23.2°C	23.4°C	23.4°
Turbidity (NTU) *	363	65.6	42.5	38.6	20.1	11.3	8.99
Physical Characteristics (color/odor)	Murky, None	Slightly Cloudy	Slightly Cloudy	Clear	Clear	Clear	Clear
Water Level Measurement (ft) from TOC	33.87'	33.87'	33.89'	3.91'	33.92'	33.91'	33.92'
Total Well Depth (ft) from TOC	39.2'	39.2'	39.2'	39.2'	39.2'	39.2'	39.2'
Cumulative Gallons Removed	56 gals	58 gals	60 gals	60.5 gals	61 gals	61.5 gals	62 gals

* Development is completed once groundwater turbidity is ≤ 10 NTU and all parameters are ± 10%.

Detailed description of Well Development process: Surged well with surge block, then removed silt & sediment with submersible pump. Afterwards began development with ~~peristaltic~~ geo-sub pump. (55 gal)

Driller Signature: ____ Date: 6-19-18

D H E C
PROMOTE PROTECT PROSPER

Well Development Data Verfication Form
Underground Storage Tank Management Division

Facility Name: Farmers Crown SC 015 Site ID#: 07680

Date: 7-19-18 Field Personnel: Kenneth M Dennis

Drilling Company: ARM Environmental Services Inc. Driller's Name: Kenneth M Dennis

Driller's Certification Number: 2267 Weather Conditions: 88° Cloudy

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
serial no. GQ9252
pH=4.0 4.01
pH=7.0 6.98
pH=10.0 9.99

Conductivity meter
serial no. GQ9252
standard 1413

Temperature meter
serial no. GQ9252

Turbidity meter
serial no. F[illegible]6492
NTU=0.0 0.12
NTU=1.0 1.31
NTU=10.0 10.8

Drilling Method

Hollow Stem Augers ○ Solid Flight Augers ○ Direct Push ○

Air Rotary ○ Mud Rotary ○ Sonic ○

Monitoring Well ID# MW-13 Well Casing Diameter 2" inches Borehole Diameter ____ inches

Depth to Ground Water (DGW) 15.46 ft. Screen Length/Slot Size ____ ft./ ____ in.

Total Well Depth (TWD) 16 ft. Screen Interval ____ ft. to ____ ft.

Length of water column (LWC=TWD-DGW) .54 ft. Type of Drilling Fluids used: \

Total Gallons of Water Removed: .75 gals. Drilling Fluids recovered \ gals.

Time (military)	1433	1437	1440				
pH (s.u.)*	5.78	5.81	5.79				
Specific Conductivity (mmhos/cm)*	323.0	334.7	330.8				
Water Temperature (C)*	25.0°	24.9°	24.9°				
Turbidity (NTU) *	1000+	1000+	1000+				
Physical Characteristics (color/odor)	Turbid No odor	Turbid No odor	Turbid No odor				
Water Level Measurement (ft) from TOC	15.48	15.53	15.71				
Total Well Depth (ft) from TOC							
Cumulative Gallons Removed	.25 gals	.5 gals	.75 gals	gals	gals	gals	gals

* Development is completed once groundwater turbidity is ≤ 10 NTU and all parameters are ± 10%.

Detailed description of Well Development process: Surged well with surge block/water to clean screened interval, used Sub. pump to Remove solids, ~~[illegible]~~ used bailer to collect readings until well ran dry.

Driller Signature: [signature] Date: 7/19/18

APPENDIX G

DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 01-3011,1-18

2. Page 1 of

3. Generator's Name and Mailing Address: Former Crown SC-015, 3800 Devine Street, Columbia, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: TK Tank Services, 425 Boulevard Rd, Sumter, SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone: 803-[redacted]-4418-5314

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL	14	Dm	7	ton
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Joseph Goings as agent for Crown Central LLC | Signature: Joseph Goings | Date: Month 7 Day 10 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Willie Fortune | Signature: Willie Fortune | Date: Month 7 Day 10 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Casey Keels Newman | Signature: Casey Newman | Date: Month 7 Day 10 Year 18

NON-HAZARDOUS WASTE

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Rev. 3/95

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3178

2. Page 1 of

3. Generator's Name and Mailing Address: Former Crown SC 015, 3800 Devine Street, Columbia, S.C

01-3011-18

4. Generator's Phone ( )

5. Transporter 1 Company Name: ARM Env. Svcs.

6. US EPA ID Number

A. State Transorter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: TK Tank Services, 425 Boulevard Rd, Sumter, S.C

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit WL/Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	80	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Billy Pittenger Agent for Crown Central LLC (QES)

Signature: Billy Pittenger

Date: Month 7 Day 6 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger

Signature: Billy Pittenger

Date: Month 7 Day 6 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this mailest, except as noted in item 19.

Printed/Typed Name: Corby Newman

Signature: Corby Newman

Date: Month 7 Day 9 Year 18

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Rev. 3/95

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3307

2. Page 1 of

3. Generator's Name and Mailing Address
Crown SC 015
3800 Devinest
Columbia SC

01-311.1-18

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM ENV. SVRC

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK Services
425 Boulevard Rd
Sumter SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	11	TT	832	991
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Denver Thompson Crown AGENT FOR

Signature

Date: Month 7 Day 16 Year 18

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger

Signature: Billy Pittenger

Date: Month 7 Day 16 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Casey Newman

Signature: Casey Newman

Date: Month 7 Day 19 Year 18

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

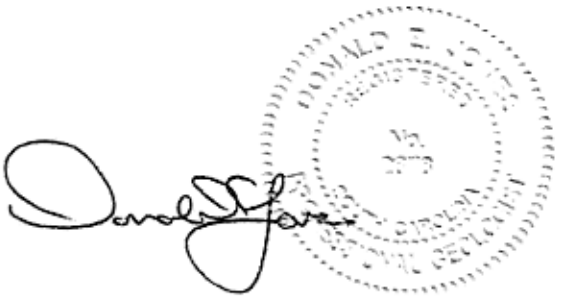
Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	X		
6	Is 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		

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			X
45	Is the laboratory performing the analyses properly certified?			X
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)	X		
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)	X		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information? N/A

Project Verifier:



Date: August 1, 2018

APPENDIX X

ARM AFVR REPORT

ARM ENVIRONMENTAL SERVICES, INC.
ASSESSMENT & REMEDIAL SERVICES armenv.com

July 23, 2018

Kimberly Kuhn, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re: 96-Hour Aggressive Fluid Vapor Recovery Event
Former Crown SC-015
3800 Devine Street
Columbia, Richland County, South Carolina
UST Permit #07680; CA #56804
ARM Project #01-3011.1-18

Dear Ms. Kuhn;

ARM Environmental Services, Inc. (ARM) has completed one (1) 96-hour Aggressive Fluid Vapor Recovery (AFVR) event at the above-referenced site located in Richland County, South Carolina. The pertinent information regarding the AFVR and gauging event is presented on the following pages and in the appendices of this document.

The 96-hour AFVR event was conducted on recovery wells RW-1, RW-2, and RW-3. Based on gauging of the fluid levels upon completion of the AFVR event, it appears that no free product was present above the groundwater in the referenced monitoring wells.

If you should have any questions regarding the results of this assessment, or should you need additional information, please do not hesitate to contact our office.

Sincerely,
ARM Environmental Services, Inc.

Michele McLeod
Project Scientist

Michael L. Faris, P.G.
Senior Geologist

cc: Carol Boemmel, Crown Central, LLC.
1 North Charles Street, Suite 2200, Baltimore, MD 21201

AFVR 1 of 1

ARM personnel mobilized to the Former Crown SC-015 site on July 2, 2018. Ambient air temperature was 80 - 100° F and the general weather conditions were mostly sunny. The depths to product and water were measured and recorded for recovery wells RW-1, RW-2, and RW-3 prior to and subsequent to the event. Approximately 0.40 foot and 0.01 foot of free product was measured in RW-2 and RW-3 prior to stinger placement into each well, respectively. No free product was measured in RW-1 prior to stinger placement into the well.

The AFVR was conducted by ARM utilizing a Travaini liquid ring vacuum pump system, capable of 325 cubic feet per minute (CFM) at 25 inches of mercury, with off-gas treatment through a vapor-phase granular activated carbon scrubber. Vacuuming began at 10:00 on July 2, 2018 and ended at 10:00 on July 6, 2018. At cessation of the 96-hour AFVR event, no appreciable thickness of free product was present in the wells. The field notes summarizing the data collected during the event is included in Appendix A. Approximately 832 gallons of petroleum contact water and a trace/sheen of free product were removed from the referenced wells during the event.

Pollutant Mass Removal

A weight of 456.00 pounds (a volume of 74.03 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the 96-hour event based on the data collected during the AFVR event. A TVA-1000B Flame Ionization Detector (FID) was utilized to measure the volatile vapors expelled from the vacuum truck. During the event, several measurements recorded were greater than the 50,000 parts per million (ppm) range of the FID; therefore, the value of 50,000 ppm was utilized, though the actual values may have been higher. The equations, variables, and calculations used to determine the pollutant mass removal are included in Appendix B.

Disposal

A disposal manifest for the 832 gallons of petroleum contact water and a trace/sheen of free product were generated during the event are included in Appendix C.

The quantity of waste fluids generated during the AFVR is determined either by weigh scales before and after offloading the tank at the disposal facility or by gauging the tank with a tank gauging stick (some disposal facilities do not use weigh tickets). When used, the gauging stick is labeled in 8th-inch increments and is designed to gauge the quantity of fluids in a tank. The tank stick is inserted to the bottom of the tank and the measurement is recorded on a field data sheet. The measurement is then compared to a tank chart specific to the vacuum truck tank and the volume is recorded. Weigh tickets and / or tank stick measurements are included in Appendix C.

ARM ENVIRONMENTAL SERVICES, INC.

AFVR – OVA Field Calibration Sheet

[Page 1 of 1]

Site Name: Crown Sc-015 Location: Columbia Sc

AFVR Contractor: ARM Env. Surv. Personnel: Deaves, Liam, Murphy

(check one) Thermo TVA-1000B Flame Ionization Detector ✓ Rae Systems Mini Rae 3000 Photo Ionization Detector ____

Date	Time	Zero Air	100 PPM Isobutylene	500 PPM Methane	Post-Calibration Zero Air Reading	Post Calibration Gas Standard Reading
7-2-18	10:00	✓		✓	0.4	502
7-3-18	15:00	✓		✓	0.2	489
7-3-18	8:00	✓		✓	0.5	501
7-3-18	15:00	✓		✓	0.2	496
7-4-18	8:00	✓		✓	0.4	501
7-4-18	15:00	✓		✓	0.3	498
7-5-18	08:00	✓		✓	0.6	485
7-5-18	15:00	✓		✓	0.3	501
7-6-18	08:00	✓		✓	0.2	497

ARM ENVIRONMENTAL SERVICES, INC.

96-hr. AFVR - Field Notes
[Page 1 of 12]

Site Name: Crown SC-015 Location: 3400 Devine ST Columbia SC

AFVR Contractor: ARM Environmental Personnel: Denver, Liam Murphy

Date: 7/2/18 Ambient Air Temperature and General Weather Condition: Sunny, HOT 80-100°F

Start Time 1: 10:00 Stop Time 1: 10:00 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 96-hour AFVR Event: 832 gal

Total volume of product removed during the 96-hour AFVR Event: trace/sheen

Product / Water Recovery Rate: 0.144 gals/min

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
RW1	N/A	17.0	N/A	24.7	277	
RW2	17.22	17.62	N/A	23.8	277	
RW3	14.05	18:06	N/A	23.74	278	

N/M – Not Measurable (not detected)

APPENDICES

A. AFVR FIELD DATA
B. POLLUTANT MASS REMOVAL CALCULATIONS
C. DISPOSAL MANIFEST(s)

APPENDIX A

AFVR FIELD DATA

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 12]

Monday 7/2/15

Time	MW-RW1 Vacuum at Targeted Well (in. Hg)	MW-RW2 Vacuum at Targeted Well (in. Hg)	MW-RW3 Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
10:00	5	10.5	7				
10:30	5	11	7				
11:00	5	11	7				
11:30	5	10.5	7				
12:00	5	10.5	8				
12:30	5	10.5	8				
13:00	5	11	10				
13:30	5	11	10				
14:00	5.5	10.5	9				
14:30	5.5	11	9				
15:00	6	10.5	10.5				
15:30	6	10.5	10.5				
16:00	6	11	9				
16:30	5.5	11	9				
17:00	5.5	11	9				
17:30	6	11	9				
18:00	6	11	9				
19:00	5.5	10.5	9				
20:00	5.5	10.5	10.5				
21:00	5.5	10.5	10.5				
22:00	5.5	10.5	10.5				
23:00	5.5	10.5	10.5				
24:00	5.5	10.5	10.5				

Vacuum at Pump: 17-20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 12]

		MW- RW1	MW- RW2	MW- RW3	MW-	MW-	MW-	MW-
	Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
Tuesday 7/3/18	8:00	6	12	9				
	9:00	6	12	9				
	10:00	5.5	9	9				
	12:00	5	10	8				
	14:00	5	9	8				
	16:00	5.5	10	9				
	18:00	5	10	8				
	20:00	5.5	10	9				
	22:00	6	10	8.5				
	24:00	6	10	8.5				
Wednesday 7/4/18	02:00	5	11	9				
	10:00	5	11	9				
	12:00	5	10	9				
	14:00	5	11	9				
	16:00	5	11	9.5				
	18:00	5	11	8				
	20:00	5	11	9				
	22:00	5.5	11	9				
	24:00	5.5	11	9				
Thursday 7/5/18	9:00	5.5	11.5	9.5				
	10:00	6	12	10				
	12:00	5.5	11.5	10				
	14:00	5.5	11	10				
	16:00	5.5	11	9.5				
	18:00	6	11	9.5				

Vacuum at Pump: 17.20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 12]

5/31/12

Time	MW- RW1 Vacuum at Targeted Well (in. Hg)	MW- RW2 Vacuum at Targeted Well (in. Hg)	MW- RW3 Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
20:00	6	11.5	9				
22:00	5.5	11	9				
24:00	5.5	11	9.5				
8:00	6	11.5	9				
10:00	6	12	9				

Vacuum at Pump: _____

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 5 of 12]

Monday 7/2/18

Time	Stinger Placement: MW- RW1		Stinger Placement: MW- RW3		Stinger Placement: MW- RW2		Stinger Placement: MW-	
	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
10:00	17		18		17.5			
10:30	17.5		18.5		18			
11:00	18		19		18.5			
11:30	18.5		19.5		19			
12:00	19		20		19.5			
12:30	19.5		20.5		20			
13:00	20.		21		20.5			
13:30	20.5		21.5		21			
14:00	21.		22		21.5			
14:30	21.5		22.5		22			
15:00	22.		23.		22.5			
15:30	22.5		23.5		23.			
16:00	23		24		23.5			
16:30	23.5		24.5		24			
17:00	24		25		24.5			
17:30	24.5				25			
18:00	25							
19:00								
20:00								
21:00								
22:00								
23:00								
24:00								

Vacuum at Pump: 17.20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 6 of 12]

		Stinger Placement: MW- RW1		Stinger Placement: MW- RW2		Stinger Placement: MW- RW3		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
Tuesday 7/3/18	08:00	25		25		25			
	09:00								
	10:00								
	12:00								
	14:00								
	16:00								
	18:00								
	20:00								
	22:00								
Wednesday 7/4/18	24:00	25		25		25			
	0800	25		25		25			
	10:00								
	12:00								
	14:00								
	16:00								
	18:00								
	20:00								
	22:00								
Thursday 7/5/18	24:00	25		25		25			
	0800	25		25		25			
	10:00								
	12:00								
	14:00								
	16:00								
	18:00								

Vacuum at Pump: 17-20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 7 of 12]

	Stinger Placement: MW- RW1		Stinger Placement: MW- RW2		Stinger Placement: MW- RW3		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
7/5/18 20:00	25		25		25			
22:00	1		1		1			
24:00	25		25		25			
Friday 7/6/18 08:00	25		25		25			
10:00	25		25		25			

Vacuum at Pump: 17 - 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 8 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

	MW- 21		MW- 5R		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
10:00	16.58	0.36	18	0.25				
10:30	16.51	0.36	18	0.25				
11:00	16.53	0.36	17.99	0.25				
11:30	16.65	0.44	17.87	0.25				
12:00	17	0.44	17.92	0.26				
12:30	17.07	0.44	17.96	0.26				
13:00	17.14	0.44	18.5	0.25				
13:30	17.23	0.44	18.1	0.25				
14:00	17.18	0.44	18.2	0.26				
14:30	17.2	0.36	18.15	0.26				
15:00	17.17	0.44	18.1	0.25				
15:30	17	0.36	18	0.25				
16:00	17.12	0.36	17.99	0.25				
16:30	17.15	0.36	17.9	0.26				
17:00	17.28	0.44	17.97	0.26				
17:30	17.29	0.44	17.89	0.26				
18:00	17.30	0.44	17.92	0.26				
19:00	17.34	0.36	17.94	0.25				
20:00	17.33	0.36	17.93	0.25				
21:00	17.34	0.36	17.9	0.25				
22:00	17.30	0.44	17.93	0.26				
23:00	17.33	0.44	17.89	0.26				
24:00	17.35	0.36	17.94	0.26				

MONDAY 11/26/18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 9 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- 21		MW- 5-R		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
Tuesday 7/3/18	08:00	17.56	0.29	17.96	0.33				
	09:00	17.55	0.29	17.88	0.33				
	10:00	17.53	0.29	18.59	0.33				
	12:00	17.57	0.29	18.45	0.33				
	14:00	17.63	0.29	18.51	0.33				
	16:00	17.65	0.36	18.55	0.33				
	18:00	17.67	0.36	18.57	0.33				
	20:00	17.68	0.36	18.59	0.33				
	22:00	17.70	0.29	18.60	0.33				
	24:00	17.68	0.29	18.58	0.33				
Wednesday 7/4/18	08:00	17.45	0.31	18.14	0.31				
	10:00	17.48	0.31	18.16	0.31				
	12:00	17.57	0.31	18.2	0.31				
	14:00	17.55	0.31	18.25	0.31				
	16:00	17.58	0.31	18.51	0.31				
	18:00	17.76	0.31	18.63	0.31				
	20:00	17.79	0.29	18.66	0.31				
	22:00	17.81	0.29	18.68	0.31				
	24:00	17.80	0.29	18.68	0.31				
Thursday 7/5/18	08:00	17.83	0.22	18.16	0.34				
	10:00	17.89	0.22	18.3	0.34				
	12:00	17.81	0.22	18.07	0.31				
	14:00	18.03	0.29	18.4	0.31				
	16:00	18.65	0.29	19.23	0.34				
	18:00	17.78	0.29	18.12	0.34				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 10 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- 21		MW- B-R		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
7/5/18	20:00	17.90	0.29	18.05	0.34				
	22:00	17.92	0.29	18.08	0.34				
	24:00	17.91	0.29	18.13	0.34				
7/6/18	08:00	17.89	0.22	18.29	0.29				
	10:00	17.9	0.22	18.28	0.29				
Friday									

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 11 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
7/2/18 monday 10:00	190,000	9,568	94%	1,981	50.3	50.2	
10:30	180,340	9,358	94%	2,991	55.7	68.1	
11:00	180,740	9,870	94%	3,828	64.5	74.1	
11:30	180,350	9635	94%	3675	64.9	73.3	
12:00	170,380	9,348	94%	3,358	65.0	70.4	
12:30	98,779	3,748	96%	2,966	64.9	69.2	
13:00	99,618	2,997	96%	3,570	67.3	57.5	
13:30	97,760	3,271	96%	2,839	66.4	67.2	
14:00	97,571	3,384	96%	2,902	65.8	64.1	
14:30	96,989	4,017	95%	2737	66.8	58.7	
15:00	94,731	3,671	96%	2,998	66.3	61.4	
15:30	94,871	4,061	90%	2,971	66.9	60.8	
16:00	94,642	5,950	93%	3,397	65.5	59.9	
16:30	94,052	6,560	93%	2942	64.5	56.3	
17:00	93,963	5,780	93%	3,125	65.8	61.2	
17:30	93,650	5,042	94%	3,120	65.7	60.3	
18:00	92,270	6,543	92%	3,548	64.5	61.5	
19:00	90,546	5,167	94%	3,390	63.1	60.7	
20:00	86,462	4,360	94%	3,125	64.8	50.6	
21:00	85,688	4,280	94%	3840	61.4	58.5	
22:00	85,540	5,425	93%	2,636	62.5	60.1	
23:00	90,200	5,600	93%	2,791	62.8	60.1	
7/3/18 Tuesday 24:00	90,400	5,740	93%	2,690	61.8	60.3	
08:00	68,878	5,280	92%	3,067	61.1	62.0	
09:00	70,381	7,139	89%	3104	63.5	64.4	
10:00	70,581	7,307	89%	3108	65.4	66.3	
12:00	60,376	7,339	87%	3314	66.8	59.4	
14:00	64,747	6,781	89%	3014	67.7	60.3	
16:00	67,900	6,716	90%	3394	63.9	61.9	

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 12 of 12]

	Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
7/3/18	18:00	62,705	6,112	90%	3125	61.8	58.2	
	20:00	62,326	5,887	90%	3204	65.6	60.2	
	22:00	64,586	4,540	92%	3348	60.5	74.9	
	24:00	63,900	4,700	92%	3340	62.4	71.8	
Wednesday 7/4/18	08:00	100,000	8,371	91%	3123	62.1	52.3	
	10:00	99,894	7,485	92%	3191	63.0	74.8	
	12:00	99,654	7,631	92%	3209	67.3	77.4	
	14:00	97,891	6,981	92%	3312	68.8	80.1	
	16:00	92,876	6,307	93%	3440	61.9	62.1	
	18:00	92,432	6,029	93%	3360	63.4	66.1	
	20:00	90,950	4,562	94%	3270	64.8	68.4	
	22:00	74,642	5,418	92%	3331	60.7	82.4	
	24:00	65,000	5,800	91%	3490	62.1	83.0	
Thursday 7/5/18	08:00	42,960	4,110	90%	3196	63.3	73.6	
	10:00	43,650	3,873	91%	3111	63.5	76.3	
	12:00	64,350	3,932	93%	3122	65.3	66.9	
	14:00	63,750	3,663	94%	3097	65.5	55.7	
	16:00	53,034	3,624	93%	3124	61.4	61.2	
	18:00	54,672	3,244	94%	3320	62.6	65.3	
	20:00	76,480	3,380	95%	3365	60.6	70.1	
	22:00	62,510	3,684	94%	3284	64.4	68.8	
	24:00	60,846	4,011	93%	3171	62.3	66.1	
	08:00	59,630	4,594	92%	3290	61.8	59.4	
	10:00	52,730	4,732	91%	3159	64.1	64.2	

APPENDIX B

POLLUTANT MASS REMOVAL CALCULATIONS

Site: Former Crown SC-015
UST Permit # 05139

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Q_{std} = (60 sec/min) (1-B_{ws}) (V) (A) (528° R / T_s)

B_{wsw} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

= (B_{wsw} / 18 lb-mole H_2O) / [1/28.84 lb-mole dry air) + (B_{wsw} / 18 lb-mole H_2O)]

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft^2 of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

R° = (C° + 273.15) x 9/5

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

PMR = PMR_c (# of minutes / 60)

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

= C_c (Q_{std}) (60 min/hr)

C_c = $C_{c:m}$ (62.43 x 10^{-9} lb-m^3/mg-ft^3)

$C_{c:m}$ = mg/dsm^3 - mass concentration of TGNMO emissions

= PPM_c (M_c / K_4)

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

= (PPM_{meas}) (K) = PPM_v

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - K=1, propane - K=3, isobutylene - K=4, hexane - K=6

K_4 = 24.07 $dsm^3/10^6$ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dcsf - mass concentration of TGNMO emissions sa carbon, dry basis, at standard temperature and pressure

Site: Former Crown SC-015
UST Permit # 05139

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
7/2/2018	10:00	50.3	50.2	0.041	0.062	33.02	0.022	582.2	36.73
	10:30	55.7	68.1	0.077	0.110	49.85	0.022	591.9	51.76
	11:00	64.5	74.1	0.138	0.182	63.80	0.022	607.8	59.34
	11:30	64.9	73.3	0.140	0.183	61.25	0.022	608.5	56.80
	12:00	65.0	70.4	0.134	0.176	55.97	0.022	608.7	52.30
	12:30	65.9	69.3	0.138	0.181	49.43	0.022	610.3	45.82
	13:00	67.3	57.5	0.119	0.160	59.50	0.022	612.8	56.32
	13:30	66.4	67.2	0.137	0.180	47.32	0.022	611.2	43.87
	14:00	65.8	54.1	0.102	0.141	48.37	0.022	610.1	47.05
	14:30	66.8	59.7	0.121	0.162	45.62	0.022	611.9	43.12
	15:00	66.3	61.4	0.122	0.163	49.97	0.022	611.0	47.25
	15:30	66.9	60.8	0.124	0.166	49.52	0.022	612.1	46.59
	16:00	65.5	59.9	0.113	0.154	56.62	0.022	609.6	54.29
	16:30	64.5	56.3	0.100	0.138	49.03	0.022	607.8	48.04
	17:00	65.8	61.2	0.118	0.159	52.08	0.022	610.1	49.58
	17:30	65.7	60.3	0.115	0.156	52.00	0.022	609.9	49.69
	18:00	64.5	61.5	0.111	0.151	59.13	0.022	607.8	57.07
	19:00	63.1	60.7	0.101	0.139	56.50	0.022	605.3	55.49
	20:00	64.8	50.6	0.090	0.126	52.08	0.022	608.3	51.70
	21:00	61.4	58.5	0.088	0.124	47.33	0.022	602.2	47.55
	22:00	62.5	60.1	0.097	0.134	43.93	0.022	604.2	43.48
	23:00	62.8	60.1	0.098	0.136	46.52	0.022	604.7	45.90
7/3/2018	0:00	61.8	60.3	0.094	0.130	44.83	0.022	602.9	44.66
	8:00	61.1	62.0	0.093	0.130	51.12	0.022	601.7	51.07
	9:00	63.5	64.4	0.111	0.151	51.73	0.022	606.0	50.08
	10:00	65.4	66.3	0.127	0.169	51.80	0.022	609.4	48.77
	12:00	66.8	59.4	0.120	0.162	55.23	0.022	611.9	52.26
	14:00	67.7	60.3	0.129	0.171	50.23	0.022	613.5	46.88
	16:00	63.9	61.9	0.108	0.147	56.57	0.022	606.7	54.90
	18:00	61.8	58.2	0.090	0.126	52.08	0.022	602.9	52.16
	20:00	65.6	60.2	0.115	0.155	53.40	0.022	609.8	51.10
	22:00	60.5	74.9	0.112	0.152	55.80	0.022	600.6	54.40

Site: Former Crown SC-015
UST Permit # 05139

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
7/4/2018	0:00	62.4	71.8	0.119	0.160	55.67	0.022	604.0	53.49
	8:00	62.1	52.3	0.081	0.115	52.05	0.022	603.5	52.74
	10:00	63.0	74.8	0.129	0.171	53.18	0.022	605.1	50.33
	12:00	67.3	77.4	0.171	0.215	53.48	0.022	612.8	47.29
	14:00	68.8	80.1	0.196	0.239	55.20	0.022	615.5	47.16
	16:00	61.9	62.1	0.097	0.135	57.33	0.022	603.1	56.80
	18:00	63.4	66.1	0.114	0.154	56.00	0.022	605.8	54.02
	20:00	64.8	68.4	0.128	0.170	54.50	0.022	608.3	51.36
	22:00	60.7	82.4	0.127	0.169	55.52	0.022	600.9	53.01
7/5/2018	0:00	62.1	83.0	0.139	0.182	58.00	0.022	603.5	54.30
	8:00	61.3	73.6	0.115	0.155	53.27	0.022	602.0	51.61
	10:00	63.5	86.3	0.158	0.202	51.85	0.022	606.0	47.16
	12:00	65.3	66.9	0.128	0.170	52.03	0.022	609.2	48.96
	14:00	65.5	55.7	0.104	0.143	51.62	0.022	609.6	50.13
	16:00	61.4	61.2	0.093	0.130	52.07	0.022	602.2	51.96
	18:00	62.6	65.3	0.107	0.146	55.33	0.022	604.4	53.97
	20:00	60.6	70.1	0.104	0.143	56.08	0.022	600.8	55.24
	22:00	64.4	68.8	0.126	0.168	54.73	0.022	607.6	51.78
7/6/2018	0:00	62.3	66.1	0.107	0.146	52.85	0.022	603.8	51.61
	8:00	61.8	59.4	0.092	0.128	54.83	0.022	602.9	54.75
	10:00	64.1	64.2	0.114	0.154	52.65	0.022	607.1	50.65

Site: Former Crown SC-015
UST Permit # 05139

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
7/2/2018	10:00	0	36.73	50000	50000	24948	- - -	- - -	0.00
	10:30	30	51.76	50000	50000	24948	0.00156	4.84	2.42
	11:00	30	59.34	50000	50000	24948	0.00156	5.55	2.77
	11:30	30	56.80	50000	50000	24948	0.00156	5.31	2.65
	12:00	30	52.30	50000	50000	24948	0.00156	4.89	2.44
	12:30	30	45.82	50000	50000	24948	0.00156	4.28	2.14
	13:00	30	56.32	50000	50000	24948	0.00156	5.26	2.63
	13:30	30	43.87	50000	50000	24948	0.00156	4.10	2.05
	14:00	30	47.05	50000	50000	24948	0.00156	4.40	2.20
	14:30	30	43.12	50000	50000	24948	0.00156	4.03	2.01
	15:00	30	47.25	50000	50000	24948	0.00156	4.42	2.21
	15:30	30	46.59	50000	50000	24948	0.00156	4.35	2.18
	16:00	30	54.29	50000	50000	24948	0.00156	5.07	2.54
	16:30	30	48.04	50000	50000	24948	0.00156	4.49	2.24
	17:00	30	49.58	50000	50000	24948	0.00156	4.63	2.32
	17:30	30	49.69	50000	50000	24948	0.00156	4.64	2.32
	18:00	30	57.07	50000	50000	24948	0.00156	5.33	2.67
	19:00	60	55.49	50000	50000	24948	0.00156	5.19	5.19
	20:00	60	51.70	50000	50000	24948	0.00156	4.83	4.83
	21:00	60	47.55	50000	50000	24948	0.00156	4.44	4.44
	22:00	60	43.48	50000	50000	24948	0.00156	4.06	4.06
	23:00	60	45.90	50000	50000	24948	0.00156	4.29	4.29
7/3/2018	0:00	60	44.66	50000	50000	24948	0.00156	4.17	4.17
	8:00	480	51.07	50000	50000	24948	0.00156	4.77	38.18
	9:00	60	50.08	50000	50000	24948	0.00156	4.68	4.68
	10:00	60	48.77	50000	50000	24948	0.00156	4.56	4.56
	12:00	120	52.26	50000	50000	24948	0.00156	4.88	9.77
	14:00	120	46.88	50000	50000	24948	0.00156	4.38	8.76
	16:00	120	54.90	50000	50000	24948	0.00156	5.13	10.26
	18:00	120	52.16	50000	50000	24948	0.00156	4.87	9.75
	20:00	120	51.10	50000	50000	24948	0.00156	4.78	9.55
	22:00	120	54.40	50000	50000	24948	0.00156	5.08	10.17

Site: Former Crown SC-015
UST Permit # 05139

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm³)	(lb/dscf)	(lb/hr)	(lb)
7/4/2018	0:00	120	53.49	50000	50000	24948	0.00156	5.00	10.00
	8:00	480	52.74	50000	50000	24948	0.00156	4.93	39.43
	10:00	120	50.33	50000	50000	24948	0.00156	4.70	9.41
	12:00	120	47.29	50000	50000	24948	0.00156	4.42	8.84
	14:00	120	47.16	50000	50000	24948	0.00156	4.41	8.81
	16:00	120	54.02	50000	50000	24948	0.00156	5.05	10.10
	18:00	120	54.02	50000	50000	24948	0.00156	5.05	10.10
	20:00	120	51.36	50000	50000	24948	0.00156	4.80	9.60
	22:00	120	53.01	50000	50000	24948	0.00156	4.95	9.91
7/5/2018	0:00	120	54.30	50000	50000	24948	0.00156	5.07	10.15
	8:00	480	51.61	42960	42960	21435	0.00134	4.14	33.15
	10:00	120	47.16	43650	43650	21780	0.00136	3.85	7.70
	12:00	120	48.96	50000	50000	24948	0.00156	4.58	9.15
	14:00	120	50.13	50000	50000	24948	0.00156	4.68	9.37
	16:00	120	51.96	50000	50000	24948	0.00156	4.86	9.71
	18:00	120	53.97	50000	50000	24948	0.00156	5.04	10.09
	20:00	120	55.24	50000	50000	24948	0.00156	5.16	10.32
	22:00	120	51.78	50000	50000	24948	0.00156	4.84	9.68
7/6/2018	0:00	120	51.61	50000	50000	24948	0.00156	4.82	9.65
	8:00	480	54.75	50000	50000	24948	0.00156	5.12	40.93
	10:00	120	50.65	50000	50000	24948	0.00156	4.73	9.47

Total Gaseous Nonmethane Organic emissions removed in pounds from RW-1, RW-2, & RW-3 **456.00**

APPENDIX C

DISPOSAL MANIFEST(s)

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3307

2. Page 1 of

3. Generator's Name and Mailing Address
Crown SC 015
3800 Devine ST
Columbia SC

01-311.1-18

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM ENV. SVCS

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK Services
425 Boulevard Rd
Sumter SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	832	991
c.				
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

NON-HAZARDOUS WASTE

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Agent for Denver Thompson Crown

Signature

Date: Month 7 Day 16 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger

Signature: Billy Pittenger

Date: Month 7 Day 16 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Casey Newman

Signature: Casey Newman

Date: Month 7 Day 19 Year 18

F-14 © 2002 LABELMASTER (800) 621-5808 www.labelmaster.com PRINTED ON RECYCLED PAPER Rev. 3/95

11

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.

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

DATE: 7-06-18

12:17
40203141

SCALE: 1885
LOCATION: PETRO
I 77 EXIT 5
COLUMBIA SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	11360	lb
DRIVE AXLE	16500	lb
TRAILER AXLE	00	lb
* GROSS WEIGHT	27860	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)

Vac 2 manifest 3307
832 gallons

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

COMPANY: ARM EVIRONMENTAL

TRACTOR #: 2 TRAILER #: 0

WEIGH NUMBER
3141

FEE $11.50

WEIGHMASTER OR WEIGHER SIGNATURE: Charlene Brown
CHARLENE BROWN

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3063 11/17

NON-HAZARDOUS WASTE MANIFEST

07680

UST 042-A PETROLEUM

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3209

2. Page of

3. Generator's Name and Mailing Address: Former Crown SC-015, 3800 Devine St, Columbia, SC

01-3011.1-18

4. Generator's Phone ( )

5. Transporter 1 Company Name: ARM Environmental Svcs

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: TK Tank Services, 425 Boulevard Rd, Sumter, SC 29153

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone: 803-418-5314

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	38.5	gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

UST AUG 13 2018 DIVISION

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Joseph Goings as agent for Crown Central LLC

Signature

Date: Month 8 Day 2 Year 18

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pitteger

Signature

Date: Month 8 Day 2 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Casey Newman

Signature

Date: Month 8 Day 13 Year 18

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

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Rev. 3/95

Quality Environmental Solutions, Inc.

Providing PEACE of MIND since 1992

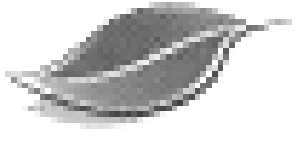


Donald E. Jones

Registered Professional Geologist
VP & Senior Program Manager

djones@qualityenvironmental.net
410.841.5552
410.493.3972 (cell)

Quality Environmental Solutions, Inc. (QES)



3340 Seabrook Island Road
Johns Island, SC 29455

www.qesweb.com

Domenico Model

UST # 07680
Site Name: SC-015
Modeler: Brad B
Date: 3.11.20

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	28	ft/yr

Transport Parameters

x_{max}	159	ft
y_{max}	69	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	200	ft
α_x	11.02804	ft
α_y	1.102804	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	30	yrs

Aquifer Characteristics

ρ_d	1.55	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene	28.6	81
Toluene	70.2	133
Ethylbenzene	5.47	176
Xylenes	28.5	639
Naphthalene	2.37	1543
MtBE	4.52	11
EDB	0.00484	28
1,2-DCA		17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.100	25.44
Toluene	1.165	24.04
Ethylbenzene	1.218	22.98
Xylenes	1.792	15.62
Naphthalene	2.913	9.61
MtBE	1.014	27.62
EDB	1.035	27.06
1,2-DCA	1.022	27.41

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t) = \left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right] erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

UST 99 DOCKETING

Benzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	28.6	28.6
15.9		15.452
31.8		7.915
47.7		3.997
63.6		2.027
79.5		1.035
95.4		0.532
111.3	0.0349	0.275
127.2		0.143
143.1	0.0744	0.075
159		0.039

Temporal Calibration Data

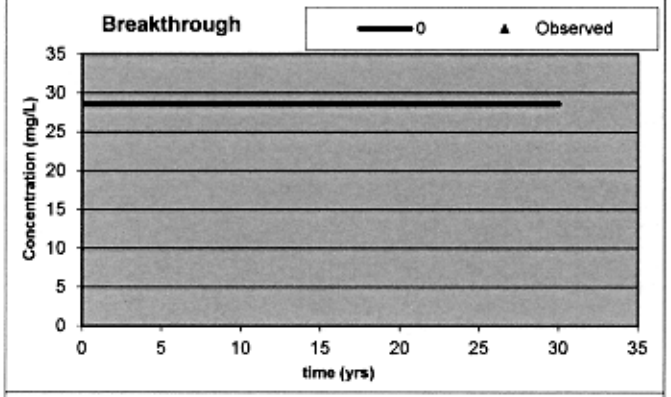
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		28.6		28.6
3		28.600		28.600
6		28.600		28.600
9		28.600		28.600
12		28.600		28.600
15		28.600		28.600
18		28.600		28.600
21		28.600		28.600
24		28.600		28.600
27		28.600		28.600
30		28.600		28.600

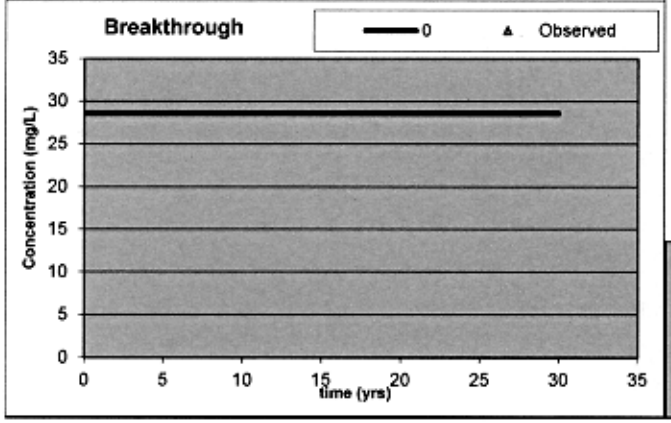
Site ID 07680

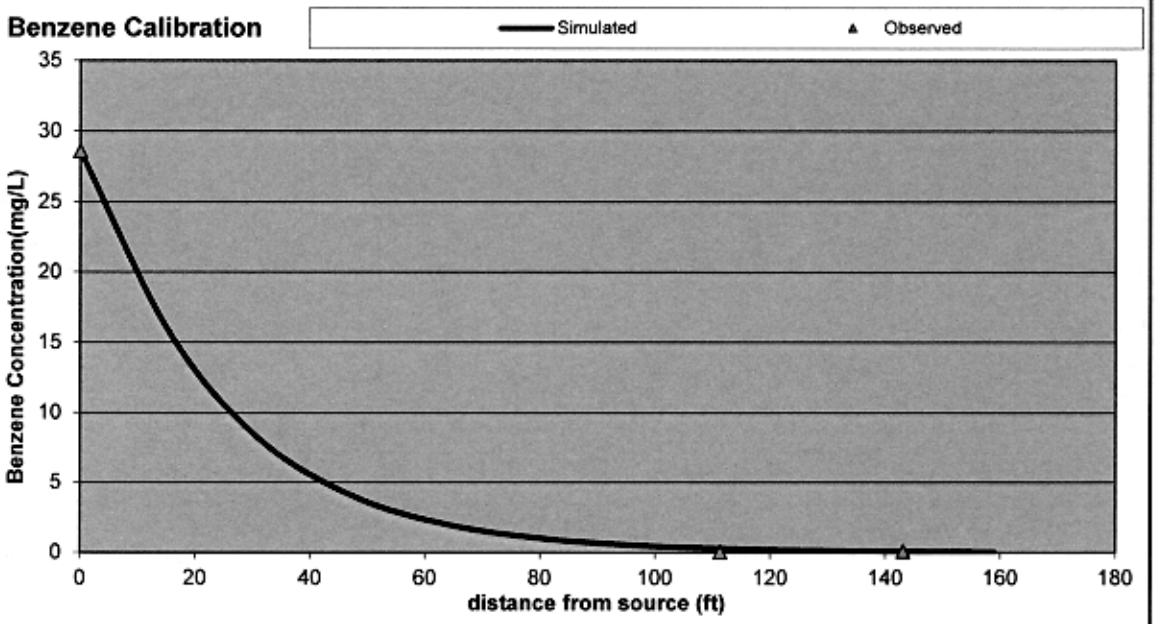
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	0.505	yrs	λ	1.37228	yr^{-1}
v_x	28	ft/yr			
R	1.100				
v_R	25.444	ft/yr	C_{source}	28.6	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	4.8442E-10	3.2776E-07	6.5445E-06	3.1659E-05	7.507E-05	0.000118	0.000144	0.000147	0.000133
34.5	0.0077503	0.08494402	0.13368316	0.12708026	0.09803684	0.06787	0.044061	0.027435	0.016597	0.009834
0	15.4523796	7.91503068	3.99701249	2.02686206	1.03519222	0.5323498	0.275397	0.143191	0.074771	0.039186
34.5	0.0077503	0.08494402	0.13368316	0.12708026	0.09803684	0.06787	0.044061	0.027435	0.016597	0.009834
69	0	4.8442E-10	3.2776E-07	6.5445E-06	3.1659E-05	7.507E-05	0.000118	0.000144	0.000147	0.000133

Toluene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	70.2	70.2
15.9		24.101
31.8		7.844
47.7		2.517
63.6		0.811
79.5		0.263
95.4		0.086
111.3	0.0119	0.028
127.2		0.009
143.1	0.00246	0.003
159		0.001

Temporal Calibration Data

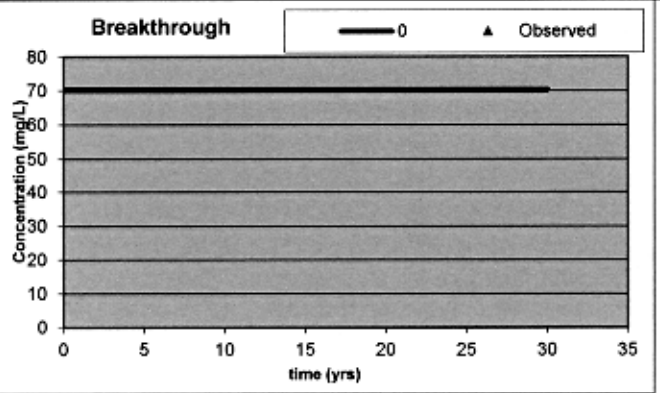
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		70.2		70.2
3		70.200		70.200
6		70.200		70.200
9		70.200		70.200
12		70.200		70.200
15		70.200		70.200
18		70.200		70.200
21		70.200		70.200
24		70.200		70.200
27		70.200		70.200
30		70.200		70.200

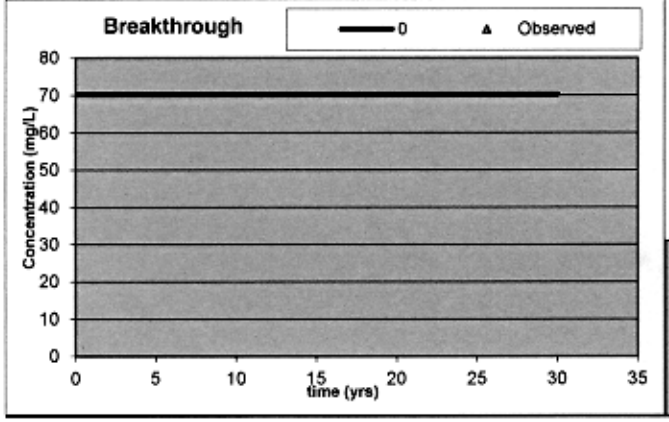
Site ID 07680

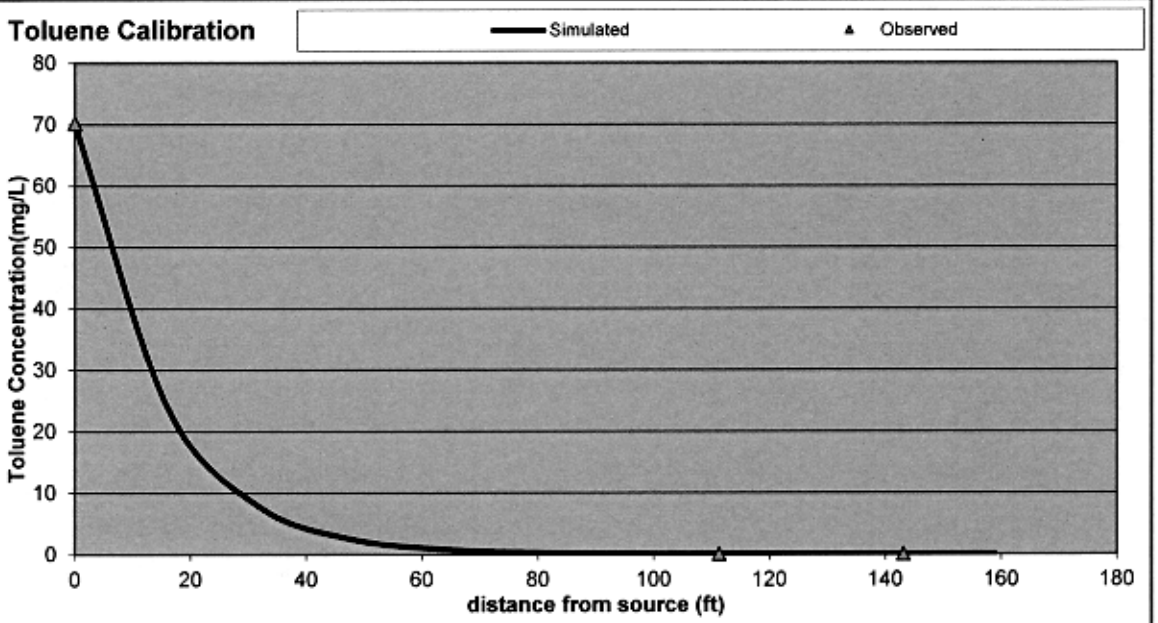
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	0.25	yrs	λ	2.772	yr^{-1}
v_x	28	ft/yr			
R	1.165				
v_R	24.036	ft/yr	C_{source}	70.2	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	4.8009E-10	2.0641E-07	2.6188E-06	8.05E-06	1.213E-05	1.21E-05	9.38E-06	6.1E-06	3.51E-06
34.5	0.01208804	0.08418527	0.08418721	0.05085265	0.0249282	0.0109659	0.004524	0.00179	0.000688	0.000259
0	24.1008608	7.84433065	2.51712568	0.81107253	0.26322225	0.0860131	0.028274	0.009341	0.0031	0.001032
34.5	0.01208804	0.08418527	0.08418721	0.05085265	0.0249282	0.0109659	0.004524	0.00179	0.000688	0.000259
69	0	4.8009E-10	2.0641E-07	2.6188E-06	8.05E-06	1.213E-05	1.21E-05	9.38E-06	6.1E-06	3.51E-06

Ethylbenzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	5.47	5.47
15.9		3.414
31.8		2.020
47.7		1.178
63.6		0.690
79.5		0.407
95.4		0.242
111.3	0.126	0.145
127.2		0.087
143.1	0.0523	0.052
159		0.032

Temporal Calibration Data

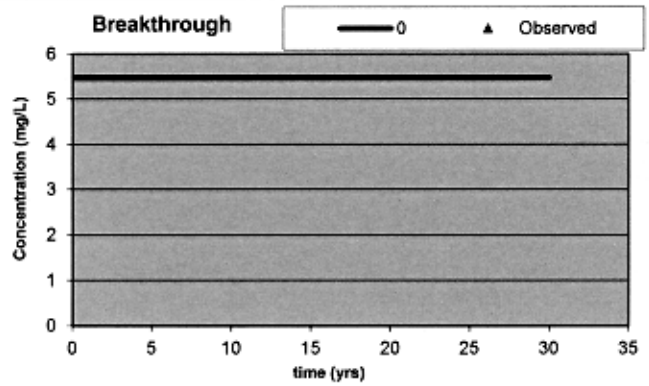
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		5.47		5.47
3		5.470		5.470
6		5.470		5.470
9		5.470		5.470
12		5.470		5.470
15		5.470		5.470
18		5.470		5.470
21		5.470		5.470
24		5.470		5.470
27		5.470		5.470
30		5.470		5.470

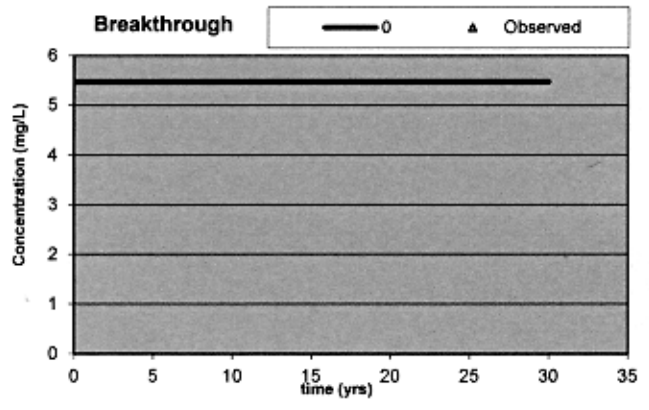
Site ID 07680

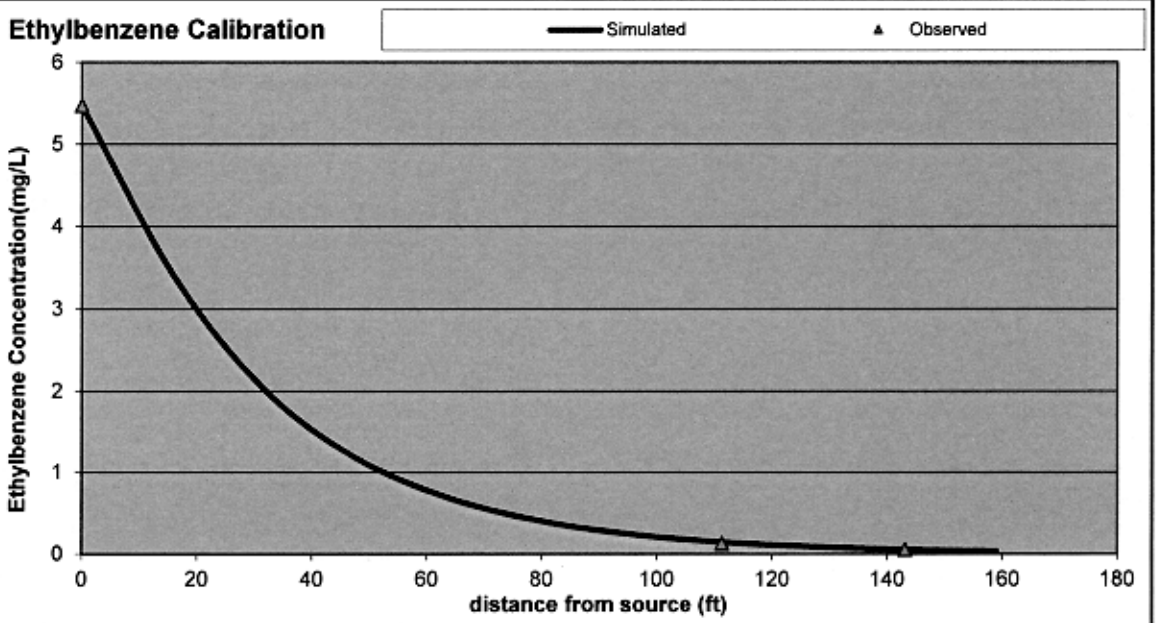
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	0.79	yrs	λ	0.87722	yr^{-1}
v_x	28	ft/yr			
R	1.218				
v_R	22.984	ft/yr	C_{source}	5.47	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	1.2363E-10	9.6623E-08	2.2286E-06	1.2453E-05	3.411E-05	6.2E-05	8.72E-05	0.000103	0.000108
34.5	0.00171227	0.02167808	0.03940924	0.04327458	0.03856358	0.030839	0.023126	0.016634	0.011624	0.007956
0	3.41389392	2.01994998	1.17830271	0.69020631	0.40720124	0.2418903	0.144549	0.086817	0.052367	0.031702
34.5	0.00171227	0.02167808	0.03940924	0.04327458	0.03856358	0.030839	0.023126	0.016634	0.011624	0.007956
69	0	1.2363E-10	9.6623E-08	2.2286E-06	1.2453E-05	3.411E-05	6.2E-05	8.72E-05	0.000103	0.000108

Xylenes Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	28.5	28.5
15.9		15.198
31.8		7.684
47.7		3.830
63.6		1.917
79.5		0.966
95.4		0.490
111.3	0.249	0.250
127.2		0.129
143.1	0.0252	0.066
159		0.034

Temporal Calibration Data

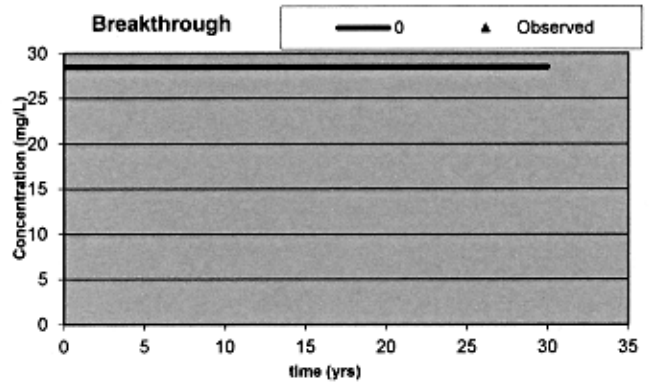
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		28.5		28.5
3		28.500		28.500
6		28.500		28.500
9		28.500		28.500
12		28.500		28.500
15		28.500		28.500
18		28.500		28.500
21		28.500		28.500
24		28.500		28.500
27		28.500		28.500
30		28.500		28.500

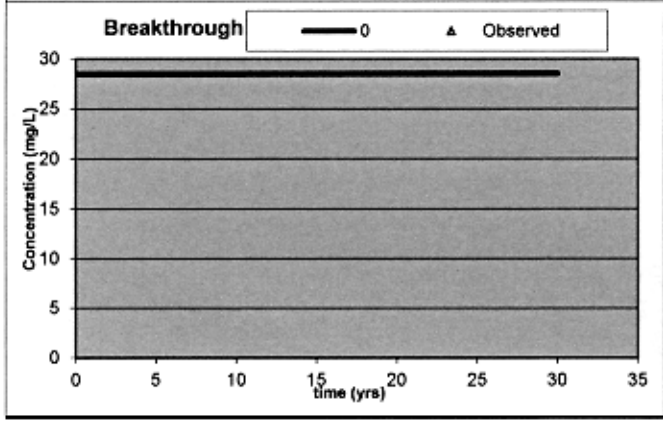
Site ID 07680

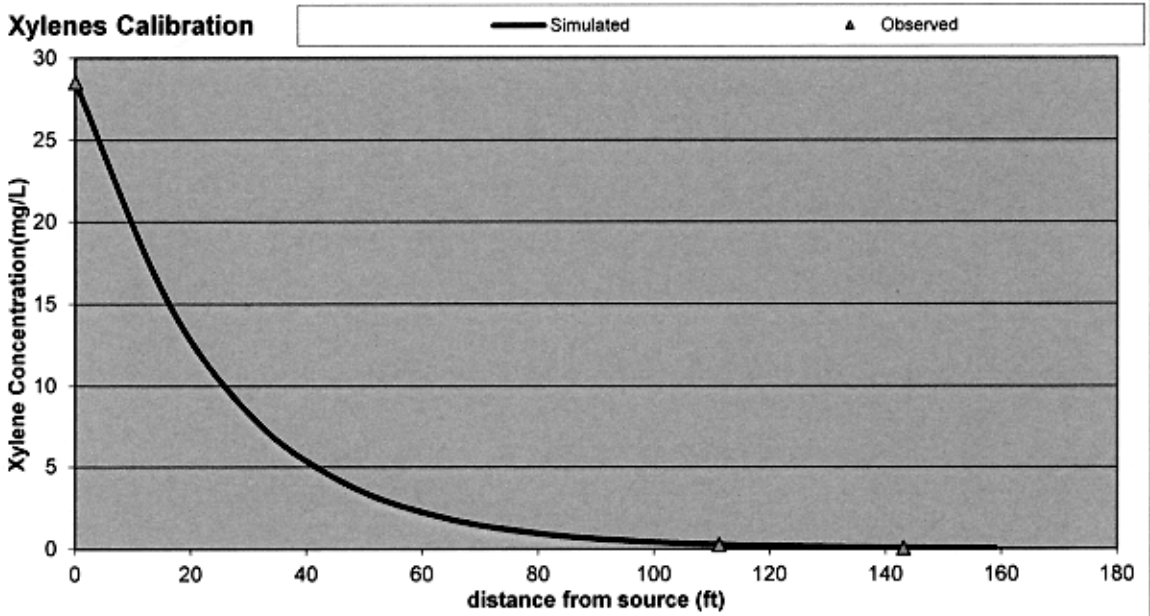
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	0.8	yrs	λ	0.86625	yr^{-1}
v_x	28	ft/yr			
R	1.792				
v_R	15.622	ft/yr	C_{source}	28.5	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	4.7027E-10	3.1406E-07	6.1894E-06	2.9552E-05	6.917E-05	0.000107	0.000129	0.00013	0.000117
34.5	0.0076229	0.08246275	0.12809282	0.12018472	0.09151316	0.062531	0.040068	0.024624	0.014704	0.008599
0	15.1983793	7.6838273	3.82986602	1.91688188	0.96630726	0.4904722	0.250438	0.128523	0.06624	0.034264
34.5	0.0076229	0.08246275	0.12809282	0.12018472	0.09151316	0.062531	0.040068	0.024624	0.014704	0.008599
69	0	4.7027E-10	3.1406E-07	6.1894E-06	2.9552E-05	6.917E-05	0.000107	0.000129	0.00013	0.000117

MtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	4.52	4.52
15.9		3.227
31.8		2.185
47.7		1.458
63.6		0.977
79.5		0.660
95.4		0.448
111.3	0.0341	0.306
127.2		0.211
143.1	0.145	0.145
159		0.101

Temporal Calibration Data

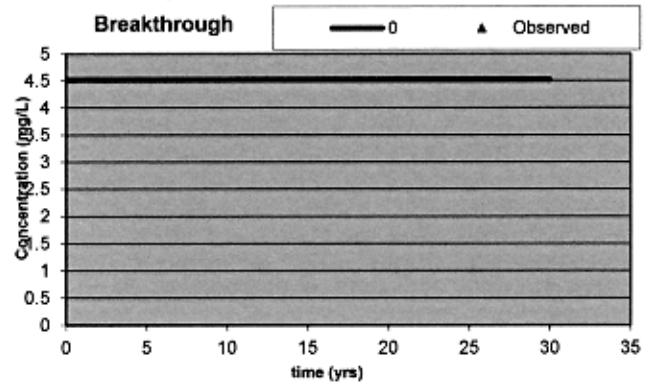
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		4.52		4.52
3		4.520		4.520
6		4.520		4.520
9		4.520		4.520
12		4.520		4.520
15		4.520		4.520
18		4.520		4.520
21		4.520		4.520
24		4.520		4.520
27		4.520		4.520
30		4.520		4.520

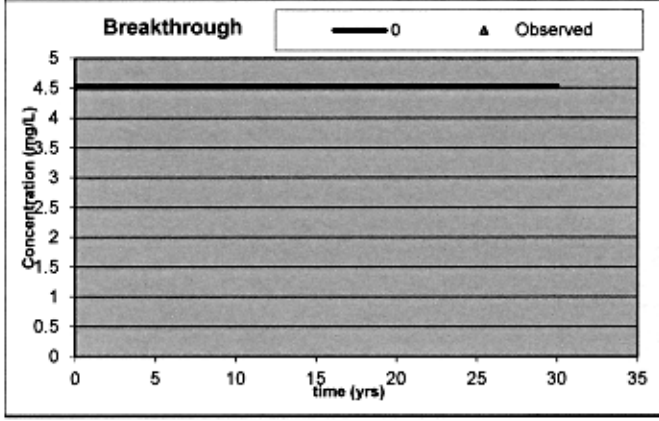
Site ID 07680

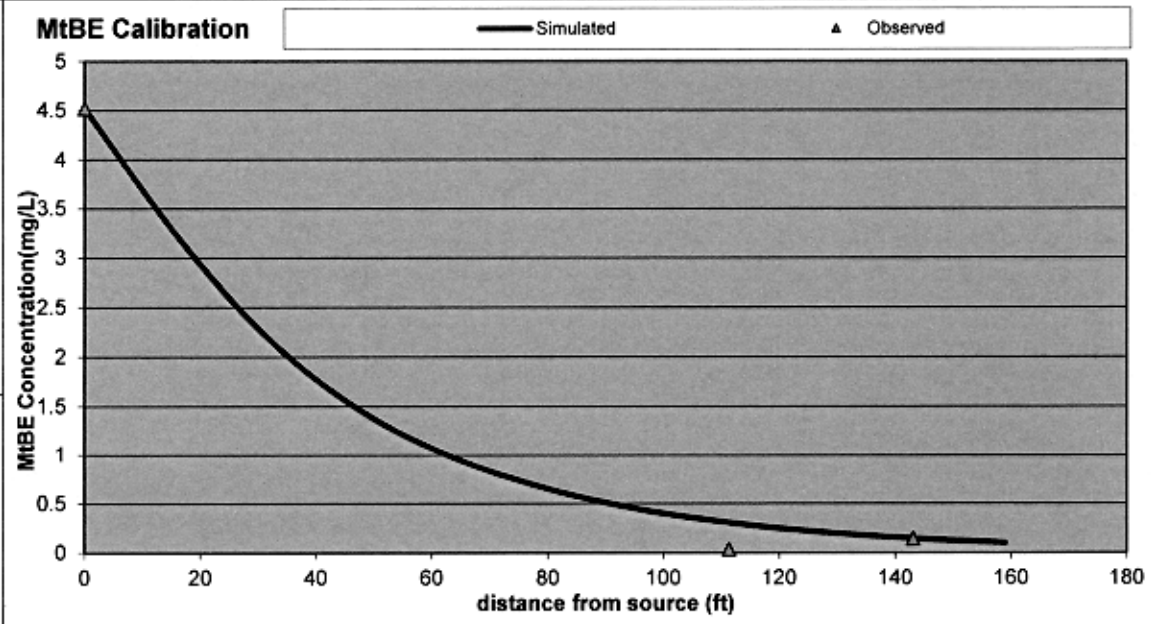
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	1	yrs	λ	0.693	yr^{-1}
v_x	28	ft/yr			
R	1.014				
v_R	27.623	ft/yr	C_{source}	4.52	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	1.3372E-10	1.1957E-07	3.1552E-06	2.0172E-05	6.321E-05	0.000131	0.000211	0.000286	0.000342
34.5	0.00161878	0.0234475	0.04876812	0.06126791	0.06246546	0.0571511	0.049034	0.04035	0.03226	0.025261
0	3.22747896	2.18482321	1.45812532	0.97719039	0.65958633	0.4482738	0.30648	0.210598	0.145334	0.100661
34.5	0.00161878	0.0234475	0.04876812	0.06126791	0.06246546	0.0571511	0.049034	0.04035	0.03226	0.025261
69	0	1.3372E-10	1.1957E-07	3.1552E-06	2.0172E-05	6.321E-05	0.000131	0.000211	0.000286	0.000342

Naphthalene Calibration

Spatial Calibration Data

(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.37	2.37
15.9		1.563
31.8		0.977
47.7		0.602
63.6		0.373
79.5		0.232
95.4		0.146
111.3	0.092	0.092
127.2		0.058
143.1	0.0071	0.037
159		0.024

Temporal Calibration Data

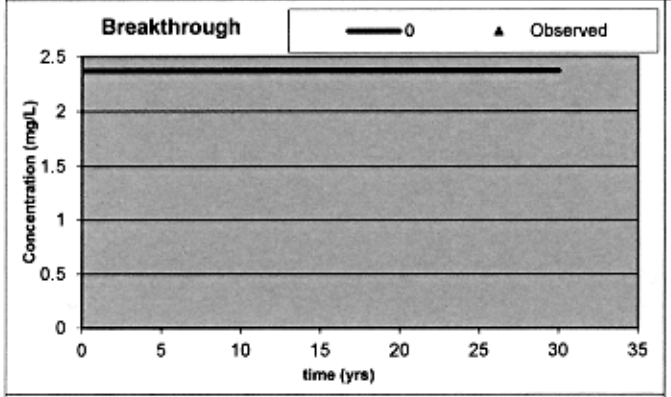
		0		0
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		2.37		2.37
3		2.370		2.370
6		2.370		2.370
9		2.370		2.370
12		2.370		2.370
15		2.370		2.370
18		2.370		2.370
21		2.370		2.370
24		2.370		2.370
27		2.370		2.370
30		2.370		2.370

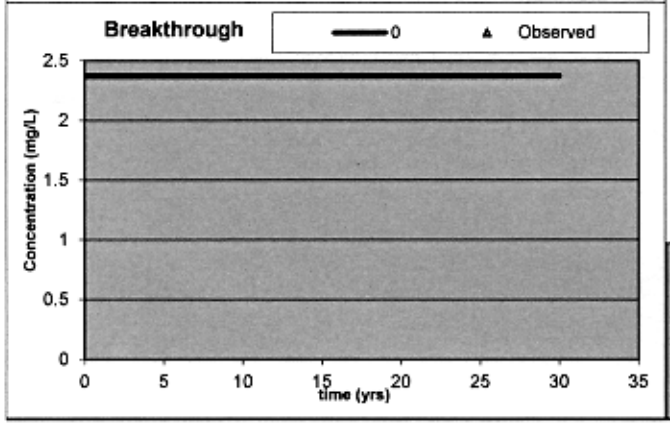
Site ID 07680

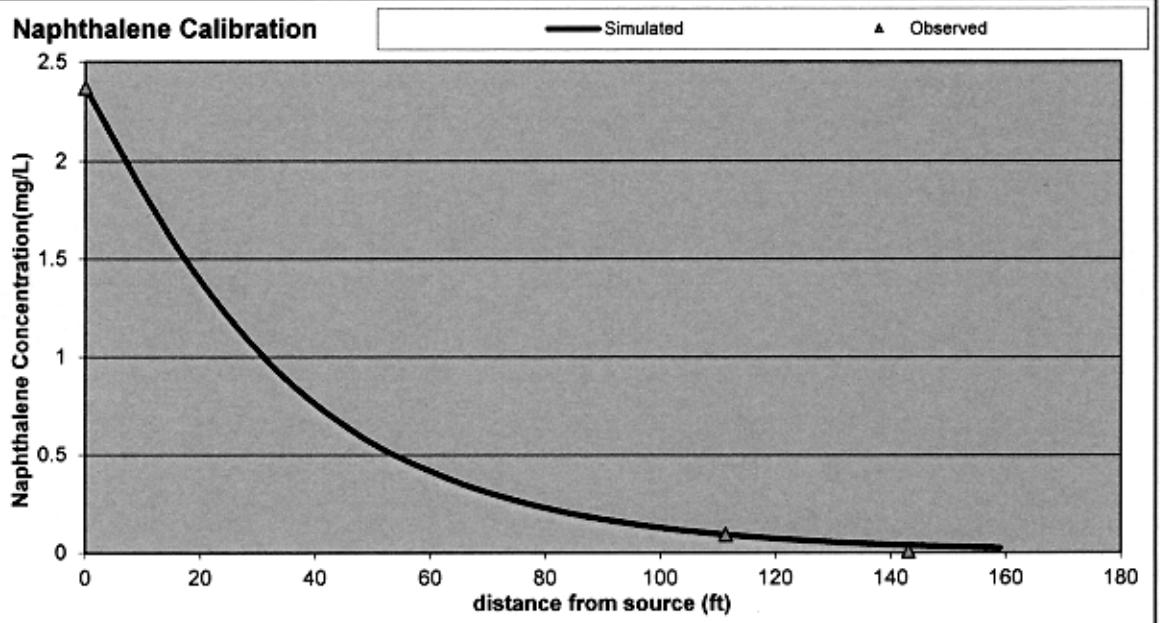
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	2.21	yrs	λ	0.31357	yr^{-1}
v_x	28	ft/yr			
R	2.913				
v_R	9.611	ft/yr	C_{source}	2.37	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	5.9799E-11	4.9382E-08	1.2034E-06	7.1054E-06	2.056E-05	3.95E-05	5.87E-05	7.33E-05	8.1E-05
34.5	0.00078387	0.01048576	0.02014123	0.02336844	0.02200304	0.0185914	0.014731	0.011195	0.008266	0.005977
0	1.56285991	0.97705641	0.6022057	0.37271404	0.23233492	0.1456249	0.092073	0.058429	0.037237	0.023817
34.5	0.00078387	0.01048576	0.02014123	0.02336844	0.02200304	0.0185914	0.014731	0.011195	0.008266	0.005977
69	0	5.9799E-11	4.9382E-08	1.2034E-06	7.1054E-06	2.056E-05	3.95E-05	5.87E-05	7.33E-05	8.1E-05

EDB Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.00484	0.00484
15.9		0.00268
31.8		0.00140
47.7		0.00073
63.6		0.00038
79.5		0.00020
95.4		0.00010
111.3	0.00001	0.00006
127.2		0.00003
143.1		0.00002
159	0.00001	0.00001

Temporal Calibration Data

	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0.00484		0.00484
3		0.00484		0.00484
6		0.00484		0.00484
9		0.00484		0.00484
12		0.00484		0.00484
15		0.00484		0.00484
18		0.00484		0.00484
21		0.00484		0.00484
24		0.00484		0.00484
27		0.00484		0.00484
30		0.00484		0.00484

Site ID 07680

Site Name SC-015

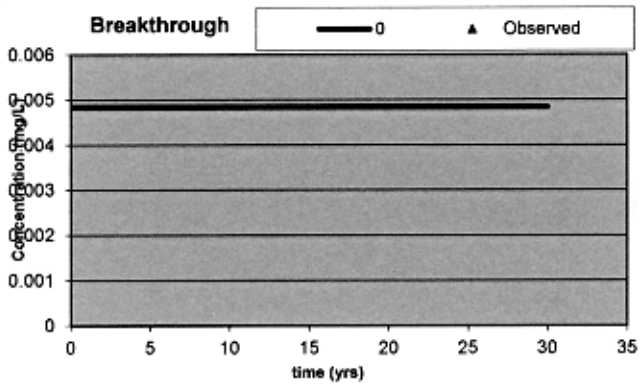
Model Calibration Parameters

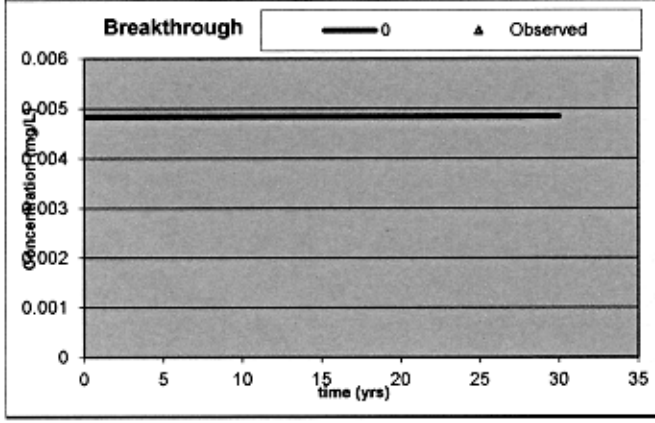
$t_{1/2}$	0.5	yrs
v_x	28	ft/yr
R	1.035	
v_R	27.060	ft/yr
L_p	200	ft
α_x	11.02804	ft
α_y	1.102804	ft
α_z	1E-99	ft

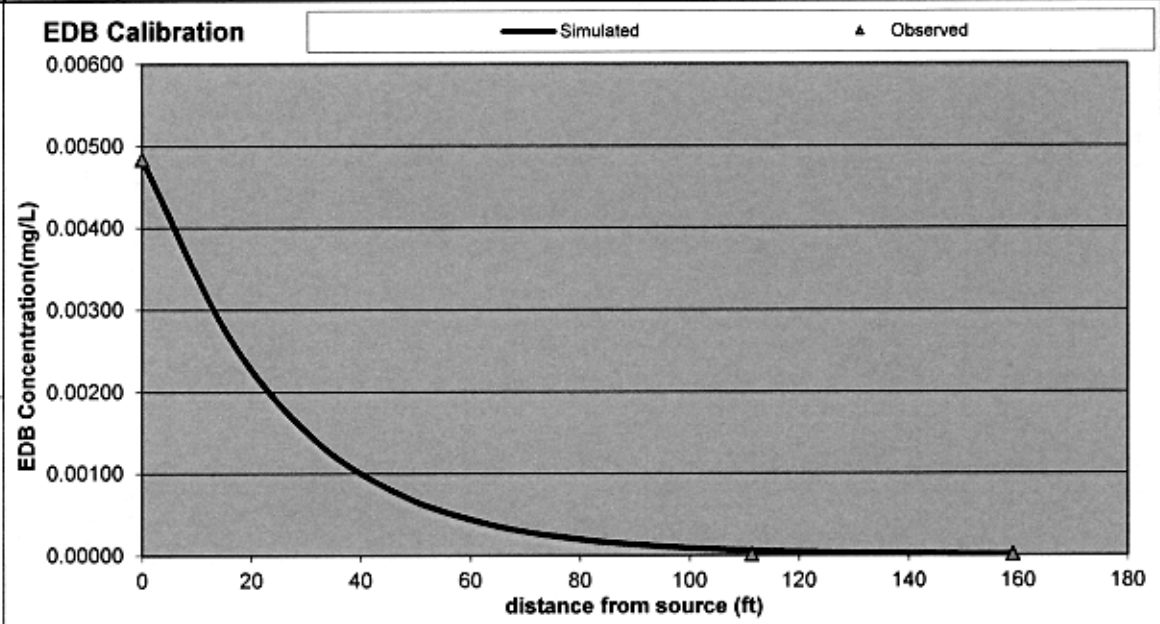
λ 1.386 yr^{-1}

C_{source} 0.00484 mg/L

t_{sim} 30 yrs







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	8.5956E-14	5.9552E-11	1.2176E-09	6.0312E-09	1.464E-08	2.36E-08	2.94E-08	3.08E-08	2.86E-08
34.5	1.343E-06	1.5072E-05	2.4289E-05	2.3643E-05	1.8677E-05	1.324E-05	8.8E-06	5.61E-06	3.48E-06	2.11E-06
0	0.00267769	0.00140444	0.00072623	0.00037709	0.00019721	0.0001038	5.5E-05	2.93E-05	1.57E-05	8.4E-06
34.5	1.343E-06	1.5072E-05	2.4289E-05	2.3643E-05	1.8677E-05	1.324E-05	8.8E-06	5.61E-06	3.48E-06	2.11E-06
69	0	8.5956E-14	5.9552E-11	1.2176E-09	6.0312E-09	1.464E-08	2.36E-08	2.94E-08	3.08E-08	2.86E-08

1,2-DCA Calibration

Spatial Calibration Data

(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0	0
15.9		0.000
31.8		0.000
47.7		0.000
63.6		0.000
79.5		0.000
95.4		0.000
111.3		0.000
127.2		0.000
143.1		0.000
159		0.000

Temporal Calibration Data

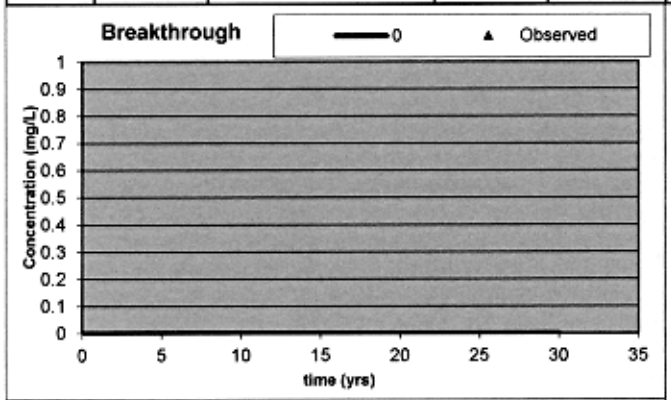
		0		0
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0
3		0.000		0.000
6		0.000		0.000
9		0.000		0.000
12		0.000		0.000
15		0.000		0.000
18		0.000		0.000
21		0.000		0.000
24		0.000		0.000
27		0.000		0.000
30		0.000		0.000

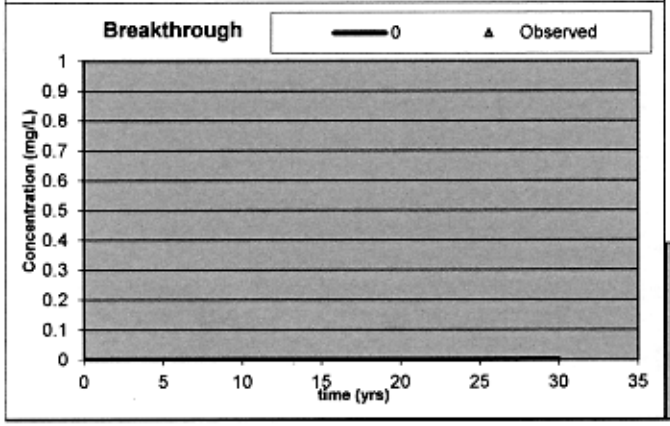
Site ID 07680

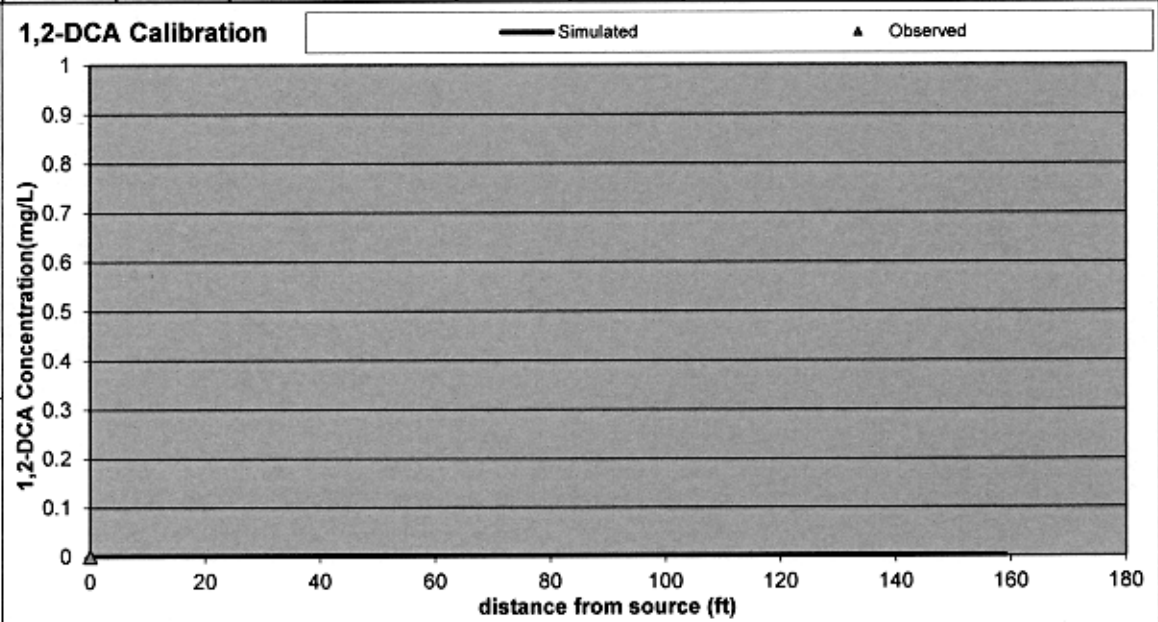
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	1.7	yrs	λ	0.40765	yr^{-1}
v_x	28	ft/yr			
R	1.022				
v_R	27.405	ft/yr	C_{source}	0	mg/L
L_p	200	ft			
α_x	11.02804	ft	t_{sim}	30	yrs
α_y	1.102804	ft			
α_z	1E-99	ft			







Source	15.9	31.8	47.7	63.6	79.5	95.4	111.3	127.2	143.1	159
69	0	0	0	0	0	0	0	0	0	0
34.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
34.5	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0

SSTLs t 1000 yrs

UST Permit # 07680
Site Name: SC-015

SSTLs in mg/L			RBSLs (mg/L):	0.005	1.000	0.700	10.000	0.040	0.025	0.00005	
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	
MW-1AR	218	0	0	39.162	>99999	759.012	93698.349	6.849	12.743	0.28303	
MW-2	205	0	0	23.279	>99999	507.638	55104.380	5.114	8.915	0.17153	
MW-8	191	0	0	13.274	>99999	328.651	31061.289	3.727	6.059	0.09987	
MW-5R	284	0	0	539.743	>99999	5748.847	>99999	29.670	76.801	3.53554	
MW-15R	257	0	0	185.120	>99999	2518.872	>99999	16.338	36.948	1.26238	
MW-21	264	0	0	244.400	>99999	3120.899	>99999	19.079	44.683	1.64934	
RW-1	264	0	0	244.400	>99999	3120.899	>99999	19.079	44.683	1.64934	
RW-2	280	0	0	460.723	>99999	5088.514	>99999	27.166	68.928	3.03597	
RW-3	284	0	0	539.743	>99999	5748.847	>99999	29.670	76.801	3.53554	
			λ (yr^{-1}):	1.372	2.772	0.877	0.866	0.693	0.314	1.386	
			R:	1.100	1.165	1.218	1.792	1.014	2.913	1.035	
			Pure Substance Solubility:	1750	526	169	175	5110	31	4321	
			Effective Solubility:	44.39	26.54	3.7	21.68	173	6.7	1.9	

SSTLs in ug/L

MW #	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL
MW-1AR	39162	26540	3700	21680	6849	6700	283
MW-2	23279	26540	3700	21680	5114	6700	171
MW-8	13274	26540	3700	21680	3727	6059	100
MW-5R	44390	26540	3700	21680	29670	6700	3534
MW-15R	44390	26540	3700	21680	16338	6700	1262
MW-21	44390	26540	3700	21680	19079	6700	1649
RW-1	44390	26540	3700	21680	19079	6700	1649
RW-2	44390	26540	3700	21680	27166	6700	3036
RW-3	44390	26540	3700	21680	29670	6700	3536
Solubility:	44390	26540	3700	21680	173000	6700	1900

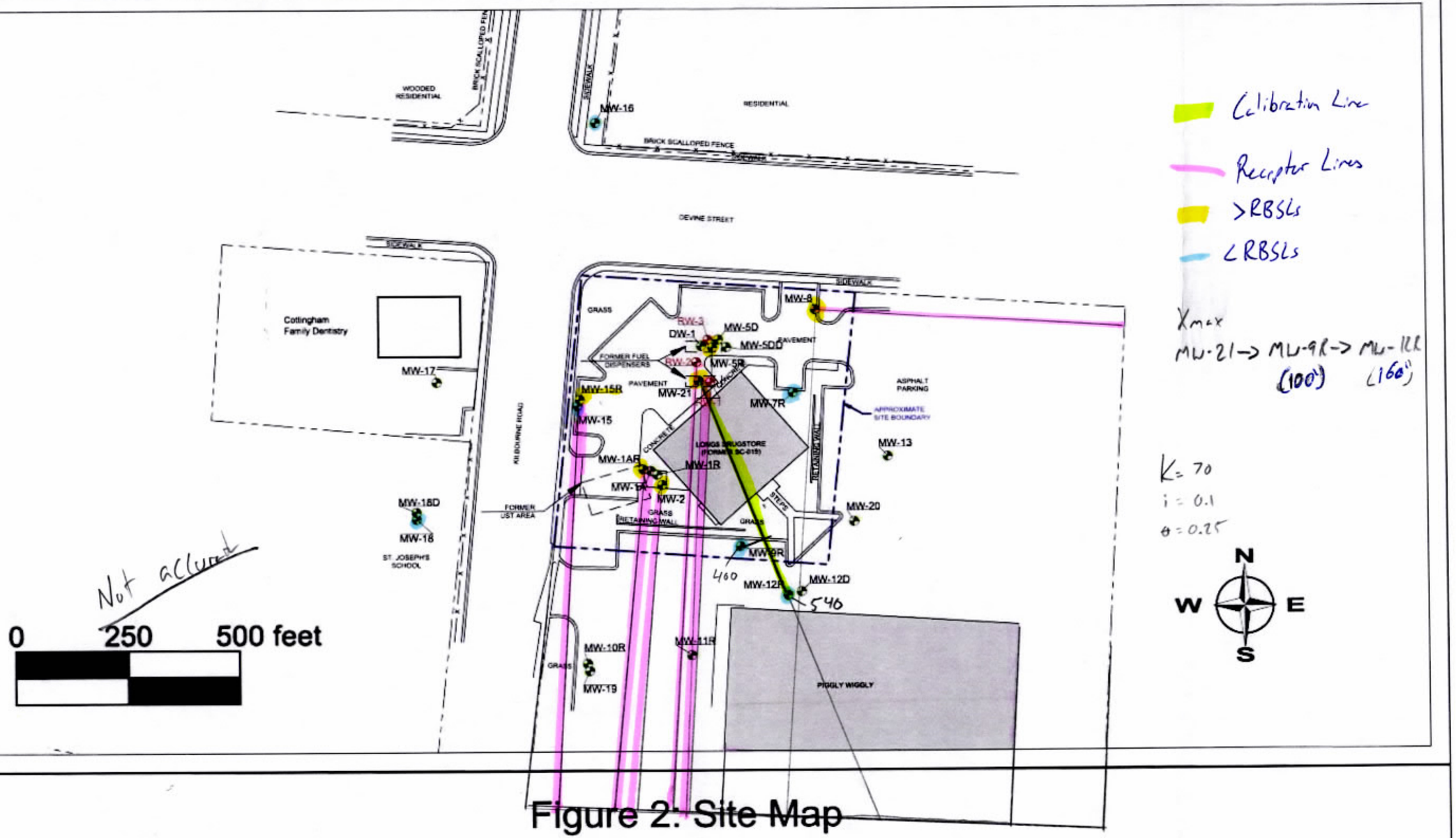


Figure 2: Site Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

1" = 66'

dhec
Healthy People. Healthy Communities.

MAR 1 6 2020

CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT STREET
FLOOR 25
BALTIMORE MD 21202



Re: **Site-Specific Work Plan Request for Groundwater Sampling**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
AFVR Report received August 6, 2018
Richland County

Dear Ms. Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the soil and groundwater above Risk-Based Screening Levels.

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 R.61-92, implementation of groundwater sampling is necessary. The groundwater sampling must be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and in compliance with all applicable regulations. A copy of the UST QAPP is available at SCDHEC.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance.

Groundwater samples should be collected from all monitoring wells associated with this release along with all water supply wells and surface waters within a 1,000 foot radius of the site. Samples should be analyzed for BTEX, Naphthalene, MTBE, 1,2-DCA, the 8 oxygenates, and EDB. All wells should be purged prior to sampling.

Your contractor must complete the SSWP and submit it 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.**

On all correspondence concerning this site, please reference UST Permit #07680. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,

Brad Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Annie-Smith Jones, 3340 Seabrook Island Road, Johns Island, SC 29455
QES, Inc., 3340 Seabrook Island Road, Johns Island, SC 29455
Technical file

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

To: Brad Baldwin (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: 3340 Seabrook Island Road, Johns Island, SC 29455
Property Owner (if different): Niggel Family Partnership, LLC
Property Owner Address: 1219 Sanford Drive Columbia, SC 29206
Current Use of Property: Drug Store

MAR 24 2020 PROGRAM

UST DOCKETING

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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	2 Field Blank
28 Monitoring Wells	____ Surface Water	2 Duplicate	2 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: ____ Estimated Footage: ____ feet per point
# of recovery wells: ____ Estimated Footage: ____ feet per point
Comments, if warranted:

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 15 Field Work Completion: 30
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: _____ Tons Purge Water: 25 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

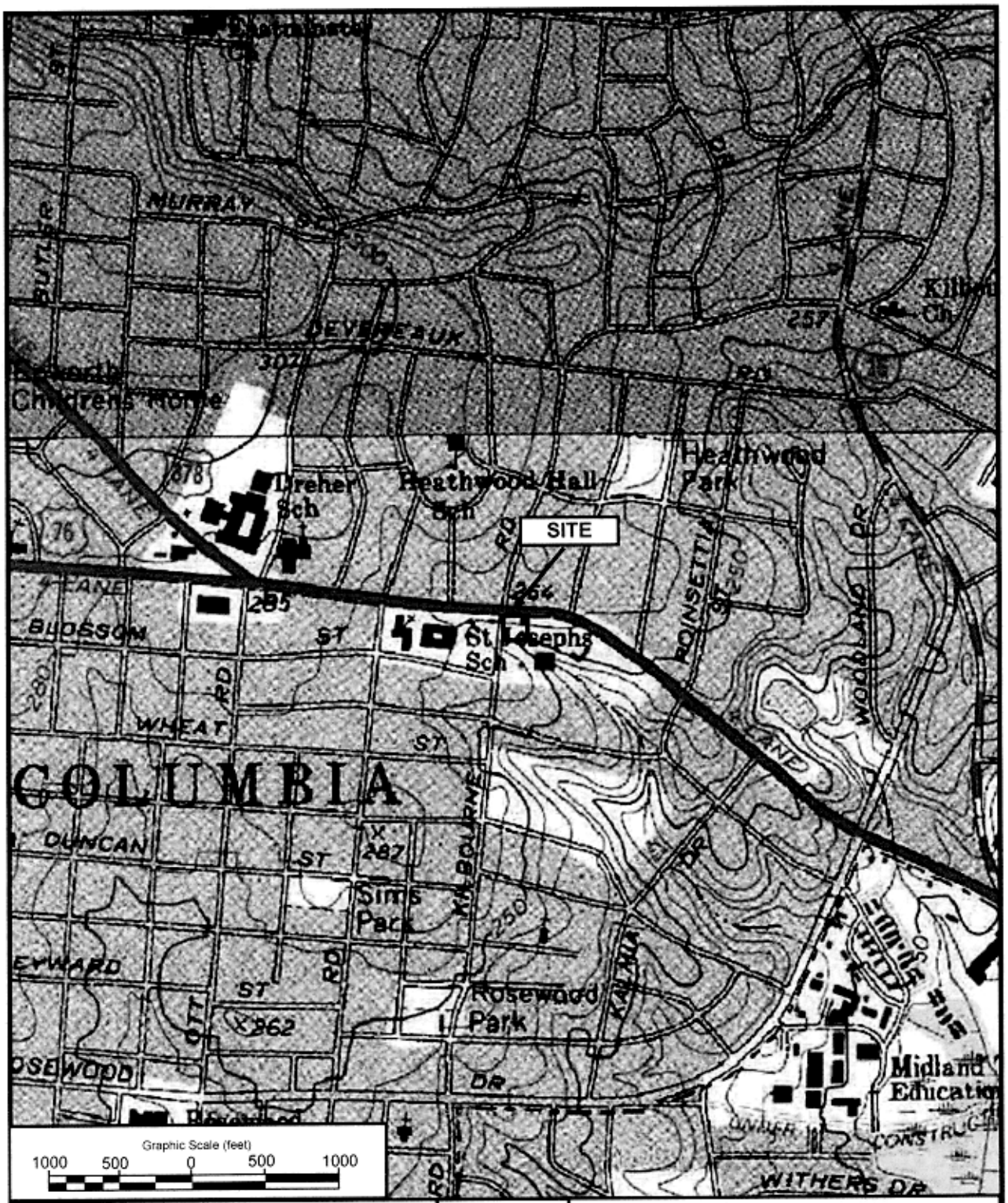
Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments
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



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

FIGURE 1: SITE VICINITY MAP

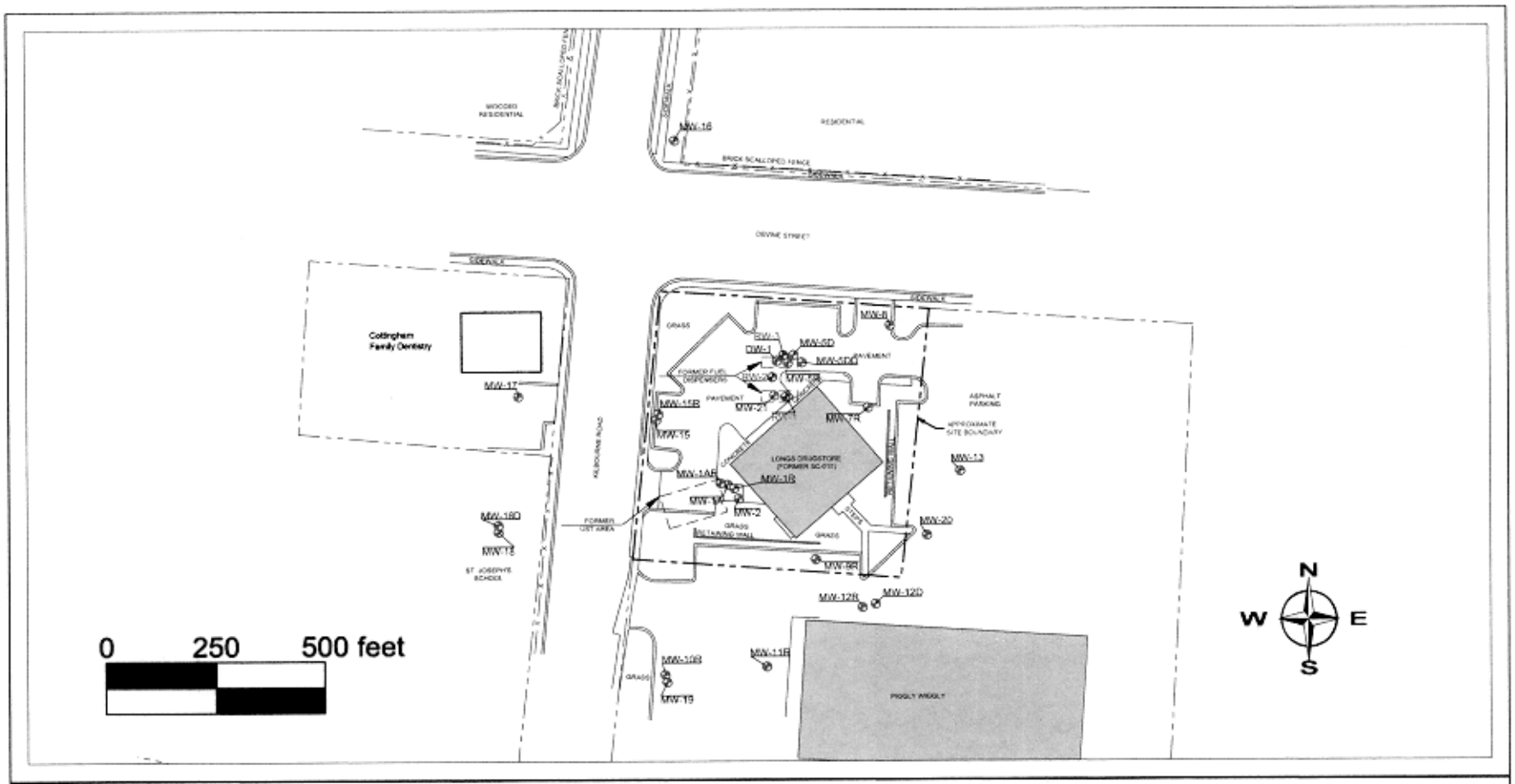


Figure 2: Site Map

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

dhec
Healthy People. Healthy Communities.

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
January 1, 2020

Facility Name: **Former Crown SC-015**

UST Permit #: 07680 **Cost Agreement #:** _____

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. **Plan Preparation**					
1. Site-Specific Work Plan	1	each	$160.05		$160.05
2. Tax Map		each	$74.69		$0.00
3. Tier II or Comp. Plan /QAPP Appendix B		each	$250.00		$0.00
B. **Receptor Survey ***		each	$587.92		$0.00
C. **Survey (500 ft x 500 ft)**					
1. Comprehensive Survey Subsurface Geophysical Survey		each	$1,109.68		$0.00
2. < 10 meters below grade		each	$1,387.10		$0.00
3. > 10 meters below grade		each	$2,464.77		$0.00
4. Geophysical UST or Drum Survey		each	$970.97		$0.00
D. **Mob/Demob**					
1. Equipment		each	$1,088.34		$0.00
2. Personnel	3	each	$451.34		$1,354.02
3. Adverse Terrain Vehicle		each	$533.50		$0.00
E.. **Soil Borings (hand auger)***		foot	$5.34		$0.00
F. **Soil Borings (requiring equipment, push technology, etc) or Field Screening (including water ssample, soil sample, soil gas sample, etc.)***					
1. Standard		per foot	$16.01		$0.00
2. Fractured Rock		per foot	$21.55		$0.00
G. **Soil Leachability Model**		each	$64.02		$0.00
H. **Abandonment (per foot)***					
1. 2" diameter or less		per foot	$3.31		$0.00
2. Greater than 2" to 6" diameter		per foot	$4.80		$0.00
3. Dug/Bored well (up to 6 feet diameter)		per foot	$16.00		$0.00
I. **Well Installation (per foot)***					
1. Water Table (hand augered)		per foot	$11.31		$0.00
2. Water Table (drill rig) 2" Diameter		per foot	$40.55		$0.00
3. Telescoping		per foot	$53.35		$0.00
4. Rock Drilling		per foot	$61.89		$0.00
5. 2" Rock Coring		per foot	$32.97		$0.00
6. Rock Multi-sampling ports/screens		per foot	$35.64		$0.00
7. Recovery Well (4" diameter)		per foot	$48.02		$0.00
8. Pushed Pre-packed screen (1.25" dia)		per foot	$16.01		$0.00
9. Rotosonic (2" diameter)		per foot	$46.95		$0.00
10. Re-develop Existing Well		per foot	$11.74		$0.00

J. Groundwater Sample Collection / Gauge Depth to Water or Product *					
1. Groundwater Purge		per well	$64.02		$0.00
2. Air or Vapors		sample	$12.80		$0.00
3. Water Supply Sample or Duplicate		sample	$23.47		$0.00
4. Groundwater No Purge or Duplicate or Grab	2	sample	$29.88		$59.76
5. Gauge Well only		sample	$7.47		$0.00
6. Sample Below Product		sample	$12.80		$0.00
7. Passive Diffusion Bag		sample	$27.74		$0.00
8. Field Blank	2	sample	$26.25		$52.50
9. Groundwater (low flow purge)	28	sample	$97.10		$2,718.80
10. Equipment Blank		sample	$26.25		$0.00
K. Laboratory Analyses-Groundwater					
1. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	34	per sample	$130.17		$4,425.78
2. Lead, Filtered		per sample	$14.72		$0.00
3. Rush EPA Method 8260B		per sample	$163.89		$0.00
4. Trimethal, Butyl, and Isopropyl Benzenes		per sample	$29.88		$0.00
5. PAH's		per sample	$64.66		$0.00
6. Lead		per sample	$17.07		$0.00
7. EDB by EPA 8011	33	per sample	$48.23		$1,591.59
8. EDB by EPA Method 8011 Rush		per sample	$72.77		$0.00
9. 8 RCRA Metals		per sample	$67.65		$0.00
10. TPH (9070)		per sample	$43.75		$0.00
11. PH		per sample	$5.55		$0.00
12. BOD		per sample	$21.34		$0.00
13. Ethanol		per sample	$15.79		$0.00
K. Analyses-Drinking Water					
14. BTEXNM+1,2 DCA (524.2)		per sample	$132.36		$0.00
15. 7-OXYGENATES & ETHANOL (8260B)		per sample	$97.90		$0.00
16. EDB (504.1)		per sample	$84.83		$0.00
17. RCRA METALS (200.8)		per sample	$106.70		$0.00
K. **Analyses-Soil**					
18. BTEX + Naphth.		per sample	$68.29		$0.00
19. PAH's		per sample	$68.33		$0.00
20. 8 RCRA Metals		per sample	$60.18		$0.00
21. TPH-DRO (3550C/8015C)		per sample	$42.68		$0.00
22. TPH- GRO (5035B/8015C)		per sample	$38.37		$0.00
23. Grain size/hydrometer		per sample	$110.97		$0.00
24. Total Organic Carbon		per sample	$32.65		$0.00
K. **Analyses-Air**					
25. BTEX + Naphthalene		per sample	$230.47		$0.00
K. **Analyses-Free Phase Product**					
26. Hydrocarbon Fuel Identification		per sample	$380.92		$0.00
L. **Aquifer Characterization***					
1. Pumping Test		per hour	$24.54		$0.00
2. Slug Test		per test	$203.80		$0.00
3. Fractured Rock		per test	$106.70		$0.00
M. **Free Product Recovery Rate Test***		each	$40.55		$0.00

N. **Fate/Transport Modeling**					
1. Mathematical Model		each	$106.70		$0.00
2. Computer Model		each	$106.70		$0.00
O. **Risk Evaluation**					
1. Tier I Risk Evaluation		each	$320.10		$0.00
2. Tier II Risk Evaluation		each	$106.70		$0.00
P. **Subsequent Survey***		each	$260.00		$0.00
Q. **Disposal (gallons or tons)***					
1. Wastewater		gallon	$0.60		$0.00
2. Free Product		gallon	$0.53		$0.00
3. Soil Treatment/Disposal		ton	$64.02		$0.00
4. Drilling fluids		gallon	$0.45		$0.00
R. **Miscellaneous (attach receipts)**					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. **Tier I Assessment (Use DHEC 3665 form)**					
1. Southeast Region		standard	$11,026.00		$0.00
2. All Other Counties		standard	$12,093.00		$0.00
U. IGWA (Use DHEC 3666 form)					
1. Southeast Region		standard	$3,803.00		$0.00
2. All Other Counties		standard	$4,123.00		$0.00
22. **Corrective Action (Use DHEC 3667 form)**		PFP Bid			$0.00
W. **Aggressive Fluid & Vapor Recovery (AFVR)**					
1. 8-hour Event*		per event	$1,467.13		$0.00
2. 24-hour Event*		per event	$4,081.28		$0.00
3. 48-hour Event*		per event	$6,706.10		$0.00
4. 96-hour Event*		per event	$13,409.52		$0.00
5. Off-gas Treatment 8 hour		per event	$130.71		$0.00
6. Off-gas Treatment 24 hour		per event	$257.68		$0.00
7. Off-gas Treatment 48 hour		per event	$348.91		$0.00
8. Off-gas Treatment 96 hour		per event	$832.26		$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$430.00		$0.00
10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$500.00		$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,000.00		$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,000.00		$0.00
13. AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.50		$0.00
14. AFVR Site Reconnaissance		each	$216.87		$0.00
15. Additional Hook-ups		each	$27.48		$0.00
16. AFVR Effluent Disposal		gallon	$0.47		$0.00
17. AFVR Mobilization/Demobilization		each	$417.73		$0.00

X. **Granulated Activated Carbon (GAC) filter system installation & service:**					
1. New GAC System Installation*		each	$2,027.30		$0.00
2. Refurbished GAC Sys. Install*		each	$960.30		$0.00
3. Filter replacement/removal*		each	$373.45		$0.00
4. GAC System removal, cleaning, & refurbishment*		each	$293.43		$0.00
5. GAC System housing*		each	$266.75		$0.00
6. In-line particulate filter		each	$160.05		$0.00
7. Additional piping & fittings		foot	$1.60		$0.00
Y. **Well Repair**					
1. Additional Copies of the Report Delivered	1	each	$53.35		$53.35
2. Repair 2x2 MW pad*		each	$53.35		$0.00
3. Repair 4x4 MW pad*		each	$93.90		$0.00
4. Replace well vault*		each	$125.91		$0.00
5. Replace well cover bolts		each	$2.77		$0.00
6. Replace locking well cap & lock		each	$16.00		$0.00
7. Replace/Repair stick-up*		each	$142.98		$0.00
8. Convert Flush-mount to Stick-up*		each	$160.05		$0.00
9. Convert Stick-up to Flush-mount*		each	$138.71		$0.00
10. Replace missing/illegible well ID plate		each	$12.80		$0.00
S. Report Prep & Project Management	12%	percent	$10,415.85		$1,249.90
TOTAL					$11,665.75

DHEC D-4074 (1-2020) *The appropriate mobilization cost can be added to complete these tasks, as necessary

dhec
Healthy People Healthy Communities.

APR 0 3 2020

UST 102 DOCKETING

CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT STREET
FLOOR 25
BALTIMORE MD 21202

Re: **Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA #61449
Release #1 reported August 15, 1989
Site Specific Work Plan received March 24, 2020
Richland County

Dear Ms. Boemmel:

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

The groundwater sampling event should begin immediately upon receipt of this letter. The Cost Agreement number shown above has been approved for the amount shown on the enclosed cost agreement form.

Please note the following changes to the cost agreement and SSWP:

- Line Item K.7 – Reduced EDB by EPA 8011 from 33 to 32

The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the UST Division within sixty (60) days of the date of this correspondence.** 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 the SUPERB Account cannot compensate any costs that are not pre-approved. If for any reason additional tasks will be completed, these additional tasks, and the associated cost, must be pre-approved by the UST Division for the cost to be paid. The UST 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 UST Division reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

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

The UST 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 #07680. Should you have any questions regarding this correspondence, please feel free to contact me by phone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,



Brad Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

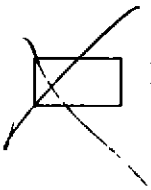
cc: Annie Smith-Jones, 3340 Seabrook Island Rd., Johns Island, SC 29455
Quality Environmental Solutions, 3340 Seabrook Island Rd., Johns Island, SC 29455 (w/enc)
Technical file (w/enc)

Approved Cost Agreement 61449

Facility: 07680 SC015
BALDWIBA
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
A PLAN PREPARATION						
		1	SITE SPECIFIC WORK PLAN	1.0000	$160.050	160.05
D MOB/DEMOB						
		2	PERSONNEL	3.0000	$451.340	1,354.02
J SAMPLE COLLECTION						
		4	GROUNDWATER NO-PURGE/DUPL/GRAB	2.0000	$29 880	59.76
		8	FIELD BLANK	2.0000	$26 250	52 50
		9	GROUNDWATER (LOW FLOW PURGE)	28 0000	$97.100	2,718 80
K ANALYSES						
	GW GROUNDWATER	1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	34 0000	$130.170	4,425.78
		7	EDB BY EPA 8011	32 0000	$48 230	1,543.36
S REPORT PROJECT MANAGEMENT						
		S	REPORT PREP & PROJ. MANAGEMENT	0.1200	$10,367.620	1,244.11
Y WELL REPAIR						
		1	ADDITIONAL COPIES OF REPORT	1.0000	$53.350	53.35
				Total Amount		11,611.73

Document Receipt Information

 **Hard Copy** ■ **CD** ☐ **Email**

Date Received 6-11-20

Permit Number 07680

Project Manager Brad Baldwin

Name of Contractor QES

UST Certification Number _____

Docket Number 103tech

Scanned _____

GWA 2020

Quality Environmental Solutions, Inc.

3340 Seabrook Island Road
Johns Island, SC 29455

June 3, 2020

Bradley A. Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2020 Groundwater Assessment Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Mr. Baldwin:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2020 Groundwater Assessment Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit # 07680. The subject property is currently operated as a Long's Drugstore; the underground storage tanks associated with the former Crown service station were removed in July 1991.

A groundwater sampling notice to proceed was issued by SCDHEC on April 3, 2020. The monitoring wells and three recovery wells were gauged and sampled May 8-10, 2020. Samples were not collected from monitoring well MW-5R and the nearby recovery wells RW-2 and RW-3 due to the presence of light non-aqueous phase liquid (LNAPL) at thicknesses of 0.35 feet, 1.83 feet and 1.59 feet, respectively. The presence of LNAPL was reported to SCDHEC in a May 11, 2020 email. LNAPL was previously detected in these two recovery wells following the 2018 well installation and prior to the aggressive fluid-vapor recovery (AFVR) event. The 2017 MW-5R analytical results were indicative of potential product saturation such that the presence of LNAPL was not unexpected following the AFVR event.

SCDHEC modeled the site and developed site-specific target levels (SSTLs) for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2020 analytical results are below the SSTLs in the wells without LNAPL except for the toluene concentration in RW-1. The monitoring wells and recovery wells with LNAPL and the highest dissolved hydrocarbon concentrations are all located adjacent to or directly beneath the two former dispenser islands.

The possible need for an additional AFVR event was discussed in your March 11, 2020 email if the sampling results show concentrations above SSTLs and product solubility levels. The RW-1 SSTL exceedance and presence of LNAPL in MW-5R and two of the recovery wells meet these criteria, however fourteen AFVR events have been completed at the Site between 2010 and 2018 and the latest gauging and sampling results indicate that AFVR may not be an effective remedial remedy at the Site. The source area is relatively small and is confined to the area of the two former dispenser islands where residual impacted soil and pockets of LNAPL are present in an approximate five feet thick smear zone. The 2008 additional assessment report stated: “Organic vapor concentrations in the vicinity of well pair MW-5R/DW-1 ranged from 4,732 ppm to 140,300 ppm in the upper 20 feet of soils. Below 20 feet, the organic vapor concentrations decreased rapidly with depth.”

The most effective remedial approach would have involved impacted soil removal in this area during site redevelopment activities in 2001, however this was not done. QES believes that there may be more effective approaches than AFVR events to address this area of residual contamination. However, since only one AFVR event has occurred with extraction from the three recovery wells installed in 2018 QES recommends an additional 96-hour AFVR event with extraction from the two recovery wells and one monitoring well with LNAPL to further evaluate AFVR effectiveness.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC’s response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2020 Groundwater Assessment Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File 201-189-SC-015

2020 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Bradley A. Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Environmental
3340 Seabrook Island Road
Johns Island, SC 29455

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455
Contractor Certification Number 461
410-841-5552

June 3, 2020

2020 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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Appendix G: Disposal Manifest
Appendix K: Data Verification Checklist

2020 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2020 Groundwater Assessment Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the completion of the monitoring well gauging and sampling event from May 8-10, 2020.

Groundwater monitoring and reporting activities at the Site have been conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2016), the QES *Annual Contractor Quality Assurance Plan, Revision #1* (QES 2018b), and the April 3, 2020 SCDHEC *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed* and *Approved Cost Agreement No. 61449* (SCDHEC 2020).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugstore) Former UST Permit # 07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803-782-6274
Current Property Use	Long's Drugstore

The Site is currently developed with a Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen aggressive fluid-vapor recovery (AFVR) events have been completed at the Site between April 2010 and July 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater contamination.
- Site-Specific Target Levels (SSTLs) were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. Monitoring wells MW-5R and MW-21 are the two wells with dissolved hydrocarbon concentrations above one or more SSTL value during the 2017 sampling event (MW-5R was not sampled in 2020 due to the presence of LNAPL and MW-21 2020 concentrations are now below the SSTL values). The RW-1 2020 toluene concentration is above the SSTL (this is the first time the well was sampled) and LNAPL is present in RW-2 and RW-3.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

A directive for an additional full round of groundwater sampling was issued by SCDHEC on April 3, 2020. Groundwater levels were measured in the monitoring and recovery wells on May 8 and 9, 2020 using a Solinst 122 Interface Meter. LNAPL was detected in shallow monitoring well MW-5R and the two nearby shallow recovery wells RW-2 and RW-3 at thickness of 0.35 feet (MW-5R), 1.83 feet (RW-2) and 1.59 feet (RW-3), respectively. A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Form is included in **Appendix B**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the southwest in the shallow perched zone and to the east in the deeper intermediate zone (**Figure 5 and Figure 5A**). A potentiometric surface map based on the deeper monitoring wells is not included as there are only three data points, however historical groundwater flow in the deeper portion of the shallow aquifer is to the east.

The following monitoring wells were not gauged and/or sampled:

- MW-1A was dry with a depth of 9.5 feet. The well has been dry since 2003 and since the original well depth was 45 feet, this well is no longer viable. Monitoring well MW-1AR was installed as a replacement well in 2018.
- There was insufficient groundwater in MW-2 to collect a sample.
- MW-5R, RW-2 and RW-3 were not sampled due to the presence of LNAPL.
- MW-18 and MW-18D were not accessible as the St. Joseph's Church and School property was secured and closed due to COVID-19.

Groundwater samples were collected from the accessible monitoring wells on May 9 and 10, 2020. The shallow monitoring wells were low-flow purged with a peristaltic pump and the deeper wells with a submersible pump prior to sample collection.

Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. The 12.5 gallons of purge water generated during the sampling event were stored in a 55-gallon drum for eventual transport to and disposal by a licensed contractor. A copy of the waste disposal manifest will be forwarded upon receipt for inclusion as **Appendix G**.

Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential and turbidity were measured with the In-Situ Aqua TROLL® 600 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The samples were placed on ice in coolers and delivered along with the chain-of-custody to Pace Analytical in West Columbia, South Carolina. The groundwater monitoring well samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

Field duplicate samples were collected from monitoring well MW-7R and recovery well RW-1. Field blank samples were collected each monitoring well sample day using laboratory supplied deionized water. One trip blank sample was supplied by Pace. The quality assurance/quality control samples were analyzed for the above parameters, excluding EDB analysis of the trip blank sample. There were no discrepancies noted in the analyses of the field duplicates, field blanks or trip blank other than a low estimated concentration of tert-butyl alcohol (TBA) in a field blank sample.

3.0 GROUNDWATER ASSESSMENT RESULTS

Groundwater sampling of 20 Site monitoring wells and one recovery well was completed on May 9 and 10, 2020. **Table 3** lists the 2020 and historical analytical results. Monitoring wells MW-5R and MW-21 are the two wells with dissolved hydrocarbon concentrations above one or more SSTL value during the 2017 sampling event (MW-5R was not sampled in 2020 due to the presence of LNAPL and MW-21 2020 concentrations are now below the SSTL values). The RW-1 2020 toluene concentration is above the SSTL (this is the first time the well was sampled) and RW-2 and RW-3 were not sampled due to the presence of LNAPL (this would have been the first sampling event for these recovery wells). The following table lists the constituents detected above the laboratory quantitation limits with both SSTL values listed along with bolded values exceeding the respective RBSL, which is included in parentheses below the constituent name. The RBSL exceedances are included and highlighted to further demonstrate that the primary area of Site impact is the area of the two former dispenser islands with residual impacted soil and pockets of LNAPL present above and within an approximate five feet thick smear zone.

PETROLEUM HYDROCARBONS						
MW ID	***Benzene (5.0 µg/L)***	***Toluene (1,000 µg /L)***	***Ethylbenzene (700 µg/L)***	***Xylenes (10,000 µg/L)***	***MTBE (40 µg/L)***	***Naphthalene (25 µg/L)***
MW-1R	**41**	4.1 J	440	100	**87**	**290**
MW-1AR (SSTL)	0.69 J *(39,162)*	0.57 J *(26,540)*		0.41 J *(21,680)*	1.3 *(6,849)*	
MW-5R	**LNAPL**					
MW-5D		0.65 J				
MW-7R		7.4	12	46		4.5
MW-8 (SSTL)		2.5 *(26,540)*		0.91 J *(21,680)*		
MW-9R					6.2	
MW-10R		2.0		0.63 J		
MW-11R		1.7		0.46 J		
MW-12R					12	
MW-12D		1.5		0.52 J		
MW-15		1.1		0.48 J	2.3	
MW-15R (SSTL)		1.7 *(26,540)*		0.74 J *(21,680)*	**61** *(16,338)*	
MW-16		2.0		0.60 J	0.44 J	
MW-17	0.43 J	2.1		0.75 J		
MW-19	0.57 J	3.1		1.8		
MW-21 (SSTL)	**470** *(44,390)*	**8,200** *(26,540)*	**1,600** *(3,700)*	8,300 *(21,680)*		**680** *(6,700)*
DW-1		1.0	0.97 J	5.2		2.5
RW-1 (SSTL)	**6,300** *(44,390)*	**33,000** *(26,540)*	**3,000** *(3,700)*	**15,000** *(21,680)*		**780** *(6,700)*
RW-2	**LNAPL**					
RW-3	**LNAPL**					

OXYGENATES				
MW ID	***DIPE (150 µg/L)***	***TAA (240 µg/L)***	***EDB (0.05 µg/L)***	***TBA (1,400 µg/L)***
MW-1R				210
MW-1AR				4.0 J
MW-5R	**LNAPL**			
MW-9R				11 J
MW-12R		21		20
MW-15R	4.4	40		65
DW-1				2.9 J
RW-1			**0.510**	
RW-2	**LNAPL**			
RW-3	**LNAPL**			

Notes: Values in µg/L; a J value is an estimated concentration; see Table 3 for constituent definitions

The following compounds were not detected above the laboratory quantitation limit: 1,2-DCA, ethyl tert-butyl alcohol (ETBA), ethyl tert-butyl ether (ETBE), ethanol, tert-amyl methy ether (TAME) and tert-butyl formate (TBF).

The monitoring well analytical results are summarized in **Table 3**. The complete laboratory report is included in **Appendix B** and the Data Verification Checklist is included in **Appendix K**. **Figure 4** depicts the analytical results for the monitoring wells along with a depiction of the approximate area with RBSL exceedances.

The shallow monitoring and recovery wells with one or more RBSL exceedance included MW-1R, MW-15R, MW-21 and RW-1 in addition to the presence of LNAPL in MW-5R, RW-2 and RW-3. Monitoring wells MW-1R and MW-15R are closer to the former Site USTs than the other wells and they both exhibit dissolved hydrocarbon concentrations significantly less than the other monitoring wells and recovery wells with RBSL exceedances. The MW-15R concentrations are orders of magnitude below the SSTLs and the MW-1R concentrations are also significantly below the SSTL concentrations established for other monitoring wells. The remaining RBSL exceedance wells also have established SSTLs with the MW-21 and RW-1 concentrations below the SSTLs except for the RW-1 toluene concentration (30,000 µg/L as compared to the SSTL of 26,540 µg/L). It is assumed that the three wells with LNAPL would exhibit groundwater concentrations above one or more SSTL. The three recovery wells, MW-5R and MW-21 are all located beneath or adjacent to the two former dispenser islands.

There were no RBSL exceedances in the groundwater samples from the deeper monitoring wells (MW-1AR, MW-5D, MW-5DD and MW-12D).

4.0 CONCLUSIONS AND RECOMMENDATION

A groundwater gauging and sampling event was completed at the Site from May 8-10, 2020. Samples were not collected from monitoring well MW-5R and the nearby recovery wells RW-2 and RW-3 due to the presence of LNAPL at thicknesses of 0.35 feet, 1.83 feet and 1.59 feet, respectively. LNAPL was previously detected in these two recovery wells following the 2018 well installation and prior to the aggressive fluid-vapor recovery (AFVR) event. The 2017 MW-5R analytical results were indicative of potential product saturation such that the presence of LNAPL was not unexpected following the AFVR event.

SCDHEC modeled the site and developed SSTLs for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2020 analytical results are below the SSTLs in the wells without LNAPL except for the toluene concentration in RW-1. The monitoring wells and recovery wells with LNAPL and the highest dissolved hydrocarbon concentrations are all located adjacent to or directly beneath the two former dispenser islands.

The possible need for an additional AFVR event was discussed in your March 11, 2020 email if the sampling results show concentrations above SSTLs and product solubility levels. The RW-1 SSTL exceedance and presence of LNAPL in MW-5R and two of the recovery wells meet these criteria, however fourteen AFVR events have been completed at the Site between 2010 and 2018 and the latest gauging and sampling results indicate that AFVR may not be an effective remedial remedy at the Site. The source area is relatively small and is confined to the area of the two former dispenser islands where residual impacted soil and pockets of LNAPL are present in an approximate five feet thick smear zone. The 2008 additional assessment report stated: “Organic vapor concentrations in the vicinity of well pair MW-5R/DW-1 ranged from 4,732 ppm to 140,300 ppm in the upper 20 feet of soils. Below 20 feet, the organic vapor concentrations decreased rapidly with depth.”

The most effective remedial approach would have involved impacted soil removal in this area during site redevelopment activities in 2001, however this was not done. QES believes that there may be more effective approaches than AFVR events to address this area of residual contamination. However, since only one AFVR event has occurred with extraction from the three recovery wells installed in 2018 QES recommends an additional 96-hour AFVR event with extraction from the two recovery wells and one monitoring well with LNAPL to further evaluate AFVR effectiveness.

REFERENCES

Quality Environmental Solutions, Inc. (QES), 2017. *2017 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. December 29, 2017.

QES 2018a. *2018 Recovery Well Installation and AFVR Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680*. August 2, 2018.

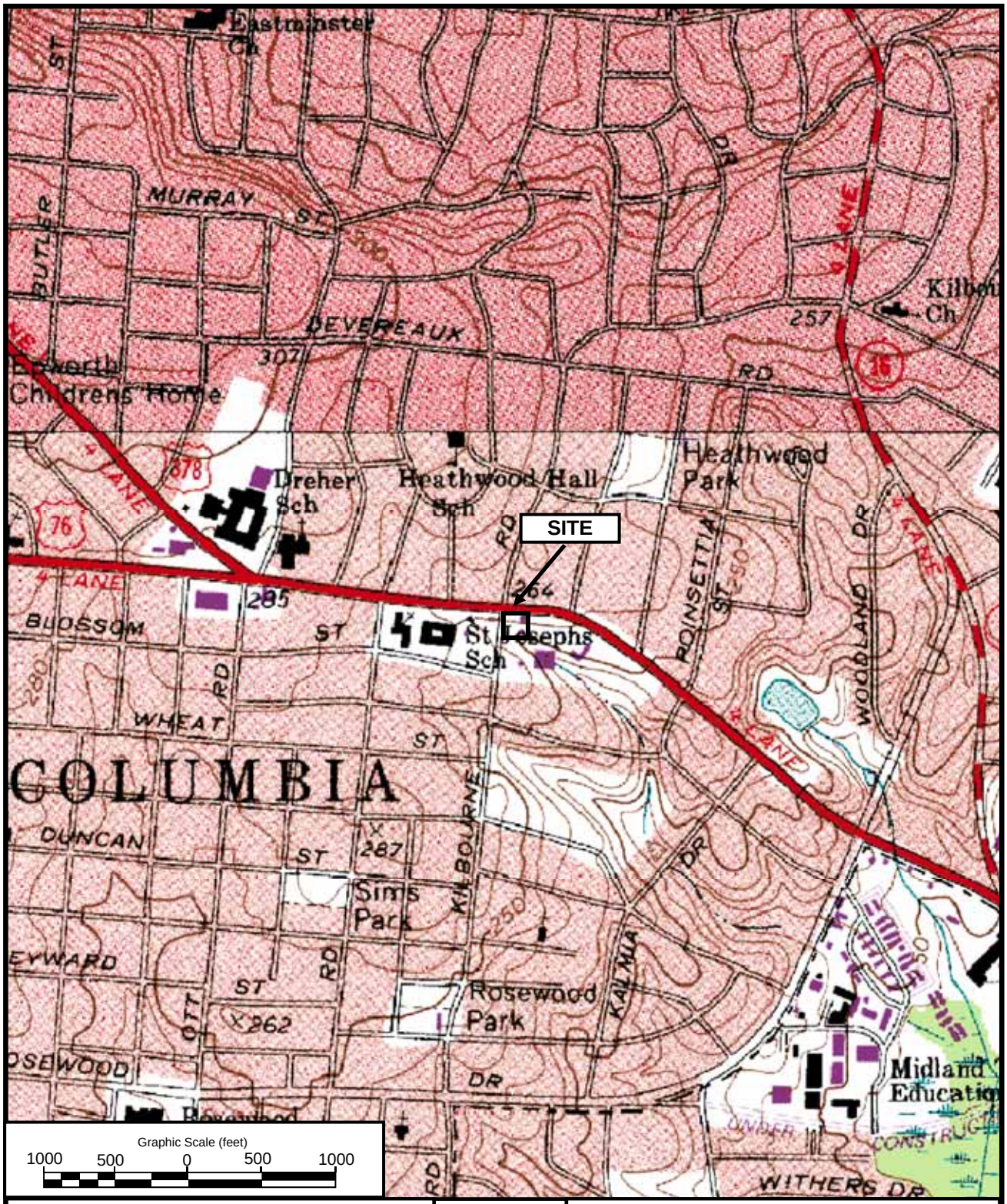
QES 2018b. *Annual Contractor Quality Assurance Plan (ACQAP), Revision #1.* August 29, 2018.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 3.1.* February 2016.

SCDHEC 2020. *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed, SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA# 61449, Release #1 reported August 15, 1989, Site-Specific Work Plan received March 24, 2020, Richland County.* April 3, 2020.

Terracon Consultants, Inc. (Terracon), 2015. *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680*. June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

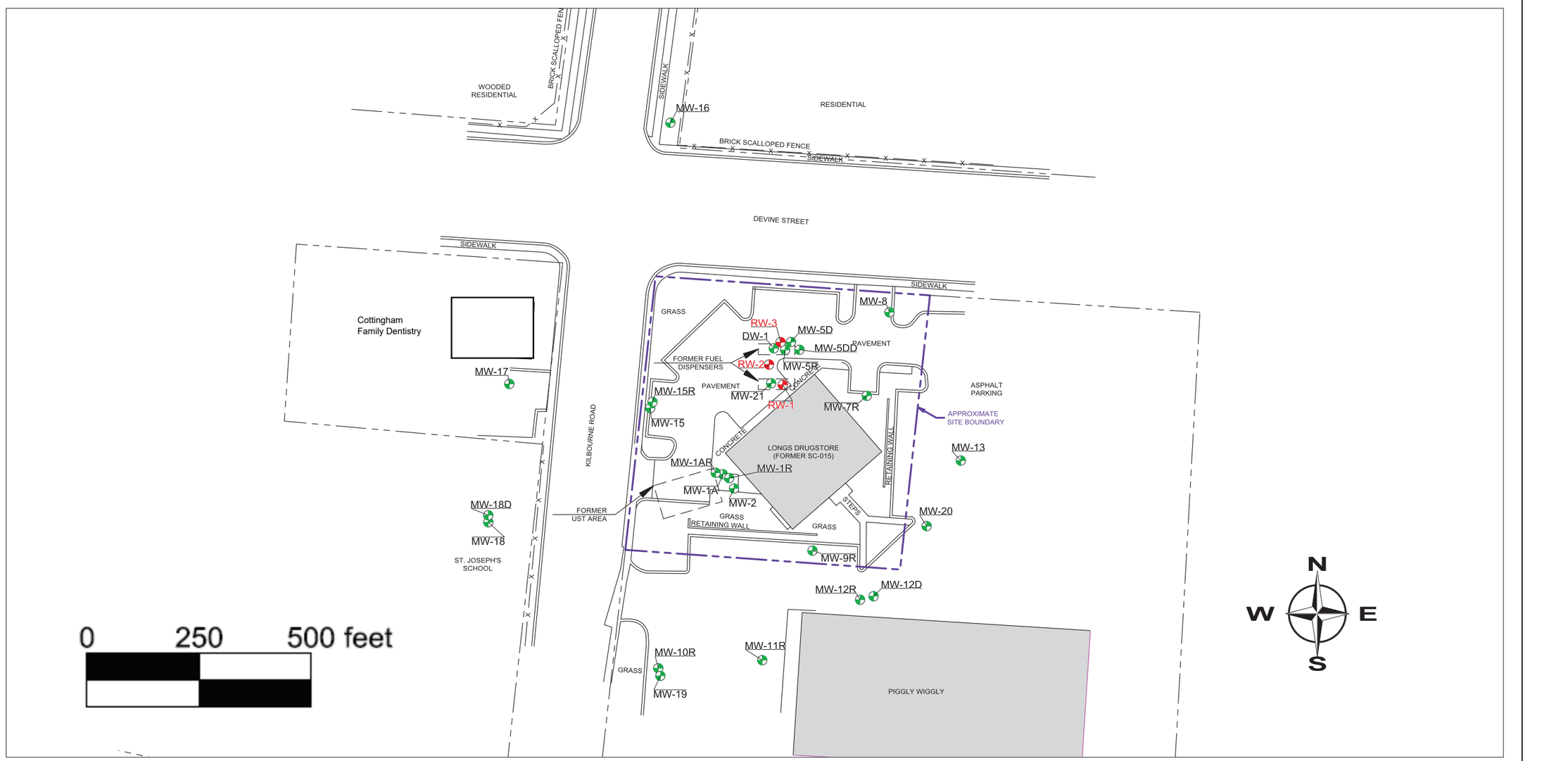
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

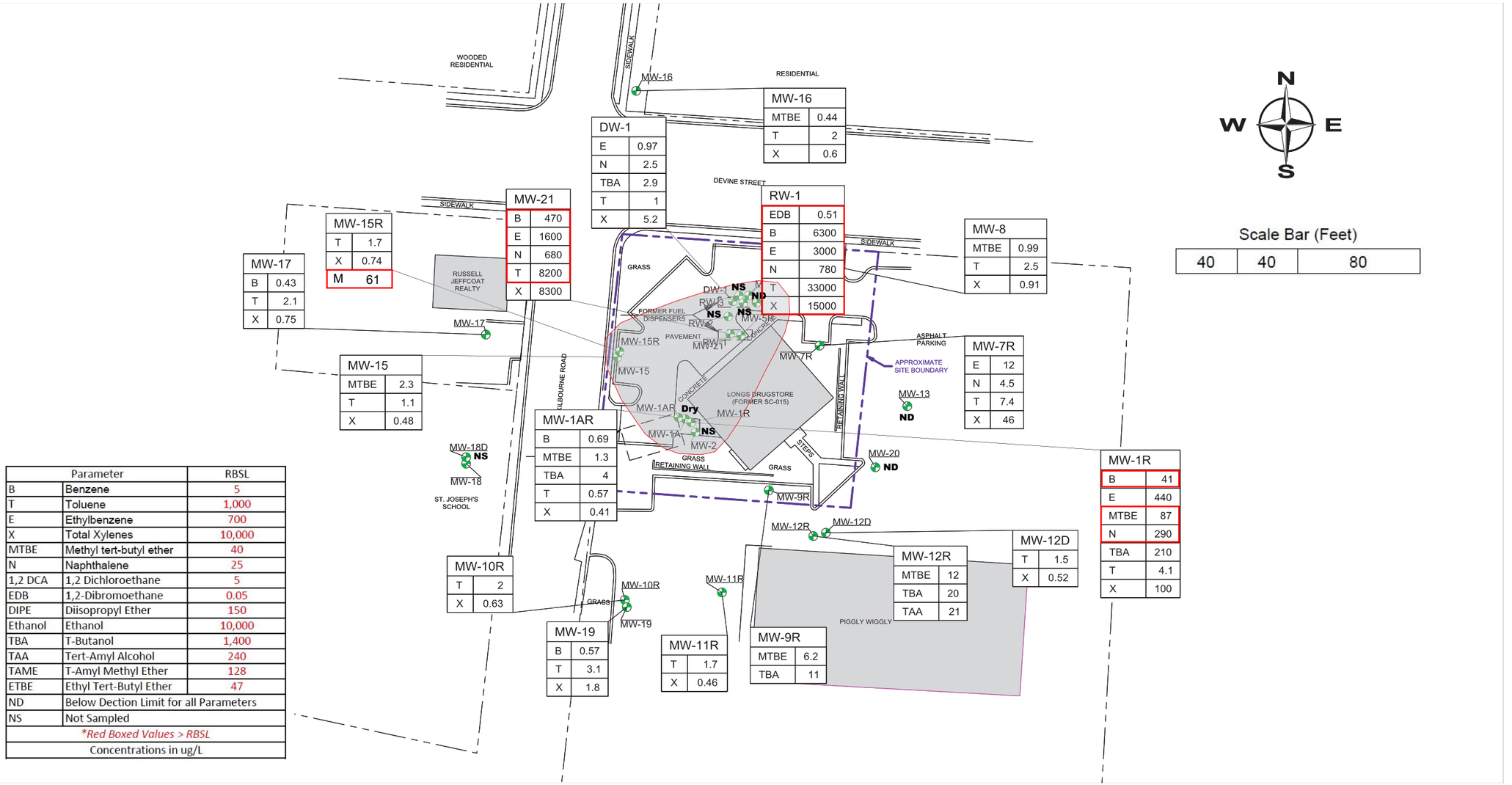




Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES



Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Dection Limit for all Parameters	
NS	Not Sampled	
Red Boxed Values > RBSL		
Concentrations in ug/L		

Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: May 8-10, 2020

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

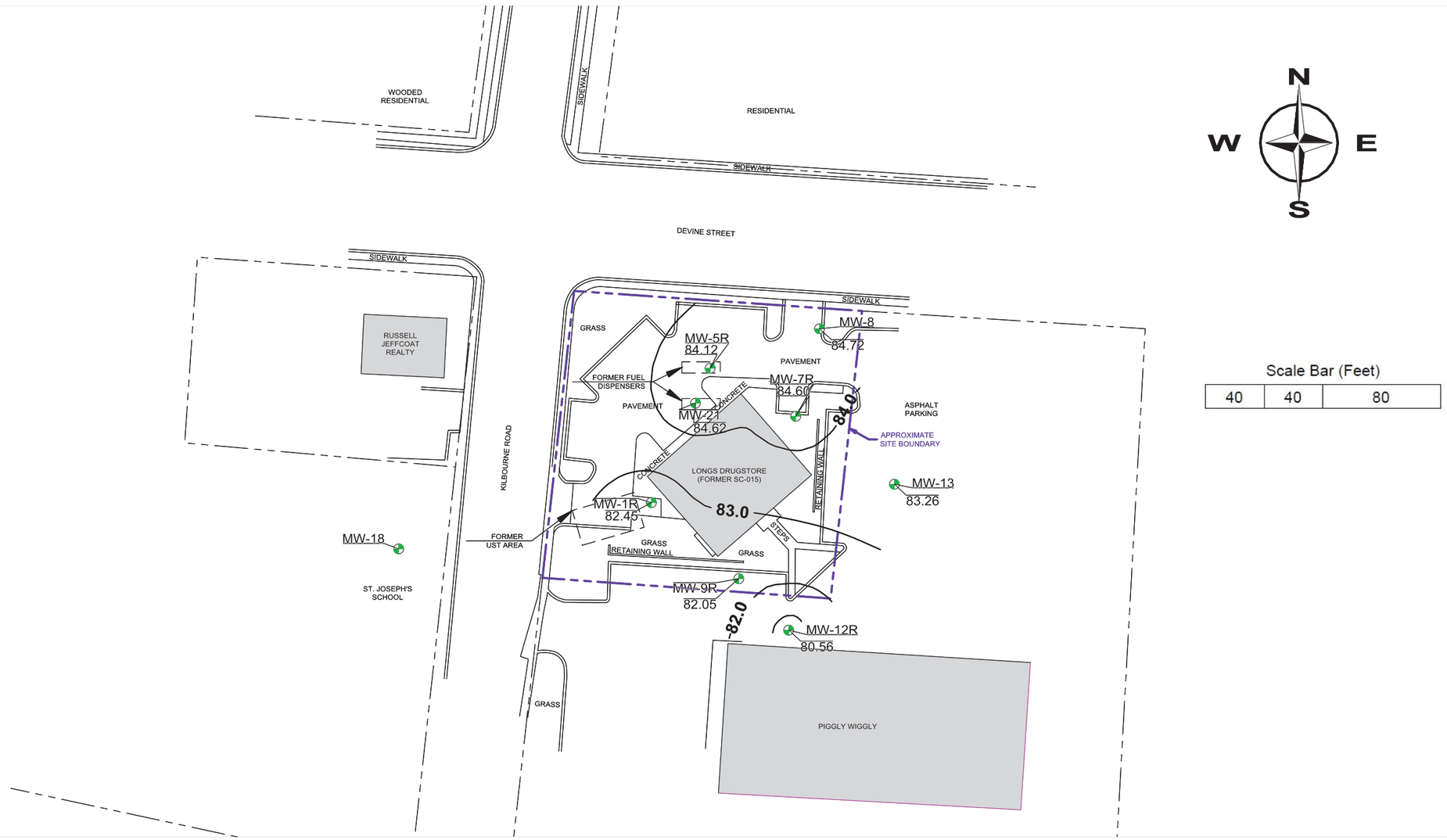


Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: May 8-10, 2020

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

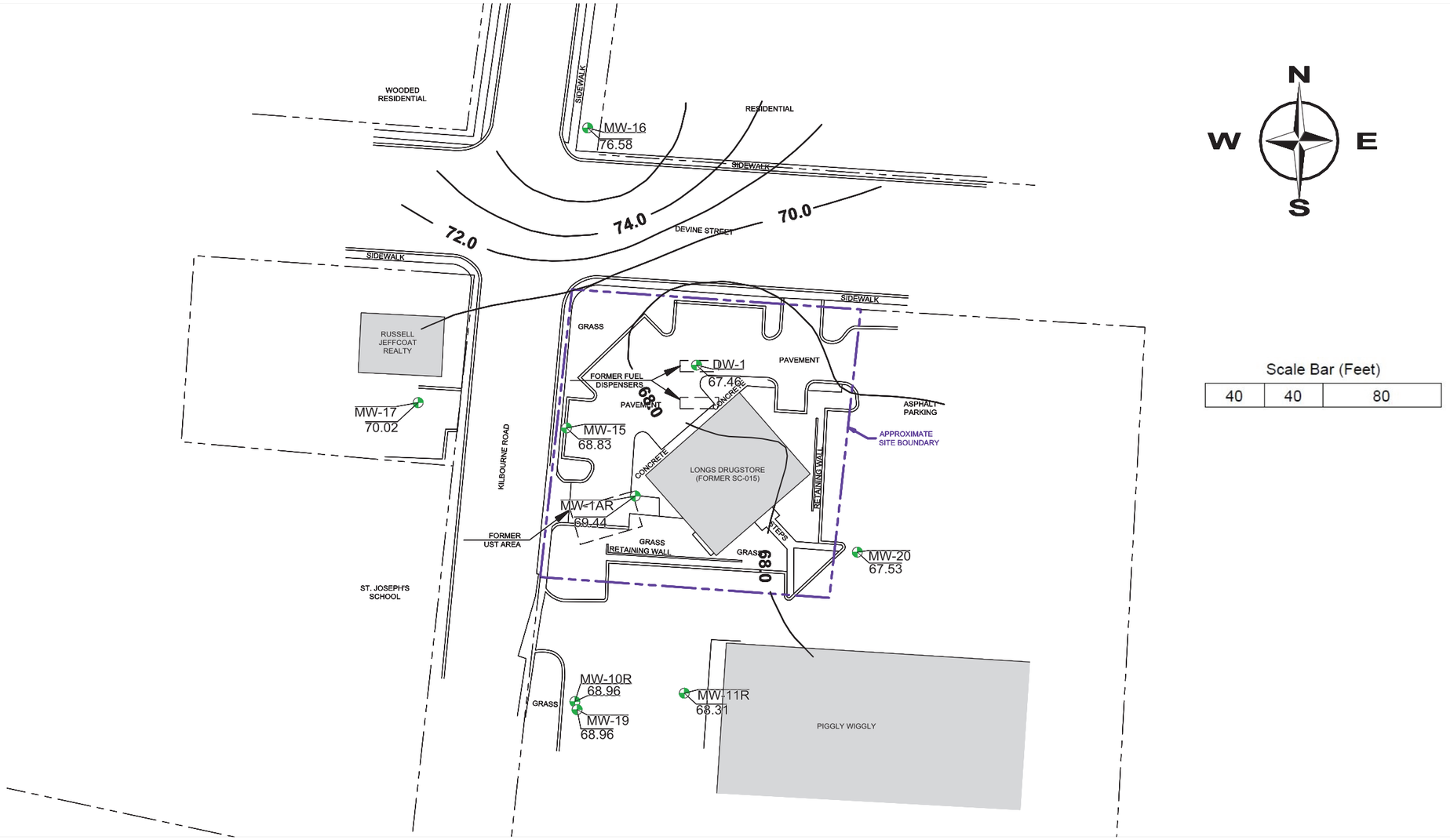


Figure 5A: Potentiometric Surface Map - Intermediate Screened Wells

Former Crown SC-015
Sample Date: May 8-10, 2020

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth						
45'						
Screen						
40-45'						
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
18'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
3-18'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
	05/09/20	98.49	ND	40.41	ND	58.08

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'						
Screen						
5-25'						
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'						
Screen						
5-25'						
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'						
Screen						
5-25'						

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
MW-1AR	*SSTLs*	*39,162*	*26,540*	*3,700*	*21,680*	*6,849*	*6,700*	*283*									
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
MW-2	*SSTLs*	*23,279*	*26,540*	*3,700*	*21,680*	*5,114*	*6,700*	*171*									
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
MW-5R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
Duplicate #1	05/09/20	<0.40	6.4	8.2	34	<0.40	3.6	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-8	*SSTLs*	*13,274*	*26,540*	*3,700*	*21,680*	*3,727*	*6,059*	*100*									
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	7/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	4/8/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-15R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*16,338*	*6,700*	*1,262*									
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
MW-21	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
RW-1	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	05/10/20	**6,300**	**33,000**	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
Duplicate #2	05/10/20	**5,600**	**30,000**	**2,600**	**13,000**	<200	**740**	**0.470**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
RW-2	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*27,166*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
RW-3	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
Field Blank	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	0.75 J	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
Trip Blank	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result
MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol
TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

APPENDIX B

SAMPLING LOGS, LABORATORY DATA SHEETS AND CHAINS-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	5/8/20 - 5/9/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-1A		dry @	9.50		1310	✓	✓	2/2	✓	✓
MW-1R	—	15.90	—	28.30	1305	✓	✓	0/2	✓	✓
MW-1AR	—	29.90	—	41.40	1300	✓	✓	2/2	✓	✓
MW-2	—	29.50	—	30.10	1303	✓	✓	2/2	✓	✓
MW-5R	14.10	14.45	0.35	—	1530	✓	✓	0/2	✓	✓
MW-5D	—	40.41	—	86.30	1523	✓	✓	0/3	no cap	✓
MW-5DD	—	50.35	—	121.0	1520	✓	✓	0/2	✓	✓
MW-7R	—	14.25	—	24.60	1511	✓	✓	0/2	✓	✓
MW-8	—	14.76	—	22.70	1514	✓	✓	0/2	new cap	✓
MW-9R	—	11.27	—	19.75	1109	✓	✓	2/2	new cap	✓
MW-10R	—	26.75	—	30.20	1441	✓	✓	0/2	✓	✓
MW-11R	—	23.95	—	30.30	1448	✓	✓	0/2	✓	✓
MW-12R	—	11.87	—	20.00	1452	✓	✓	0/2	✓	✓
MW-12D	—	35.69	—	75.40	1456	✓	✓	1/2	new cap	✓
MW-13	—	11.00	—	15.60	1506	✓	✓	2/2	✓	✓
MW-15	—	30.87	—	34.40	1415	✓	✓	2/2	✓	✓
MW-15R	—	28.50	—	39.30	1418	✓	✓	2/2	✓	✓
MW-16	—	26.27	—	34.80	1425	✓	✓	2/2	✓	✓
MW-17	—	30.82	—	39.40	1435	✗	✗	0/2	new cap	✗
MW-18	not accessible - school locked									
MW-18D	not accessible - school locked									
MW-19	—	26.78	—	34.85	1444	✓	✓	2/2	no cap	✓
MW-20	—	25.40	—	33.90	1502	✓	✓	0/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

MW17 manway repair
insufficient water MW-1A, 2 to collect sample

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:		**QES Associate(s):**	
Project Number:	**SC-015, UST #07680**	**Others Present:**	
Project Name:	***Former Crown SC-015***	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-21	—	14.27	—	20.20	1320	✓	✓	0/2	✓	✓
RW-1	—	14.65	—	25.55	1323	✓	✓	2/2	✓	✓
RW-2	14.12	15.95	1.83	—	1326	✓	✓	2/2	✓	✓
RW-3	14.71	16.30	1.59	—	1533	✓	✓	2/2	✓	✓
DW-1	—	30.02	—	38.90	1441	✓	✓	2/2	✓	✓

5/9

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/20/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1153	250	Start Purge (0)							
1158		1.25	22.77	12.27	0.26	0.38	-234	7	
1203		2.5	22.87	12.23	0.06	0.38	-253	8	
1208		3.75	22.94	12.20	0.08	0.38	-264	7	
1213	↓	5.0							

Gauging Time:	1305 5/8	**Sample Time:**	1209
Depth to Water (ft.):	15.90		
Well Depth (ft.):	28.30	**# of Containers:**	5

Well Number: MW1R

DRUM

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

1.5 gallons

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1212	325	Start Purge (0)							
1217	↓	1.625	24.50	11.97	5.89	0.09	-242	4	
1222		3.25	24.57	11.89	5.83	0.08	-229	5	
1227		4.875	24.15	11.89	5.90	0.08	-224	4	

Gauging Time:	1300 5/8	**Sample Time:**	1228
Depth to Water (ft.):	29.90		
Well Depth (ft.):	41.40	**# of Containers:**	5

DRUM 1.5 gallons

Well Number: MW1AR

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1027	325	Start Purge (0)							
1032		1.625	22.30	3.90	3.98	0.09	342	603	
1037		3.25	22.42	3.91	4.05	0.08	340	600	
1042	↓	4.875	22.44	4.00	4.10	0.08	337	597	

Gauging Time:	1523 5/9	**Sample Time:**	1043
Depth to Water (ft.):	40.41		
Well Depth (ft.):	86.30	**# of Containers:**	5

Well Number: MW5D Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1000	325	Start Purge (0)							
1005		1.625	20.22	3.08	6.91	0.04	405	3415	
1010		3.25	20.47	3.29	6.14	0.04	396		
1015		4.875	20.41	3.33	6.93	0.04	344		
1020	↓	6.5	20.61	3.35	6.94	0.04	360		

Gauging Time:	1520 5/9	**Sample Time:**	1021
Depth to Water (ft.):	50.35		
Well Depth (ft.):	121.0	**# of Containers:**	5

Well Number: MW 5 DD Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1414	325	Start Purge (0)							
1419	↓	1.625	21.89	6.27	0.03	0.54	123	930	
1424		3.25	21.97	6.30	0.03	0.54	99	425	
1429	↓	4.875	22.12	6.31	0.04	0.55	91	427	

Gauging Time:	1511 5/8	**Sample Time:**	1430
Depth to Water (ft.):	14.25		
Well Depth (ft.):	24.60	**# of Containers:**	5+5

Ground

Well Number: MW7R

Dup 1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith - Sons
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1441	325	Start Purge (0)							
1446	↓	1.625	23.40	4.91	3.69	0.10	179	302	
1451		3.25	23.87	4.87	3.93	0.10	200	300	
1456		4.875	23.80	4.81	3.91	0.10	200	297	
1501		6.5							

Gauging Time:	1514 5/8	**Sample Time:**	1457
Depth to Water (ft.):	14.76		
Well Depth (ft.):	22.70	**# of Containers:**	5

Well Number: MW8 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) / Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) / EDB (8011) / Ethanol (8015C))	**Purge Type:**	(Low Flow) / 3 Purge Volumes / No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1210	250	Start Purge (0)							
1215	↓	1.25	21.44	6.04	0.22	0.35	157	90	
1220		2.5	21.90	6.06	0.11	0.34	134	88	
1225		3.75	22.07	6.06	0.06	0.34	119	88	

Gauging Time:	1109 5/8	**Sample Time:**	1226
Depth to Water (ft.):	11.27	**# of Containers:**	5
Well Depth (ft.):	19.75		

Well Number: MW9R Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1019	325	Start Purge (0)							
1024	↓	1.625	21.07	4.44	6.15	0.08	308	7	
1029		3.25	21.20	4.39	6.23	0.07	309	8	
1034		4.875	21.85	4.37	6.14	0.07	310	7	

Gauging Time:	1441 5/9	**Sample Time:**	1035
Depth to Water (ft.):	26.75		
Well Depth (ft.):	30.20	**# of Containers:**	5

Well Number: MW10R Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.

Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1103	325	Start Purge (0)							
1108		1.625	21.58	4.39	6.77	0.06	307	181	
1113		3.25	21.62	4.36	6.79	0.06	309	191	
1118	↓	4.875	21.92	4.35	6.82	0.06	310	180	

Gauging Time:	1448 5/9	**Sample Time:**	1119
Depth to Water (ft.):	23.95		
Well Depth (ft.):	30.30	**# of Containers:**	5

Well Number: MW11R

DRUM 1.5 gallons

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	QES Associate(s):	A. Smith-Jones
Project Number:	SC-015/UST #07680	Others Present:	
Project Name:	Former Crown SC-015 (Long's Drugstore)	QES Signature:	
Analytical Laboratory:	Pace Analytical	Purge Method:	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011)) Ethanol (8015C)	Purge Type:	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1230	250	Start Purge (0)							
1235		1.25	21.60	5.96	0.22	0.50	99	8	
1240	↓	2.5	21.48	5.99	0.08	0.49	91	8	
1245	↓	3.75	21.36	6.00	0.06	0.49	85	8	

Gauging Time:	1452 5/5	Sample Time:	1245
Depth to Water (ft.):	11.87		
Well Depth (ft.):	25.00	# of Containers:	5

DRUM 1 gallon

Well Number: MW12R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1249	325	Start Purge (0)							
1254		1.625	20.67	4.68	5.54	0.07	157	1365	
1259	↓	3.25	20.58	4.62	6.04	0.07	190	1387	
1204	↓	4.875	20.87	4.58	6.01	0.07	202	1390	

Gauging Time:	1456 5/8	**Sample Time:**	1205
Depth to Water (ft.):	35.69		
Well Depth (ft.):	75.40	**# of Containers:**	5

DRUM 1.5 gallons

Well Number: MW12D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1338	250	Start Purge (0)							
1343	↓	1.25	21.51	5.02	0.15	0.27	203	238	
1348		2.5	21.29	5.00	0.07	0.27	202	235	
1353	↓	3.75	21.22	4.98	0.08	0.27	202	232	

Gauging Time:	1506 518	**Sample Time:**	1354
Depth to Water (ft.):	11.00		
Well Depth (ft.):	15.60	**# of Containers:**	5

Well Number: MW13 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1508	325	Start Purge (0)							
1513		1.625	23.59	5.55	2.58	0.15	206	10	
1518		3.25	23.85	5.26	2.10	0.12	215	3	
1523		4.875	23.70	5.21	2.05	0.12	214	3	
1528	↓	6.5	23.58	5.16	2.01	0.11	216	3	

Gauging Time:	1415 5/8	**Sample Time:**	1529
Depth to Water (ft.):	30.87		
Well Depth (ft.):	39.40	**# of Containers:**	5

Ground

Well Number: MW15

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1534	325	Start Purge (0)							
1539	↓	1.625	24.07	6.24	0.00	0.54	100	166	
1544		3.25	24.12	6.29	0.00	0.53	72	165	
1549		4.875	24.30	6.30	0.00	0.52	45	165	

Gauging Time:	1418 5/8	**Sample Time:**	1550
Depth to Water (ft.):	28.50		
Well Depth (ft.):	39.30	**# of Containers:**	5

Well Number: MW15R Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1132	325	Start Purge (0)							
1137		1.625	19.48	4.25	5.61	0.21	323	1042	
1142		3.25	19.33	4.29	5.44	0.22	325	520	
1147		4.875	19.49	4.32	5.11	0.22	328	327	
1152		6.5	19.49	4.34	5.00	0.21	332	330	
1155	↓	7.475	19.56	4.34	4.92	0.21	334	331	

Gauging Time:	1425 5/9	**Sample Time:**	1156
Depth to Water (ft.):	26.27		
Well Depth (ft.):	34.00	**# of Containers:**	5

Well Number: MW16 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
942	325	Start Purge (0)							
947		1.625	20.42	5.11	4.88	0.11	257	157	
952		3.25	20.94	4.73	4.83	0.10	281	135	
957		4.875	21.17	4.50	4.79	0.10	294	85	
1002		6.5	21.08	4.54	4.69	0.10	294	86	
1005	↓	7.475	20.93	4.52	4.70	0.10	296	84	

Gauging Time:	1435 5/7	**Sample Time:**	1006
Depth to Water (ft.):	30.82		
Well Depth (ft.):	39.40	**# of Containers:**	5

Well Number: MW 17

DRUM 2 gallons

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) (Submersible Pump (deep wells))
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1037	325	Start Purge (0)							
1042	↓	1.625	21.79	4.44	5.51	0.09	309	215	
1047		3.25	21.81	4.44	5.56	0.09	310	210	
1052		4.875	21.71	4.44	5.71	0.08	307	214	

Gauging Time:	1444 5/9	**Sample Time:**	1053
Depth to Water (ft.):	26.78		
Well Depth (ft.):	39.85	**# of Containers:**	5

Well Number: MW 19 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/9/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1311	250	Start Purge (0)							
1316		1.25	22.82	4.56	5.35	0.10	213	3	
1321		2.5	23.16	4.54	5.09	0.09	220	3	
1326		3.75	23.26	4.56	5.05	0.09	222	3	
1331	↓	5.0	23.54	4.53	5.02	0.09	226	3	

Gauging Time:	1502 -18	**Sample Time:**	1332
Depth to Water (ft.):	25.40		
Well Depth (ft.):	33.90	**# of Containers:**	5

Well Number: MW20 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1131	250	Start Purge (0)							
1136		1.25	22.91	11.68	0.06	0.41	-161	6	
1141		2.5	22.86	11.63	0.05	0.42	-166	5	
1146	↓	3.75	22.92	11.67	0.05	0.41	-171	5	

Gauging Time:	1320 5/8	**Sample Time:**	1147
Depth to Water (ft.):	14.27		
Well Depth (ft.):	20.20	**# of Containers:**	5

Well Number: MW21

Drum 1 gallon

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.

Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1047	325	Start Purge (0)							
1052	↓	1.625	24.26	11.76	0.15	0.45	-142	107	
1057		3.25	24.83	11.73	0.13	0.45	-149	112	
1102		4.875	25.00	11.73	0.11	0.45	-153	105	

Gauging Time:	1441 5/9	**Sample Time:**	1103
Depth to Water (ft.):	30.02		
Well Depth (ft.):	38.90	**# of Containers:**	5

Well Number: DW1

DRUM

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

1.5 gallons

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/10/20	**QES Associate(s):**	A. Smith - Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1108	250	Start Purge (0)							
1113		1.25	22.60	11.25	0.24	0.15	-126	3	
1118	↓	2.5	22.34	11.24	0.08	0.15	-139	3	
1123		3.75	22.40	11.22	0.06	0.15	-136	3	

Gauging Time:	1323 519	**Sample Time:**	1124
Depth to Water (ft.):	14.65		
Well Depth (ft.):	25.55	**# of Containers:**	5+5

Well Number: RW1 Dup 2 Drum 1 gallon

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Report of Analysis

Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455
Attention: Don Jones

Project Name: SC-015

Project Number: SC-015

Lot Number:**VE15050**

Date Completed:05/22/2020

05/22/2020 3:18 PM
Approved and released by:
Project Manager: **Kelly M. Nance**

The electronic signature above is the equivalent of a handwritten signature.
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Pace Analytical Services, LLC (*formerly Shealy Environmental Services, Inc.*)
106 Vantage Point Drive West Columbia, SC 29172
Tel: 803-791-9700 Fax: 803-791-9111 www.pacelabs.com

Case Narrative
Quality Environmental Solutions, Inc.
Lot Number: VE15050

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 Pace Analytical Services, LLC ("Pace") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Pace 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 Pace Project Manager listed on the cover page.

Volatiles
The matrix spike/matrix spike duplicate (MS/MSD) associated with sample -001 had tert-butyl formate (TBF) recovered outside of the acceptance limits. The laboratory control sample (LCS) was recovered within the required acceptance limits; therefore, this likely demonstrates a matrix effect.

Sample -012 was diluted 5X due to the sample matrix. The reporting limits have been raised accordingly.

Sample Summary

Quality Environmental Solutions, Inc.

Lot Number: VE15050

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1R	Aqueous	05/10/2020 1209	05/15/2020
002	MW-1AR	Aqueous	05/10/2020 1228	05/15/2020
003	MW-5D	Aqueous	05/10/2020 1043	05/15/2020
004	MW-5DD	Aqueous	05/10/2020 1021	05/15/2020
005	MW-7R	Aqueous	05/09/2020 1430	05/15/2020
006	MW-8	Aqueous	05/09/2020 1457	05/15/2020
007	MW-9R	Aqueous	05/09/2020 1226	05/15/2020
008	MW-10R	Aqueous	05/09/2020 1035	05/15/2020
009	MW-11R	Aqueous	05/09/2020 1119	05/15/2020
010	MW-12R	Aqueous	05/09/2020 1245	05/15/2020
011	MW-12D	Aqueous	05/09/2020 1205	05/15/2020
012	MW-13	Aqueous	05/09/2020 1354	05/15/2020
013	MW-15	Aqueous	05/09/2020 1529	05/15/2020
014	MW-15R	Aqueous	05/09/2020 1550	05/15/2020
015	MW-16	Aqueous	05/09/2020 1156	05/15/2020
016	MW-17	Aqueous	05/09/2020 1006	05/15/2020
017	MW-19	Aqueous	05/09/2020 1053	05/15/2020
018	MW-20	Aqueous	05/09/2020 1332	05/15/2020
019	MW-21	Aqueous	05/10/2020 1147	05/15/2020
020	RW1	Aqueous	05/10/2020 1124	05/15/2020
021	DW1	Aqueous	05/10/2020 1103	05/15/2020
022	Dup1	Aqueous	05/09/2020 1200	05/15/2020
023	Dup2	Aqueous	05/10/2020 1200	05/15/2020
024	FB1	Aqueous	05/09/2020 1200	05/15/2020
025	FB2	Aqueous	05/10/2020 1200	05/15/2020
026	TB1	Aqueous	05/09/2020 1200	05/15/2020

(26 samples)

Detection Summary

Quality Environmental Solutions, Inc.

Lot Number: VE15050

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1R	Aqueous	Benzene	8260D	41		ug/L	6
001	MW-1R	Aqueous	Ethylbenzene	8260D	440		ug/L	6
001	MW-1R	Aqueous	Methyl tertiary butyl ether	8260D	87		ug/L	6
001	MW-1R	Aqueous	Naphthalene	8260D	290		ug/L	6
001	MW-1R	Aqueous	tert-butyl alcohol (TBA)	8260D	210		ug/L	6
001	MW-1R	Aqueous	Toluene	8260D	4.1	J	ug/L	6
001	MW-1R	Aqueous	Xylenes (total)	8260D	100		ug/L	6
002	MW-1AR	Aqueous	Benzene	8260D	0.69	J	ug/L	7
002	MW-1AR	Aqueous	Methyl tertiary butyl ether	8260D	1.3		ug/L	7
002	MW-1AR	Aqueous	tert-butyl alcohol (TBA)	8260D	4.0	J	ug/L	7
002	MW-1AR	Aqueous	Toluene	8260D	0.57	J	ug/L	7
002	MW-1AR	Aqueous	Xylenes (total)	8260D	0.41	J	ug/L	7
003	MW-5D	Aqueous	Toluene	8260D	0.65	J	ug/L	8
005	MW-7R	Aqueous	Ethylbenzene	8260D	12		ug/L	10
005	MW-7R	Aqueous	Naphthalene	8260D	4.5		ug/L	10
005	MW-7R	Aqueous	Toluene	8260D	7.4		ug/L	10
005	MW-7R	Aqueous	Xylenes (total)	8260D	46		ug/L	10
006	MW-8	Aqueous	Toluene	8260D	2.5		ug/L	11
006	MW-8	Aqueous	Xylenes (total)	8260D	0.91	J	ug/L	11
007	MW-9R	Aqueous	Methyl tertiary butyl ether	8260D	6.2		ug/L	12
007	MW-9R	Aqueous	tert-butyl alcohol (TBA)	8260D	11	J	ug/L	12
008	MW-10R	Aqueous	Toluene	8260D	2.0		ug/L	13
008	MW-10R	Aqueous	Xylenes (total)	8260D	0.63	J	ug/L	13
009	MW-11R	Aqueous	Toluene	8260D	1.7		ug/L	14
009	MW-11R	Aqueous	Xylenes (total)	8260D	0.46	J	ug/L	14
010	MW-12R	Aqueous	tert-Amyl alcohol (TAA)	8260D	21		ug/L	15
010	MW-12R	Aqueous	Methyl tertiary butyl ether	8260D	12		ug/L	15
010	MW-12R	Aqueous	tert-butyl alcohol (TBA)	8260D	20		ug/L	15
011	MW-12D	Aqueous	Toluene	8260D	1.5		ug/L	16
011	MW-12D	Aqueous	Xylenes (total)	8260D	0.52	J	ug/L	16
013	MW-15	Aqueous	Methyl tertiary butyl ether	8260D	2.3		ug/L	18
013	MW-15	Aqueous	Toluene	8260D	1.1		ug/L	18
013	MW-15	Aqueous	Xylenes (total)	8260D	0.48	J	ug/L	18
014	MW-15R	Aqueous	tert-Amyl alcohol (TAA)	8260D	40		ug/L	19
014	MW-15R	Aqueous	Diisopropyl ether (IPE)	8260D	4.4		ug/L	19
014	MW-15R	Aqueous	Methyl tertiary butyl ether	8260D	61		ug/L	19
014	MW-15R	Aqueous	tert-butyl alcohol (TBA)	8260D	65		ug/L	19
014	MW-15R	Aqueous	Toluene	8260D	1.7		ug/L	19
014	MW-15R	Aqueous	Xylenes (total)	8260D	0.74	J	ug/L	19
015	MW-16	Aqueous	Methyl tertiary butyl ether	8260D	0.44	J	ug/L	20
015	MW-16	Aqueous	Toluene	8260D	2.0		ug/L	20
015	MW-16	Aqueous	Xylenes (total)	8260D	0.60	J	ug/L	20
016	MW-17	Aqueous	Benzene	8260D	0.43	J	ug/L	21
016	MW-17	Aqueous	Toluene	8260D	2.1		ug/L	21
016	MW-17	Aqueous	Xylenes (total)	8260D	0.75	J	ug/L	21

Detection Summary (Continued)

Lot Number: VE15050

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
017	MW-19	Aqueous	Benzene	8260D	0.57	J	ug/L	22
017	MW-19	Aqueous	Toluene	8260D	3.1		ug/L	22
017	MW-19	Aqueous	Xylenes (total)	8260D	1.8		ug/L	22
019	MW-21	Aqueous	Benzene	8260D	470		ug/L	24
019	MW-21	Aqueous	Ethylbenzene	8260D	1600		ug/L	24
019	MW-21	Aqueous	Naphthalene	8260D	680		ug/L	24
019	MW-21	Aqueous	Toluene	8260D	8200		ug/L	24
019	MW-21	Aqueous	Xylenes (total)	8260D	8300		ug/L	24
020	RW1	Aqueous	Benzene	8260D	6300		ug/L	25
020	RW1	Aqueous	Ethylbenzene	8260D	3000		ug/L	25
020	RW1	Aqueous	Naphthalene	8260D	780		ug/L	25
020	RW1	Aqueous	Toluene	8260D	33000		ug/L	25
020	RW1	Aqueous	Xylenes (total)	8260D	15000		ug/L	25
020	RW1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.51		ug/L	25
021	DW1	Aqueous	Ethylbenzene	8260D	0.97	J	ug/L	26
021	DW1	Aqueous	Naphthalene	8260D	2.5		ug/L	26
021	DW1	Aqueous	tert-butyl alcohol (TBA)	8260D	2.9	J	ug/L	26
021	DW1	Aqueous	Toluene	8260D	1.0		ug/L	26
021	DW1	Aqueous	Xylenes (total)	8260D	5.2		ug/L	26
022	Dup1	Aqueous	Ethylbenzene	8260D	8.2		ug/L	27
022	Dup1	Aqueous	Naphthalene	8260D	3.6		ug/L	27
022	Dup1	Aqueous	Toluene	8260D	6.4		ug/L	27
022	Dup1	Aqueous	Xylenes (total)	8260D	34		ug/L	27
023	Dup2	Aqueous	Benzene	8260D	5600		ug/L	28
023	Dup2	Aqueous	Ethylbenzene	8260D	2600		ug/L	28
023	Dup2	Aqueous	Naphthalene	8260D	740		ug/L	28
023	Dup2	Aqueous	Toluene	8260D	30000		ug/L	28
023	Dup2	Aqueous	Xylenes (total)	8260D	13000		ug/L	28
023	Dup2	Aqueous	1,2-Dibromoethane (EDB)	8011	0.47		ug/L	28
024	FB1	Aqueous	tert-butyl alcohol (TBA)	8260D	0.75	J	ug/L	29

(75 detections)

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-001
Description: MW-1R | Matrix: Aqueous
Date Sampled: 05/10/2020 1209
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	10	05/20/2020 0240	STM		54424

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		200	80	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		100	4.2	ug/L	1
Benzene	71-43-2	8260D	41		10	4.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		50	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		10	4.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		10	4.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		200	80	ug/L	1
Ethanol	64-17-5	8260D	ND		1000	520	ug/L	1
Ethylbenzene	100-41-4	8260D	440		10	4.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		10	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	87		10	4.0	ug/L	1
Naphthalene	91-20-3	8260D	290		10	4.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	210		200	4.0	ug/L	1
Toluene	108-88-3	8260D	4.1	J	10	4.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	100		10	4.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		77	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 1957	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-1AR
Date Sampled: 05/10/2020 1228
Date Received: 05/15/2020

Laboratory ID: VE15050-002
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0155	STM		54424

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	0.69	J	1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	1.3		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	4.0	J	20	0.40	ug/L	1
Toluene	108-88-3	8260D	0.57	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.41	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		78	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2007	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-003
Description: MW-5D | Matrix: Aqueous
Date Sampled: 05/10/2020 1043
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0217	STM		54424

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	0.65	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2018	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-5DD
Date Sampled: 05/10/2020 1021
Date Received: 05/15/2020

Laboratory ID: VE15050-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2215	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2029	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

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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106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Client: Quality Environmental Solutions, Inc.
Description: MW-7R
Date Sampled: 05/09/2020 1430
Date Received: 05/15/2020

Laboratory ID: VE15050-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2238	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	12		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	4.5		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	7.4		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	46		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2040	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-8
Date Sampled: 05/09/2020 1457
Date Received: 05/15/2020

Laboratory ID: VE15050-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2300	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	2.5		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.91	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		103	70-130
Bromofluorobenzene		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2050	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-9R
Date Sampled: 05/09/2020 1226
Date Received: 05/15/2020

Laboratory ID: VE15050-007
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2322	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	6.2		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	11	J	20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		97	70-130
Bromofluorobenzene		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2101	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-10R
Date Sampled: 05/09/2020 1035
Date Received: 05/15/2020

Laboratory ID: VE15050-008
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2345	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	2.0		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.63	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2112	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-11R
Date Sampled: 05/09/2020 1119
Date Received: 05/15/2020

Laboratory ID: VE15050-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0008	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	1.7		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.46	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2122	DAL1	05/20/2020 1313	54457

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-010
Description: MW-12R | Matrix: Aqueous
Date Sampled: 05/09/2020 1245
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0030	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	21		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	12		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	20		20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2205	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-011
Description: MW-12D | Matrix: Aqueous
Date Sampled: 05/09/2020 1205
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0052	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	1.5		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.52	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		98	70-130
Bromofluorobenzene		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2226	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		69	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-012
Description: MW-13 | Matrix: Aqueous
Date Sampled: 05/09/2020 1354
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	5	05/20/2020 0351	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		100	40	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		50	2.1	ug/L	1
Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		25	10	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		5.0	2.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		5.0	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		100	40	ug/L	1
Ethanol	64-17-5	8260D	ND		500	260	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		5.0	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1
Naphthalene	91-20-3	8260D	ND		5.0	2.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		100	2.0	ug/L	1
Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 1010	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.028	0.0069	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		67	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-013
Description: MW-15 | Matrix: Aqueous
Date Sampled: 05/09/2020 1529
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0114	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	2.3		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	1.1		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.48	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2258	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-014
Description: MW-15R | Matrix: Aqueous
Date Sampled: 05/09/2020 1550
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0137	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	40		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	4.4		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	61		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	65		20	0.40	ug/L	1
Toluene	108-88-3	8260D	1.7		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.74	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		98	70-130
Bromofluorobenzene		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2309	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-015
Description: MW-16 | Matrix: Aqueous
Date Sampled: 05/09/2020 1156
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0159	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	0.44	J	1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	2.0		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.60	J	1.0	0.40	ug/L	1

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

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2320	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-17
Date Sampled: 05/09/2020 1006
Date Received: 05/15/2020

Laboratory ID: VE15050-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0221	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	0.43	J	1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	2.1		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.75	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2330	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: MW-19
Date Sampled: 05/09/2020 1053
Date Received: 05/15/2020

Laboratory ID: VE15050-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0243	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	0.57	J	1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	3.1		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	1.8		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2341	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		75	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-018
Description: MW-20 | Matrix: Aqueous
Date Sampled: 05/09/2020 1332
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0306	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/20/2020 2352	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-019
Description: MW-21 | Matrix: Aqueous
Date Sampled: 05/10/2020 1147
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	100	05/20/2020 0436	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		2000	800	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		1000	42	ug/L	1
Benzene	71-43-2	8260D	470		100	40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		500	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		100	40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		100	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		2000	800	ug/L	1
Ethanol	64-17-5	8260D	ND		10000	5200	ug/L	1
Ethylbenzene	100-41-4	8260D	1600		100	40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		100	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		100	40	ug/L	1
Naphthalene	91-20-3	8260D	680		100	40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		2000	40	ug/L	1
Toluene	108-88-3	8260D	8200		100	40	ug/L	1
Xylenes (total)	1330-20-7	8260D	8300		100	40	ug/L	1

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

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0003	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-020
Description: RW1 | Matrix: Aqueous
Date Sampled: 05/10/2020 1124
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	500	05/20/2020 0521	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		10000	4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		5000	210	ug/L	1
Benzene	71-43-2	8260D	6300		500	200	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		2500	1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		500	200	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		500	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		10000	4000	ug/L	1
Ethanol	64-17-5	8260D	ND		50000	26000	ug/L	1
Ethylbenzene	100-41-4	8260D	3000		500	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		500	200	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		500	200	ug/L	1
Naphthalene	91-20-3	8260D	780		500	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		10000	200	ug/L	1
Toluene	108-88-3	8260D	33000		500	200	ug/L	1
Xylenes (total)	1330-20-7	8260D	15000		500	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0013	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.51		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		105	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-021
Description: DW1 | Matrix: Aqueous
Date Sampled: 05/10/2020 1103
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260D	1	05/21/2020 0327	ALR1		54577

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	2
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	2
Ethanol	64-17-5	8260D	ND		100	52	ug/L	2
Ethylbenzene	100-41-4	8260D	0.97	J	1.0	0.40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260D	2.5		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	2.9	J	20	0.40	ug/L	2
Toluene	108-88-3	8260D	1.0		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	5.2		1.0	0.40	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0024	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		82	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-022
Description: Dup1 | Matrix: Aqueous
Date Sampled: 05/09/2020 1200
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/20/2020 0328	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	8.2		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	3.6		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	6.4		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	34		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0035	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

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

Client: Quality Environmental Solutions, Inc. | Laboratory ID: VE15050-023
Description: Dup2 | Matrix: Aqueous
Date Sampled: 05/10/2020 1200
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	500	05/20/2020 0459	ALR1		54423

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		10000	4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		5000	210	ug/L	1
Benzene	71-43-2	8260D	5600		500	200	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		2500	1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		500	200	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		500	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		10000	4000	ug/L	1
Ethanol	64-17-5	8260D	ND		50000	26000	ug/L	1
Ethylbenzene	100-41-4	8260D	2600		500	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		500	200	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		500	200	ug/L	1
Naphthalene	91-20-3	8260D	740		500	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		10000	200	ug/L	1
Toluene	108-88-3	8260D	30000		500	200	ug/L	1
Xylenes (total)	1330-20-7	8260D	13000		500	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0045	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.47		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: FB1
Date Sampled: 05/09/2020 1200
Date Received: 05/15/2020

Laboratory ID: VE15050-024
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2238	ALR1		54432

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	0.75	J	20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0056	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0047	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

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

Client: Quality Environmental Solutions, Inc.
Description: FB2
Date Sampled: 05/10/2020 1200
Date Received: 05/15/2020

Laboratory ID: VE15050-025
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2304	ALR1		54432

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/21/2020 0107	DAL1	05/20/2020 1313	54458

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		82	57-137

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

Client: Quality Environmental Solutions, Inc.
Laboratory ID: VE15050-026
Description: TB1
Matrix: Aqueous
Date Sampled: 05/09/2020 1200
Date Received: 05/15/2020

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/19/2020 2329	ALR1		54432

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		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

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: VQ54423-001
Batch: 54423
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/19/2020 2135
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/19/2020 2135
Benzene	ND		1	1.0	0.40	ug/L	05/19/2020 2135
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/19/2020 2135
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/19/2020 2135
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/19/2020 2135
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/19/2020 2135
Ethanol	ND		1	100	52	ug/L	05/19/2020 2135
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/19/2020 2135
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/19/2020 2135
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/19/2020 2135
Naphthalene	ND		1	1.0	0.40	ug/L	05/19/2020 2135
tert-butyl alcohol (TBA)	ND		1	20	0.40	ug/L	05/19/2020 2135
Toluene	ND		1	1.0	0.40	ug/L	05/19/2020 2135
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/19/2020 2135

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		98	70-130
Bromofluorobenzene		102	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: VQ54423-002
Batch: 54423
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	105	70-130	05/19/2020 2038
tert-Amyl methyl ether (TAME)	50	51		1	103	70-130	05/19/2020 2038
Benzene	50	52		1	103	70-130	05/19/2020 2038
tert-Butyl formate (TBF)	250	270		1	109	70-130	05/19/2020 2038
1,2-Dichloroethane	50	54		1	109	70-130	05/19/2020 2038
Diisopropyl ether (IPE)	50	50		1	100	70-130	05/19/2020 2038
3,3-Dimethyl-1-butanol	1000	1100		1	107	70-130	05/19/2020 2038
Ethanol	5000	5400		1	109	70-130	05/19/2020 2038
Ethylbenzene	50	53		1	107	70-130	05/19/2020 2038
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	70-130	05/19/2020 2038
Methyl tertiary butyl ether (MTBE)	50	52		1	103	70-130	05/19/2020 2038

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 - LCS

Sample ID: VQ54423-002
Batch: 54423
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	48		1	96	70-130	05/19/2020 2038
tert-butyl alcohol (TBA)	1000	1100		1	105	70-130	05/19/2020 2038
Toluene	50	54		1	108	70-130	05/19/2020 2038
Xylenes (total)	100	110		1	107	70-130	05/19/2020 2038

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		107	70-130
Bromofluorobenzene		105	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: VE15050-021MS
Batch: 54423
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	50000	56000		50	112	70-130	05/20/2020 0544
tert-Amyl methyl ether (TAME)	ND	2500	2900		50	117	70-130	05/20/2020 0544
Benzene	ND	2500	2900		50	115	70-130	05/20/2020 0544
tert-Butyl formate (TBF)	ND	13000	12000		50	99	70-130	05/20/2020 0544
1,2-Dichloroethane	ND	2500	3000		50	122	70-130	05/20/2020 0544
Diisopropyl ether (IPE)	ND	2500	2800		50	111	70-130	05/20/2020 0544
3,3-Dimethyl-1-butanol	ND	50000	59000		50	118	70-130	05/20/2020 0544
Ethanol	ND	250000	270000		50	106	70-130	05/20/2020 0544
Ethylbenzene	ND	2500	2900		50	116	70-130	05/20/2020 0544
Ethyl-tert-butyl ether (ETBE)	ND	2500	3000		50	120	70-130	05/20/2020 0544
Methyl tertiary butyl ether (MTBE)	ND	2500	2900		50	118	70-130	05/20/2020 0544
Naphthalene	ND	2500	2500		50	98	70-130	05/20/2020 0544
tert-butyl alcohol (TBA)	ND	50000	58000		50	117	70-130	05/20/2020 0544
Toluene	ND	2500	2800		50	111	70-130	05/20/2020 0544
Xylenes (total)	ND	5000	5900		50	118	70-130	05/20/2020 0544

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		124	70-130
Toluene-d8		111	70-130
Bromofluorobenzene		121	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 - MSD

Sample ID: VE15050-021MD
Batch: 54423
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	50000	57000		50	114	1.9	70-130	20	05/20/2020 0606
tert-Amyl methyl ether (TAME)	ND	2500	3000		50	118	0.94	70-130	20	05/20/2020 0606
Benzene	ND	2500	2900		50	116	1.2	70-130	20	05/20/2020 0606
tert-Butyl formate (TBF)	ND	13000	12000		50	98	0.54	70-130	20	05/20/2020 0606
1,2-Dichloroethane	ND	2500	3100		50	123	0.94	70-130	20	05/20/2020 0606
Diisopropyl ether (IPE)	ND	2500	2900		50	114	2.9	70-130	20	05/20/2020 0606
3,3-Dimethyl-1-butanol	ND	50000	62000		50	123	4.1	70-130	20	05/20/2020 0606
Ethanol	ND	250000	280000		50	111	4.2	70-130	20	05/20/2020 0606
Ethylbenzene	ND	2500	2900		50	115	0.74	70-130	20	05/20/2020 0606
Ethyl-tert-butyl ether (ETBE)	ND	2500	3100		50	123	2.3	70-130	20	05/20/2020 0606
Methyl tertiary butyl ether (MTBE)	ND	2500	3000		50	122	3.5	70-130	20	05/20/2020 0606
Naphthalene	ND	2500	2500		50	100	1.7	70-130	20	05/20/2020 0606
tert-butyl alcohol (TBA)	ND	50000	59000		50	118	1.4	70-130	20	05/20/2020 0606
Toluene	ND	2500	2800		50	111	0.55	70-130	20	05/20/2020 0606
Xylenes (total)	ND	5000	5900		50	119	0.90	70-130	20	05/20/2020 0606

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		125	70-130
Toluene-d8		111	70-130
Bromofluorobenzene		118	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: VQ54424-001
Batch: 54424
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/19/2020 1910
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/19/2020 1910
Benzene	ND		1	1.0	0.40	ug/L	05/19/2020 1910
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/19/2020 1910
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/19/2020 1910
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/19/2020 1910
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/19/2020 1910
Ethanol	ND		1	100	52	ug/L	05/19/2020 1910
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/19/2020 1910
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/19/2020 1910
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/19/2020 1910

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: VQ54424-001
Batch: 54424
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Naphthalene	ND		1	1.0	0.40	ug/L	05/19/2020 1910
tert-butyl alcohol (TBA)	ND		1	20	0.40	ug/L	05/19/2020 1910
Toluene	ND		1	1.0	0.40	ug/L	05/19/2020 1910
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/19/2020 1910

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		101	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: VQ54424-002
Batch: 54424
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	102	70-130	05/19/2020 1806
tert-Amyl methyl ether (TAME)	50	49		1	98	70-130	05/19/2020 1806
Benzene	50	50		1	99	70-130	05/19/2020 1806
tert-Butyl formate (TBF)	250	260		1	103	70-130	05/19/2020 1806
1,2-Dichloroethane	50	47		1	94	70-130	05/19/2020 1806
Diisopropyl ether (IPE)	50	49		1	98	70-130	05/19/2020 1806
3,3-Dimethyl-1-butanol	1000	1100		1	106	70-130	05/19/2020 1806
Ethanol	5000	4900		1	98	70-130	05/19/2020 1806
Ethylbenzene	50	52		1	103	70-130	05/19/2020 1806
Ethyl-tert-butyl ether (ETBE)	50	46		1	92	70-130	05/19/2020 1806
Methyl tertiary butyl ether (MTBE)	50	43		1	86	70-130	05/19/2020 1806
Naphthalene	50	46		1	92	70-130	05/19/2020 1806
tert-butyl alcohol (TBA)	1000	990		1	99	70-130	05/19/2020 1806
Toluene	50	51		1	103	70-130	05/19/2020 1806
Xylenes (total)	100	100		1	101	70-130	05/19/2020 1806

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		106	70-130
Bromofluorobenzene		103	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 - MS

Sample ID: VE15050-001MS
Batch: 54424
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	10000	8500		10	85	70-130	05/20/2020 0325
tert-Amyl methyl ether (TAME)	ND	500	470		10	94	70-130	05/20/2020 0325
Benzene	41	500	530		10	98	70-130	05/20/2020 0325
tert-Butyl formate (TBF)	ND	2500	560	N	10	22	70-130	05/20/2020 0325
1,2-Dichloroethane	ND	500	420		10	83	70-130	05/20/2020 0325
Diisopropyl ether (IPE)	ND	500	480		10	97	70-130	05/20/2020 0325
3,3-Dimethyl-1-butanol	ND	10000	9100		10	91	70-130	05/20/2020 0325
Ethanol	ND	50000	44000		10	88	70-130	05/20/2020 0325
Ethylbenzene	440	500	920		10	97	70-130	05/20/2020 0325
Ethyl-tert-butyl ether (ETBE)	ND	500	420		10	84	70-130	05/20/2020 0325
Methyl tertiary butyl ether (MTBE)	87	500	520		10	87	70-130	05/20/2020 0325
Naphthalene	290	500	740		10	90	70-130	05/20/2020 0325
tert-butyl alcohol (TBA)	210	10000	9700		10	95	70-130	05/20/2020 0325
Toluene	4.1	500	490		10	97	70-130	05/20/2020 0325
Xylenes (total)	100	1000	1100		10	95	70-130	05/20/2020 0325

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		80	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		95	70-130

Volatile Organic Compounds by GC/MS - MSD

Sample ID: VE15050-001MD
Batch: 54424
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	10000	8600		10	85	0.37	70-130	20	05/20/2020 0347
tert-Amyl methyl ether (TAME)	ND	500	460		10	93	1.4	70-130	20	05/20/2020 0347
Benzene	41	500	530		10	97	0.56	70-130	20	05/20/2020 0347
tert-Butyl formate (TBF)	ND	2500	500	N	10	20	13	70-130	20	05/20/2020 0347
1,2-Dichloroethane	ND	500	420		10	84	1.3	70-130	20	05/20/2020 0347
Diisopropyl ether (IPE)	ND	500	490		10	97	0.61	70-130	20	05/20/2020 0347
3,3-Dimethyl-1-butanol	ND	10000	9200		10	92	1.2	70-130	20	05/20/2020 0347
Ethanol	ND	50000	42000		10	84	5.3	70-130	20	05/20/2020 0347
Ethylbenzene	440	500	920		10	96	0.24	70-130	20	05/20/2020 0347
Ethyl-tert-butyl ether (ETBE)	ND	500	420		10	84	0.55	70-130	20	05/20/2020 0347
Methyl tertiary butyl ether (MTBE)	87	500	510		10	84	2.8	70-130	20	05/20/2020 0347

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 - MSD

Sample ID: VE15050-001MD
Batch: 54424
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Naphthalene	290	500	780		10	97	4.6	70-130	20	05/20/2020 0347
tert-butyl alcohol (TBA)	210	10000	9700		10	95	0.063	70-130	20	05/20/2020 0347
Toluene	4.1	500	490		10	98	1.1	70-130	20	05/20/2020 0347
Xylenes (total)	100	1000	1100		10	95	0.38	70-130	20	05/20/2020 0347

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		80	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		95	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: VQ54432-001
Batch: 54432
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/19/2020 2157
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/19/2020 2157
Benzene	ND		1	1.0	0.40	ug/L	05/19/2020 2157
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/19/2020 2157
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/19/2020 2157
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/19/2020 2157
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/19/2020 2157
Ethanol	ND		1	100	52	ug/L	05/19/2020 2157
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/19/2020 2157
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/19/2020 2157
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/19/2020 2157
Naphthalene	ND		1	1.0	0.40	ug/L	05/19/2020 2157
tert-butyl alcohol (TBA)	ND		1	20	0.40	ug/L	05/19/2020 2157
Toluene	ND		1	1.0	0.40	ug/L	05/19/2020 2157
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/19/2020 2157

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		99	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 - LCS

Sample ID: VQ54432-002
Batch: 54432
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	106	70-130	05/19/2020 2054
tert-Amyl methyl ether (TAME)	50	51		1	103	70-130	05/19/2020 2054
Benzene	50	51		1	101	70-130	05/19/2020 2054
tert-Butyl formate (TBF)	250	220		1	89	70-130	05/19/2020 2054
1,2-Dichloroethane	50	50		1	100	70-130	05/19/2020 2054
Diisopropyl ether (IPE)	50	53		1	107	70-130	05/19/2020 2054
3,3-Dimethyl-1-butanol	1000	1100		1	107	70-130	05/19/2020 2054
Ethanol	5000	5000		1	100	70-130	05/19/2020 2054
Ethylbenzene	50	53		1	106	70-130	05/19/2020 2054
Ethyl-tert-butyl ether (ETBE)	50	49		1	99	70-130	05/19/2020 2054
Methyl tertiary butyl ether (MTBE)	50	48		1	96	70-130	05/19/2020 2054
Naphthalene	50	51		1	102	70-130	05/19/2020 2054
tert-butyl alcohol (TBA)	1000	1000		1	101	70-130	05/19/2020 2054
Toluene	50	52		1	104	70-130	05/19/2020 2054
Xylenes (total)	100	110		1	106	70-130	05/19/2020 2054

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		104	70-130
Bromofluorobenzene		105	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: VQ54577-001
Batch: 54577
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/20/2020 2232
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/20/2020 2232
Benzene	ND		1	1.0	0.40	ug/L	05/20/2020 2232
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/20/2020 2232
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/20/2020 2232
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/20/2020 2232
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/20/2020 2232
Ethanol	ND		1	100	52	ug/L	05/20/2020 2232
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/20/2020 2232
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/20/2020 2232
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/20/2020 2232

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: VQ54577-001
Batch: 54577
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Naphthalene	ND		1	1.0	0.40	ug/L	05/20/2020 2232
tert-butyl alcohol (TBA)	ND		1	20	0.40	ug/L	05/20/2020 2232
Toluene	ND		1	1.0	0.40	ug/L	05/20/2020 2232
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/20/2020 2232

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		99	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: VQ54577-002
Batch: 54577
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	70-130	05/20/2020 2128
tert-Amyl methyl ether (TAME)	50	49		1	98	70-130	05/20/2020 2128
Benzene	50	48		1	96	70-130	05/20/2020 2128
tert-Butyl formate (TBF)	250	210		1	85	70-130	05/20/2020 2128
1,2-Dichloroethane	50	47		1	94	70-130	05/20/2020 2128
Diisopropyl ether (IPE)	50	51		1	102	70-130	05/20/2020 2128
3,3-Dimethyl-1-butanol	1000	1000		1	100	70-130	05/20/2020 2128
Ethanol	5000	4600		1	93	70-130	05/20/2020 2128
Ethylbenzene	50	49		1	99	70-130	05/20/2020 2128
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	70-130	05/20/2020 2128
Methyl tertiary butyl ether (MTBE)	50	46		1	91	70-130	05/20/2020 2128
Naphthalene	50	50		1	99	70-130	05/20/2020 2128
tert-butyl alcohol (TBA)	1000	940		1	94	70-130	05/20/2020 2128
Toluene	50	50		1	100	70-130	05/20/2020 2128
Xylenes (total)	100	100		1	101	70-130	05/20/2020 2128

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		99	70-130
Bromofluorobenzene		100	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

EDB & DBCP by Microextraction - MB

Sample ID: VQ54457-001
Batch: 54457
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	05/20/2020 1716

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		94	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: VQ54457-002
Batch: 54457
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.23		1	90	60-140	05/20/2020 1726

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		93	57-137

EDB & DBCP by Microextraction - MB

Sample ID: VQ54458-001
Batch: 54458
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	05/20/2020 2143

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		85	57-137

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

EDB & DBCP by Microextraction - LCS

Sample ID: VQ54458-002
Batch: 54458
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.24		1	96	60-140	05/20/2020 2154

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		91	57-137

EDB & DBCP by Microextraction - MS

Sample ID: VE15050-010MS
Batch: 54458
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.23		1	97	60-140	05/20/2020 2215

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		99	57-137

EDB & DBCP by Microextraction - Duplicate

Sample ID: VE15050-011DU
Batch: 54458
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/20/2020 1313

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	ND		1	0.00	20	05/20/2020 2237

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		76	57-137

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

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 105891

Client	Report to Contact	Telephone No. / E-mail	Quote No.
QES	Don Jones	410-841-5552	

Address	Sampler's Signature	Analysis (Attach list if more space is needed)	Page 1 of 3
3340 Seabrook Island Road	X		

City	State	Zip Code	Printed Name	
Johns Island	SC	29455	Austin Smith-Jones	

Project Name	Project No.	P.O. No.
SC-015	SC-015	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Sample (G=Grab, C=Composite)	Matrix: Aqueous	Matrix: Soil	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	NaOH/ZN	Other	BTEX,MN,12DCA + OXY	EDB 8011	Remarks / Cooler I.D.
MW-1R	5/10/20	1209	G	X						5				X	X	
MW-1AR	5/10/20	1228	G	X						5				X	X	
MW 5D	5/10/20	1043	G	X						5				X	X	
MW 5DD	5/10/20	1021	G	X						5				X	X	
MW7R	5/9/20	1430	G	X						5				X	X	
MW 8	5/9/20	1457	G	X						5				X	X	
MW 9R	5/9/20	1226	G	X						5				X	X	
MW 10R	5/9/20	1035	G	X						5				X	X	
MW 11R	5/9/20	1119	G	X						5				X	X	
MW 12R	5/9/20	1245	G	X						5				X	X	

VE15050
KMN2

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	5/14/20	1500	1. Received by	5/14/20	1500
2. Relinquished by	5/15/20	1414	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by	5.15.20	1414

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 3.0 °C

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

Document Number: F-AD-133 Effective Date: 06-01-2014

PACE ANALYTICAL SERVICES, LLC

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 105892

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 3340 Seabrook Island Road	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 2 of 3
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		VE15050
Project Name: SC-015			KMNZ
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Diamond	HNO3	HNO3	HCl	NaOH	5000 NH	BTEX MN12DCA + OXY	EDB 8011	Remarks / Cooler I.D.
MW 12D	5/9/20	1205	G	X						5			X	X	
MW 13	5/9/20	1354	G	X						5			X	X	
MW 15	5/9/20	1529	G	X						5			X	X	
MW 15R	5/9/20	1550	G	X						5			X	X	
MW 16	5/9/20	1156	G	X						5			X	X	
MW 17	5/9/20	1006	G	X						5			X	X	
MW 19	5/9/20	1053	G	X						5			X	X	
MW20	5/9/20	1332	G	X						5			X	X	
MW21	5/10/20	1147	G	X						5			X	X	
RW1	5/10/20	1124	G	X						5			X	X	

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]	5/14/20	1500	1. Received by [signature]	5/14/20	1500
2. Relinquished by [signature]	5/15/20	1414	2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by [signature]	5-15-20	1414

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. 3.0 °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 105893

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 3340 Seabrook Island Rd	Sampler's Signature: [signature]	Analysis (Attach list if more space is needed)	Page 3 of 3
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		VE15050
Project Name: SC-015			
Project No.: SC-015; 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.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEXMN 12DCA + OXY	EDB 8011	Remarks / Cooler I.D.
DW1	5/10/20	1103	G	X						5			X	X	
Dup1	5/9/20	1200	G	X						5			X	X	
Dup2	5/10/20	1200	G	X						5			X	X	
FB1	5/9/20	1200	G	X						5			X	X	
FB2	5/10/20	1200	G	X						5			X	X	
TB1	5/9/20	1200	G	X						2			X		

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]	5/14/20	1500	1. Received by: [signature]	5/14/20	1500
2. Relinquished by: [signature]	5/15/20	1414	2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: [signature]	5-15-20	1414

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. 3.0 °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: MF0018C-14

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

Sample Receipt Checklist (SRC)

Client: QES Cooler Inspected by/date: EIB / 05/15/2020 Lot #: VE15050

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: NA Chlorine Strip ID: NA Tested by: NA

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

3.0 / 3.0 °C NA / NA °C NA / NA °C NA / NA °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: _____ 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 # NA

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

Sample(s) NA _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA.

Time of preservation NA. If more than one preservative is needed, please note in the comments below.

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

Samples(s) NA 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: NA

SR barcode labels applied by: JSH/ETB Date: 05/15/2020

Comments: VE15050-022/DUP1: IDS ON VIALS LISTED AS MW7R

APPENDIX G

DISPOSAL MANIFEST

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

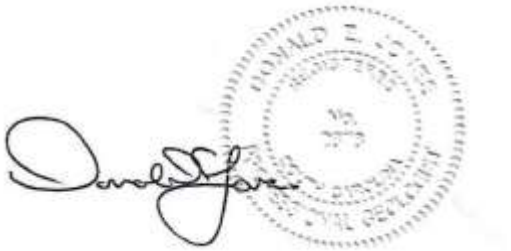
Item #	Item	Yes	No	N/A
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements 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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)		X	
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information?

Disposal manifest to be submitted upon receipt

Project Verifier:



Date: June 2, 2020

dhec
Healthy People. Healthy Communities.

JUL 16 2020

UST 1047 DOCKETING

MS CAROL BOEMMEL
CROWN CENTRAL LLC
1 NORTH CHARLES STREET
SUITE 2200
BALTIMORE MD 21201-3759

Re: **Aggressive Fluid and Vapor Recovery Notice to Proceed**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA #62002
Release reported August 15, 1989
Monitoring Report received June 11, 2020
Richland County

Dear Ms. Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the above referenced report which documents free-phase product (FPP) or Chemicals of Concern (CoC) in the subsurface as a result of the above referenced release.

In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations R.61-92, an Aggressive Fluid and Vapor Recovery (AFVR) event may proceed immediately upon receipt of this letter as outlined in this directive and the current revision of the UST Quality Assurance Program Plan (QAPP). Two (2) 96-hour AFVR events should be performed. The first event should utilize MW-5R, RW-1, and RW-2. The second event should utilize MW-5R, RW-2, and RW-3. The stingers shall be lowered at six inch intervals starting at the water table interface to a target depth of 18 feet in the MW-5R, and a target depth of 23 wells. **Please be aware that the AFVR Procedures have been updated.** Please advance to the target depth(s) within the first eight (8) hours of the event. Thereafter, the stinger(s) should be adjusted to achieve the highest vapor recovery while maintaining dewatering of the smear zone. Off-gas treatment will be necessary. A copy of the current revision of the UST Division's QAPP is available at https://scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessment-clean/quality-assurance.

As soon as the beginning date of the event has been scheduled, please contact the Project Manager listed below.

The AFVR Report should be submitted within 90 days from the date of this correspondence. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

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 is obtained from the UST Management Division. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by DHEC for the cost to be paid. DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

DHEC grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If CoC concentrations, based on laboratory analysis, are below Risk Based Screening Levels, 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 concerning this site, please reference UST Permit #07680. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,

Brad Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Annie Smith-Jones, 3340 Seabrook Island Road, Johns Island, SC 29455 (w/enc)
QES, 3340 Seabrook Island Road, Johns Island, SC 29455 (w/enc)
Technical file (w/enc)

Approved Cost Agreement 62002

Facility: 07680 SC015
BALDWIBA
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
S REPORT PROJECT MANAGEMENT						
		S	REPORT PREP & PROJ. MANAGEMENT	0.1200	$30,945.890	3,713.51
W AFVR						
		14	AFVR SITE RECONNAISSANCE	1.0000	$216.870	216.87
		16	AFVR EFFLUENT DISPOSAL	3,000.0000	$0.470	1,410.00
		17	AFVR MOB - DEMOB	2.0000	$417.730	835.46
		4	96 HOUR EVENT	2.0000	$13,409.520	26,819.04
		8	OFF GAS TREATMENT 96 HOUR	2.0000	$832.260	1,664.52
				Total Amount		34,659.40

AFVR Audit Form
Underground Storage Tank Management Division

RESULTS:
- [X] Satisfactory
- [X] Issues

Date: 9/16/2020 Project Manager: Brad Baldwin DHEC Field Staff: Malayika Vincent

Contractor: ARM Environmental ~~Services~~ Contractor Field Staff: James

Site Number: 07688 Site Name: Piggly Wiggly (currently) ; 3800 Devine Street

Time Arrived at Site: 1138 Time Leaving Site: 1155 Weather Conditions: Sunny, partly cloudy ~80°F

1. Operator on site? [X] YES [ ] NO
2. Proper safety devices employed (e.g. traffic cones, barriers, etc.)? [X] YES [ ] NO
3. Correct extraction well(s) being used? [ ] YES [ ] NO Switched?
4. Vacuum gauge(s) installed on extraction well(s)? [X] YES [ ] NO
5. Vacuum gauge(s) installed on adjacent monitoring well(s)? [X] YES [X] NO
6. AFVR unit connected to grounded metal object? [X] YES [ ] NO
7. Stinger(s) set at target depth(s)? [X] YES [ ] NO
8. Other extraction and monitoring well(s) sealed? [X] YES [ ] NO
9. Data recorded at appropriate time intervals? [X] YES [ ] NO (currently at 2 hrs 3 days in) Last two recorded times? [X] YES [ ] NO
10. Off-gas treatment (if applicable)? [X] YES [ ] NO



11. Complete Data Records:
- [X] Stinger Depth
- [X] Airflow Rate/Velocity
- [X] Vacuum Readings for Extraction Well(s)
- [X] Vacuum Readings for Adjacent Monitoring Well(s)
- [X] Water Level Measurement for Adjacent Monitoring Well(s)
- [X] Pre-treatment Vapor Concentration Measurements
- [X] Post-treatment Vapor Concentration Measurements

Signature: _____ Date: 9/16/2020

Notes: RW-3, 5R, RW-2 -> okay for now, let PM know if swapping events
Arrived onsite at 1138, James was onsite w/ traffic cones
in the parking lot. We went through the data sheets, they are
currently on day 3 of this event so the readings were taken
at 2 hr. intervals. Looked back through records for Monday

Notes (continued): and Tuesday, to check if readings were taken every 30 minutes the first day and every hour the subsequent days up to 2hr intervals. When we pulled away, James was starting to take water level measurements for two adjacent wells.

- Stingers are now all at 23 feet
- vacuum gauge needs to be attached (magnehelic) for the duration of the event, not just when measurement is recorded to the adjacent monitoring wells.

* Please keep your UST PM in the loop if you change up well order for events.

UST AFVR AUDIT FORM

- Purpose of the form is to record information gathered during an audit of AFVR events.
- DHEC UST Project Managers and Field Staff.
- Item-by-item instructions for completing the form.
  - Fill in all Site Information boxes.
  - Answer all questions and record any applicable information in the blanks.
  - Sign and date the form.
  - Record any applicable notes.
- Form is scanned and saved electronically – Record Group Number 169, Retention Schedule 13300

CD's Information

Date Received: 10/9/2020

Permit Number: 07680 —

Project Manager: Brad Baldwin

Contractor: QES

Description: 2020 AEVR Rpt

Docket Number: 10640h **Initials:** _____

Scanned by: _____

Verified by: _____

Quality Environmental Solutions, Inc.

2112 Loblolly Lane
Johns Island, SC 29455

October 6, 2020

Mr. Bradley A. Baldwin, GIT, Hydrogeologist
South Carolina Department of Health and Environmental Control
UST Management Division
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2020 AFVR Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit #07680

Dear Mr. Baldwin:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2020 AFVR Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently operated as a Long's Drugstore; the underground storage tanks associated with the former Crown Fast Fare fueling facility were removed in July 1991.

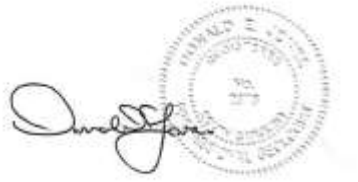
The SCDHEC Notice to Proceed (NTP) for completion of two consecutive aggressive fluid-vapor recovery (AFVR) events was issued by SCDHEC on July 16, 2020. The AFVR events were completed during the weeks of September 14 and September 21, 2020 with extraction from the three recovery wells (RW-1, RW-2 and RW-3) and monitoring well MW-5R. A previous AFVR event was completed in 2018 with extraction from the three recovery wells a few weeks following installation.

Second and third AFVR events have been completed with extraction from the three recovery wells installed in 2018 along with MW-5R. The 2018 AFVR event with extraction from the three recovery wells produced 832 gallons of impacted water with recovery of approximately 74 gallons of petroleum equivalent vapors. The equivalent product recovery during this first AFVR event was significantly higher than the 2020 AFVR recovery rates (total of 5.17 equivalent gallons), indicating that the AFVR events have reduced the residual petroleum hydrocarbon mass in the impacted soil beneath the former dispenser islands.

QES recommends completion of an additional comprehensive groundwater sampling event to evaluate the effectiveness of the AFVR event and comparison the Site-Specific Target Levels (SSTLs) established for five monitoring wells and the recovery wells.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2020 AFVR Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File: SC-015

2020 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT #07680

Submitted to:

Mr. Bradley A. Baldwin, GIT, Hydrogeologist
South Carolina Department of Health
and Environmental Control
Underground Storage Tank Management Division
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central, LLC
2112 Loblolly Lane
John island, SC 29455

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
2112 Loblolly Lane
Johns Island, SC 29455
Contractor Certification Number 461
410-841-5552

October 6, 2020

2020 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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2020 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2020 Aggressive Fluid-Vapor Recovery (AFVR) Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the completion of two consecutive 96-hour AFVR events utilizing the three recovery wells installed in 2018 (RW-1, RW-2 and RW-3) and monitoring well MW-5R.

The AFVR events were conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2016), the QES *Annual Contractor Quality Assurance Plan, Revision #2* (QES 2020) and the July 16, 2020 SCDHEC *Aggressive Fluid-Vapor Recovery Notice to Proceed and Approved Cost Agreement #62002* (SCDHEC 2020).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugstore) UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803-782-6274
Current Property Use	Long's Drugstore

The Site is currently developed with a Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline fueling facility). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a Fast Fare fueling facility at the Site which included three steel gasoline USTs. The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen AFVR events have been completed at the Site between April 2010 and July 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater contamination.
- Three recovery wells were installed at the Site in June 2018 followed by completion of a 96-hour AFVR event in July 2018.
- Site-Specific Target Levels (SSTLs) were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The Site monitoring wells were sampled in May 2020 with LNAPL detected in recovery wells RW-2 and RW-3 and monitoring well MW-5R. A follow-up AFVR event was recommended to remove the LNAPL from the recovery and monitoring wells.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 AFVR EVENTS

The July 16, 2020 SCDHEC Notice to Proceed (NTP) included completion of two consecutive 96-hour AFVR events utilizing the three recovery wells and monitoring well MW-5R. The first 96-hour event targeted mass removal from RW-2, RW-3 and MW-5R from September 14-18, 2020. The second AFVR event targeted RW-1, RW-2 and MW-5R. The AFVR sequencing was reversed from the NTP order due to the presence of LNAPL in RW-3; extraction from RW-3 was included in the first event to minimize the potential for LNAPL migration from RW-3 if extraction was occurring initially from the two other recovery wells. Vacuum pressure readings and depths to water were measured in adjacent monitoring wells MW-7R and MW-21 during the AFVR events. The locations of the target recovery wells (RW-1, RW-2 and RW-3), target monitoring well MW-5R and the adjacent monitoring wells (MW-7R and MW-21) are shown on **Figure 2B**.

The AFVR was conducted by ARM Environmental Services, Inc. (ARM) with oversight by QES. A Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute and 25 inches of mercury, with off-gas treatment through vapor-phase granular activated carbon scrubber, was utilized to complete the event. The first AFVR event commenced at 11:00 AM on September 14 and was completed at 11:00 AM on September 18, 2020. The second AFVR event commenced at 09:00 AM on September 21 and was completed at 09:00 AM on September 25, 2020.

LNAPL was present in RW-2 (2.03 feet), RW-3 (2.10 feet) and MW-5R (0.48 feet) prior to the start of the first AFVR event. LNAPL was not present in the wells at the conclusion of the AFVR event. Field notes summarizing the data collected during the AFVR event are included in Appendix A of the ARM October 5, 2020 letter report included as **Appendix X** of this report. Vacuum pressures were monitored at MW-7R and MW-21 during the first event. LNAPL was not present in RW-1, RW-2 and MW-5R prior to or at the conclusion of second AFVR event. System readings were recorded for off-gas concentrations, flow measurements, and vacuum pressure throughout each of the AFVR events.

The total volatile organic compound (VOC) concentrations measured during the first extraction event were 40,800 parts per million (PPM) at the start of the event decreasing to 2,373 PPM at the completion of the event. A total of 13.63 pounds (equivalent to 2.21 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the first 96-hour event based on the data collected throughout the event. The total VOC concentrations measured during the second AFVR event ranged from a maximum of 4,821 PPM on Day 2 to a low of 2,640 PPM on Day 3 with relatively consistent flame-ionization detector (FID) readings throughout the event. A total of 18.23 pounds (equivalent to 2.96 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the second 96-hour event based on the data collected throughout the event. The calculations used to determine the Pollutant Mass Removal are included in Appendix B of the attached ARM letter report.

Approximately 1,205.50 gallons of fluids were extracted during the first AFVR event and approximately 602 gallons during the subsequent event. The disposal manifests for the 1,807.50 gallons of petroleum-impacted groundwater generated during the AFVR event are included in **Appendix G** (the manifest includes an additional 41.5 gallons of purge water from another location). The quantity of waste fluid generated during the event was determined by weight scales before and after off-loading the storage vessel at the disposal facility.

3.0 CONCLUSION AND RECOMMENDATION

Second and third AFVR events have been completed with extraction from the three recovery wells installed in 2018 along with MW-5R. The 2018 AFVR event with extraction from the three recovery wells produced 832 gallons of impacted water with recovery of approximately 74 gallons of petroleum equivalent vapors. The equivalent product recovery during this first AFVR event was significantly higher than the 2020 AFVR recovery rates (total of 5.17 equivalent gallons), indicating that the AFVR events have reduced the residual petroleum hydrocarbon mass in the impacted soil beneath the former dispenser islands.

QES recommends completion of an additional comprehensive groundwater sampling event to evaluate the effectiveness of the AFVR event and comparison the Site SSTLs established for five monitoring wells and the three recovery wells.

REFERENCES

Quality Environmental Solutions, Inc. (QES). *2017 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. December 29, 2017.

QES. *2018 Recovery Well Installation and AFVR Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. August 2, 2018.

QES. *2020 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. June 3, 2020.

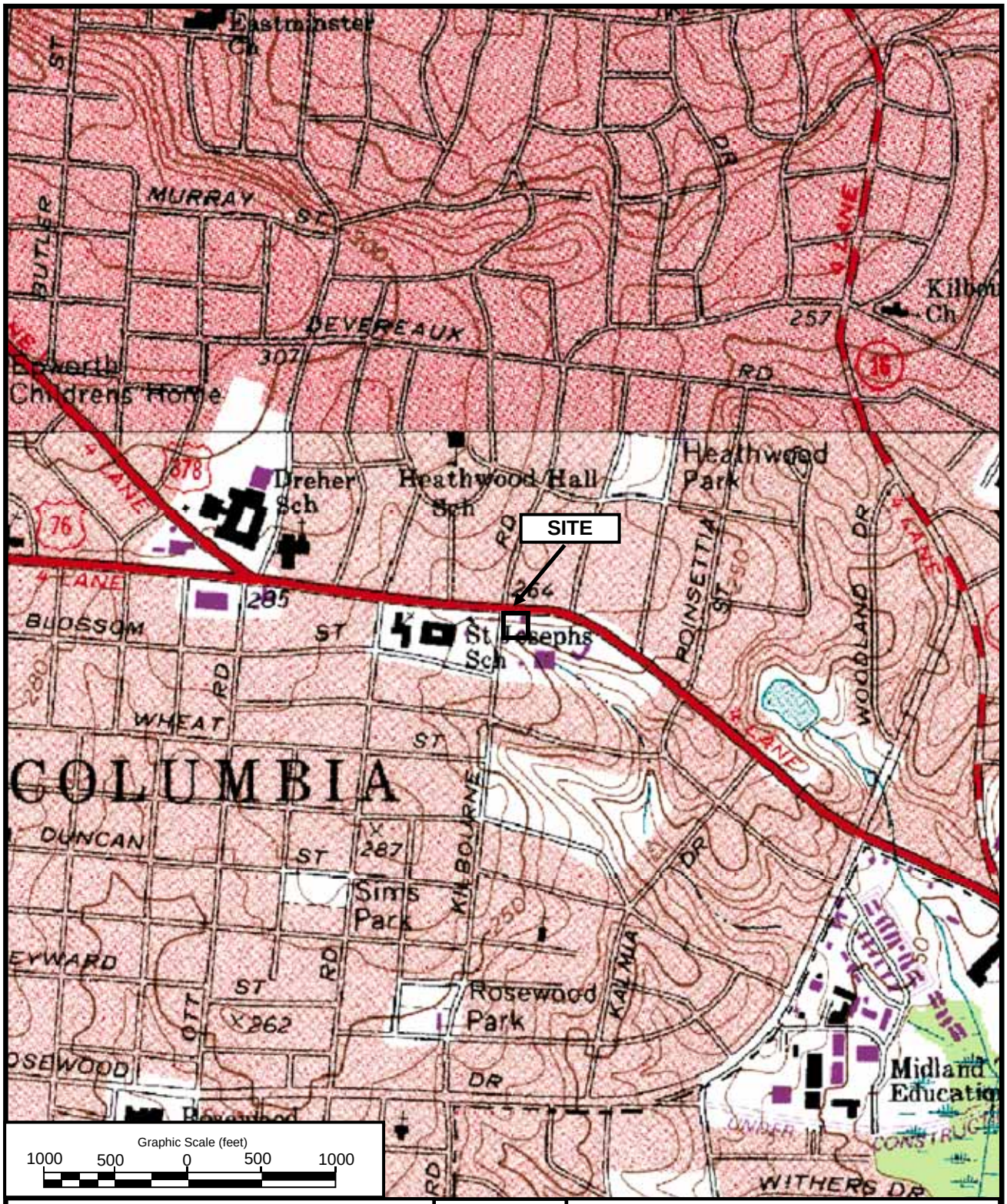
QES. *Annual Contractor Quality Assurance Plan (ACQAP), Revision #2.* August 28, 2020.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 3.1.* February 2016.

SCDHEC. *Aggressive Fluid Vapor Recovery Notice to Proceed, SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA#62002, Release reported August 15, 1989, Monitoring Report received June 11, 2020, Richland County.* July 16, 2020.

Terracon Consultants, Inc. (Terracon). *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680*. June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

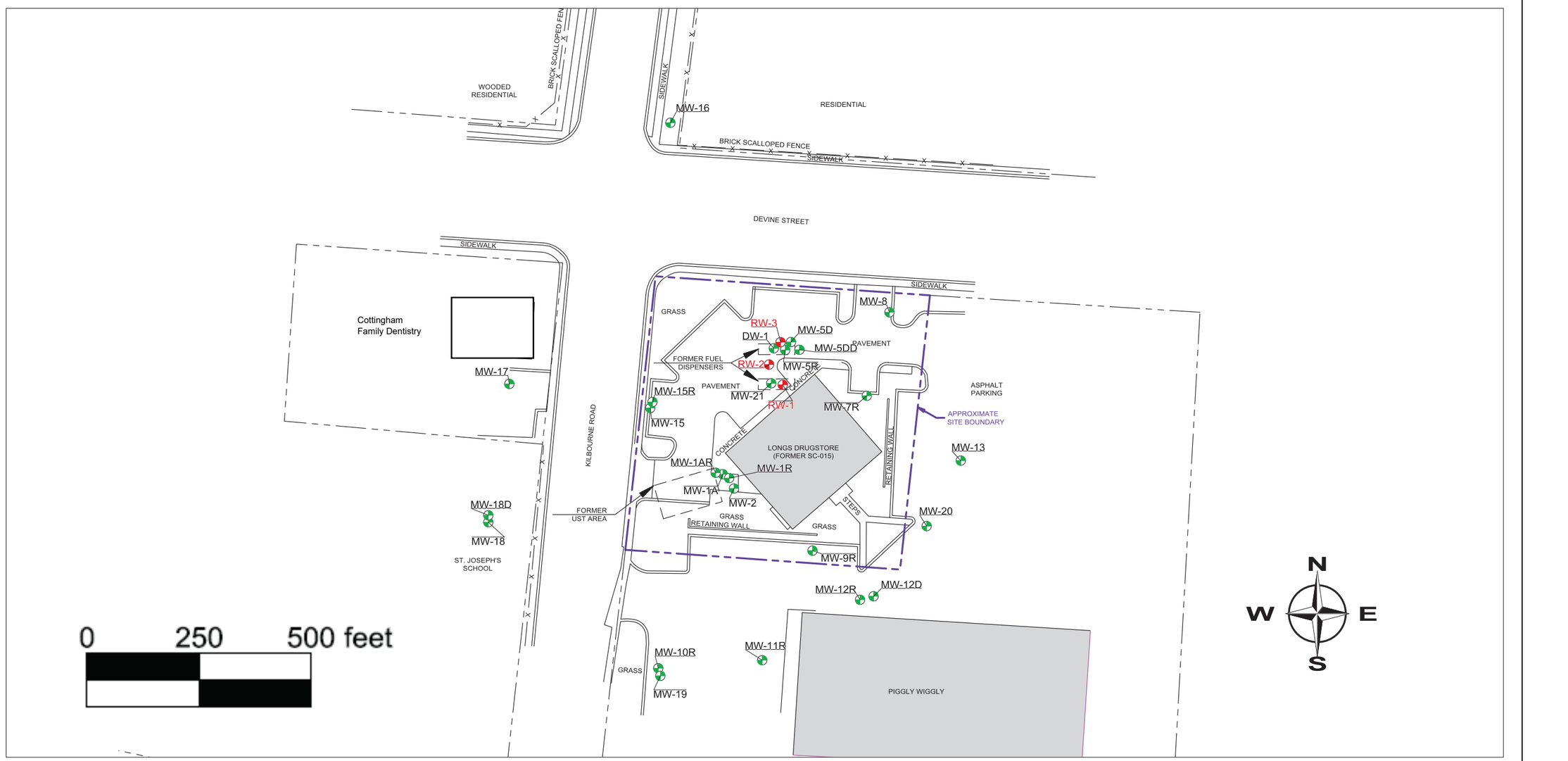
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

APPENDIX G

DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 2581

2. Page 1 of

3. Generator's Name and Mailing Address
Crown SC 015
3800 Devine St.
Columbia, S.C

25-3011.2-20

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK Tank Services
425 Boulevard Rd

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	1,247	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

Includes 41.5 gallons of purge water from Crown SC-517, Pacolet UST Permit #08466

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Billy Pittenger Agent for Crown SC 015
Signature: Billy Pittenger
Date: Month 9 Day 18 Year 20

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger
Signature: Billy Pittenger
Date: Month 9 Day 18 Year 20

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson
Signature: Jasmine Anderson
Date: Month 9 Day 18 Year 20

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 2582

2. Page 1 of

3. Generator's Name and Mailing Address
Crown - SC 015
3800 Devine St.
Columbia, S.C

25-3011.2-20

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK Tank Services
425 Boulevard Rd
Sumter, S.C

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	602	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

SC 015

Printed/Typed Name: Billy Pittenger Agent for Crown | Signature: Billy Pittenger | Date: Month 9 Day 25 Year 20

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date: Month 9 Day 25 Year 20

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmeni Andrew | Signature: Jasmeni Andrew | Date: Month 9 Day 25 Year 20

NON-HAZARDOUS WASTE

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

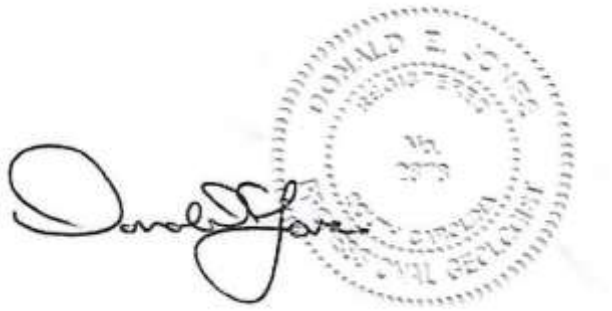
Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			X
45	Is the laboratory performing the analyses properly certified?			X
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)	X		
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information? N/A

Project Verifier:



Date: October 5, 2020

APPENDIX X

ARM AFVR REPORT

ARM ENVIRONMENTAL SERVICES, INC.
ASSESSMENT & REMEDIAL SERVICES armenv.com

October 5, 2020

Donald E. Jones, CPG
Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455

Re: Former Crown SC-015
96-Hour AFVR Event Report
3800 Devine Street
Columbia, Richland County, South Carolina
UST Permit #07680; CA #62002
ARM Project #25-3011.2-20

Dear Mr. Jones;

ARM Environmental Services, Inc. (ARM) has completed the 96-hour Aggressive Fluid Vapor Recovery (AFVR) events at the above-referenced site located in Richland County, South Carolina. The pertinent information regarding the AFVRs is presented on the following pages and in the appendices of this document.

The first 96-hour AFVR event was conducted on monitoring wells MW-5R, RW-2, and RW-3. The second 96-hour AFVR event was conducted on monitoring wells MW-5R, RW-1, and RW-2. Based on gauging of the fluids level upon completion of each AFVR, it appears that no free product was present above the groundwater at the site at the time of completion of the AFVR events.

If you should have any questions regarding the results of this assessment, or should you need additional information, please do not hesitate to contact our office.

Sincerely,
ARM Environmental Services, Inc.

Michele McLeod
Project Scientist

Michael L. Faris, P.G.
Senior Geologist

AFVR 1 of 2

ARM personnel mobilized to the Former Crown SC-015 site on September 14, 2020. Ambient air temperature was 60° - 80°F and the general weather conditions were primarily rainy. The depths to product and water were measured and recorded for monitoring wells MW-5R, RW-2, and RW-3 prior to and subsequent to the event. Approximately 0.48 foot, 2.03 feet, and 2.10 feet of free product were measured in MW-5R, RW-2, and RW-3, respectively, prior to stinger placement into each well.

The AFVR was conducted by ARM utilizing a Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute (CFM) at 25 inches of mercury, with off-gas treatment through a vapor-phase granular activated carbon scrubber. Vacuuming began at 11:00 on September 14, 2020 and ended at 11:00 on September 18, 2020. At cessation of the 96-hour AFVR event, no appreciable thickness of free product was present in the wells. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 1,247 gallons of petroleum contact water and a trace/sheen of free product were removed from the referenced wells during the event.

AFVR 2 of 2

ARM personnel remobilized to the Former Crown SC-015 site on September 21, 2020. Ambient air temperature was 68° - 78°F and the general weather conditions were primarily sunny. The depths to product and water were measured and recorded for monitoring wells MW-5R, RW-1, and RW-2 prior to and subsequent to the event. No free product was measured in any of the wells prior to stinger placement into each well.

The AFVR was conducted by ARM utilizing a Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute (CFM) at 25 inches of mercury, with off-gas treatment through a vapor-phase granular activated carbon scrubber. Vacuuming began at 09:00 on September 21, 2020 and ended at 09:00 on September 25, 2020. At cessation of the 96-hour AFVR event, no appreciable thickness of free product was present in the wells. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 602 gallons of petroleum contact water were removed from the referenced wells during the event.

Pollutant Mass Removal

Weights of 13.63 pounds (a volume of 2.21 gallons) and 18.23 pounds (a volume of 2.96 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) were removed during the 96-hour events based on the data collected during the AFVRs. The equations, variables, and calculations used to determine the pollutant mass removals are included in Appendix B.

Disposal

Disposal manifests for the 1,849 gallons of petroleum contact water and trace/sheen of free product generated during the events are included in Appendix C.

The quantity of waste fluids generated during the AFVRs is determined either by weigh scales before and after offloading the tank at the disposal facility or by gauging the tank with a tank gauging stick (some disposal facilities do not use weigh tickets). When used, the gauging stick is labeled in 8th-inch increments and is designed to gauge the quantity of fluids in a tank. The tank stick is inserted to the bottom of the tank and the measurement is recorded on a field data sheet. The measurement is then compared to a tank chart specific to the vacuum truck tank and the volume is recorded. Weigh tickets and / or tank stick measurements are included in Appendix C.

APPENDICES

A. Aggressive Fluid/Vapor Recovery (AFVR) Data Sheets
B. AFVR Mass Removal Calculations
C. Disposal Manifest(s)

APPENDIX A

Aggressive Fluid/Vapor Recovery (AFVR) Data Sheets

ARM ENVIRONMENTAL SERVICES, INC.

AFVR – OVA Field Calibration Sheet

[Page 1 of 1]

Site Name: CROWN SC 015 Location: 3800 DEVINE ST COLUMBIA SC

AFVR Contractor: ARM Personnel: JAMES, KHALIL

(check one) Thermo TVA-1000B Flame Ionization Detector ____ Rae Systems Mini Rae 3000 Photo Ionization Detector____

Date	Time	Zero Air	100 PPM Isobutylene	500 PPM Methane	Post-Calibration Zero Air Reading	Post Calibration Gas Standard Reading
9-14-20	07:30	✓		✓	.61	499
	16:00	✓		✓	1.12	502
9-15-20	08:00	✓		✓	.74	499
	16:00	✓		✓	.98	500
9-16-20	07:00	✓		✓	.72	499
	15:00	✓		✓	1.13	503
9 17-20	08:00	✓		✓	.61	500
9-18-20	08:00	✓		✓	77	480

ARM ENVIRONMENTAL SERVICES, INC.

96-hr. AFVR - Field Notes

[Page 1 of 12]

Site Name: Crown SC 015 Location: 3800 Devine St. Columbia, S.C

AFVR Contractor: ARM Personnel: Billy James, Khalil

Date: 9-14-18-20 Ambient Air Temperature and General Weather Condition: periods of rain, 60°-80°

Start Time 1: 11:00 9-14-20 Stop Time 1: 11:00 9-18-20 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 96-hour AFVR Event: 1,247 gallons

Total volume of product removed during the 96-hour AFVR Event: trace/sheen product

Product / Water Recovery Rate: 0.22 gallons/min

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
RW-2	15.13	17.16	NM	23.0	445	
MW-5R	15.17	15.65	NM	17.15	457	
RW-3	15.80	17.90	NM	22.85	345	

N/M – Not Measurable (not detected)

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 12]

Monday 9-14

Time	MW- RW-2 Vacuum at Targeted Well (in. Hg)	MW- 5R Vacuum at Targeted Well (in. Hg)	MW- RW-3 Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
11:00	8	8	8				
11:30	8	6	8				
12:00	8	4	8				
12:30	8	4	10				
13:00	8	4	9				
13:30	8	4	8				
14:00	7	4	8				
14:30	7	4	8				
15:00	7	4	8				
15:30	21	3	9				
16:00	21	3	9				
16:30	21	3	9				
17:00	21	2	9				
17:30	21	2	9				
18:00	21	2	9				
18:30	21	2	9				
19:00	20	2	9				
20:00	20	4	8				
21:00	18	5	8				
22:00	18	5	9				
23:00	18	5	8				
24:00	18	5	9				

Vacuum at Pump: 16-18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 12]

	Time	MW-RW-2 Vacuum at Targeted Well (in. Hg)	MW-5R Vacuum at Targeted Well (in. Hg)	MW-RW-3 Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
Tuesday 9-15	08:00	22	9	9				
	09:00	22	9	9				
	10:00	22	9	9				
	11:00	22	8	9				
	13:00	20	9	9				
	15:00	19	9	9				
	17:00	18	12	8				
	19:00	20	6	7				
	21:00	20	7	8				
	23:00	19	6	8				
	24:00	20	6	8				
Wednesday 9-16	08:00	22	5	9				
	10:00	22	5	8				
	12:00	21	5	9				
	16:00	21	5	9				
	18:00	20	5	9				
	20:00	21	5	8				
	22:00	20	5	9				
	24:00	20	5	9				
	14:00	21	5	8				

Vacuum at Pump: 17

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 12]

		MW- RW2	MW- 5R	MW- RW-3	MW-	MW-	MW-	MW-
	Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
9-17 THURSDAY	08:00	17	5	7				
	09:00	17	5	7				
	10:00	17	5	7				
	11:00	17	5	7				
	13:00	7	3	6				
	15:00	7	3	7				
	17:00	7	0	7				
	19:00	6	0	7				
	21:00	6	0	7				
	23:00	6	0	7				
	24:00	6	0	7				
9-18 FRI DAY	08:00	5	0	4				
	10:00							
	11:00	5	0	5				

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes

[Page 5 of 12]

	Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW- RW3		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
11:00	15.25		15.0		16.0			
11:30	15.75		15.5		16.5			
12:00	16.25		16.0		17.0			
12:30								
13:00	17.25		17.0		18.0			
13:30								
14:00	18.25		18.0		19.0			
14:30								
15:00	19.25		19.0		20.0			
15:30								
16:00	20.25		20.0		21.0			
16:30								
17:00	21.25		21.0		22.0			
17:30								
18:00	22.25		22.0		23.0			
18:30								
19:00	23.0		23.0		23.0			

9-14 (MON)

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 5 of 12]

		Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW- RW3		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
9-15 TUESDAY	8:00	23"		23"		23"			
	24:00	23"		23"		23"			
9-16 WEDNESDAY	8:00	23		23		23			
	24:00	23		23		23			

Vacuum at Pump: 19/17

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 7 of 12]

		Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW- RW3		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
THURSDAY - 9-17	8:00	23		18		23			
	24:00	23		18		23			
FRIDAY 9-18	8:00	23		18		23			
	10:00	23		18		23			
	11:00	23		18		23			

Vacuum at Pump: 19 / 17

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 8 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- 21		MW- 7R		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
11.00	15.24	.02942						
11:30								
12:00	15.24	.02942	15.85	.01471				
12:30	15.28	~~.036675~~	15.85					
13:00	15.32	.036675	15.85					
13:30	15.38	" "	15.65					
14:00	15.41		15.65					
14:30	15.47	" "	15.65	.01471				
15:00	15.5	.04413	15.65	.022065				
15:30	15.5	.022065	15.65	.01471				
16:00	15.5		15.65	.01471				
16:30	15.5		15.65	.01471				
17:00	15.5		15.65	.007355				
17:30	15.5		15.5					
18:00	15.5		15.5					
18:30	15.5		15.5					
19:00	15.5		15.5					
19:30	15.5		15.5					
20:00	15.5		15.5					
20:00	15.5		15.5					
22:00	15.5		15.5					
23:00	15.5		15.5					
24:00	15.5	.022065	15.5	.007355				

MON 9-14

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 9 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- 21		MW- 7R		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
TUESDAY 9-15	08:00	15.5	.022065	15.8	.007355				
	09:00	16.0	.022065	15.8	.022065				
	10:00	16.1	0	15.6	0				
	11:00	16.1	0	15.9	0				
	13:00	16.1	0	16.8	0				
	15:00	16.1	.036775	15.8	.036775				
	17:00	16.2	"	15.8	.022065				
	19:00	16.2	"	15.8	0				
	21:00	16.2	"	15.8	0				
	23:00	16.3	"	15.9	0				
	24:00	16.3	.036775	15.9	0				
WED 9-16	08:00	16.2	022065	15.9	.01471				
	09:00								
	10:00	16.2	.02942	15.8	.022065				
	11:00		"		"				
	13:00	16.2	"	15.9	"				
	15:00	16.2	"	15.8	"				
	17:00	16.2	"	15.8	"				
	19:00	16.2	"	15.8	"				
	21:00	16.2	"	15.8	"				
	23:00	16.2	"	15.8	"				
	24:00	16.2	.02942	15.8	.022065				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 10 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW-21		MW-7R		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
THURSDAY 9-17	08:00	16.2	.01471	15.8	.01471				
	10:00	16.2	"	15.8	"				
	12:00	16.2	"	15.8	"				
	14:00	16.2	"	15.8	"				
	16:00	16.2	"	15.8	"				
	18:00	16.2	"	15.8	"				
	20:00	16.2	"	15.8	"				
	22:00	16.2	"	15.8	"				
	24:00	16.2	.01471	15.8	.01471				
FRIDAY 9-18	8:00	16.1	.036775	15.3	.01471				
	10:00	16.1	"	"	"				
	11:00	16.1	.036775	15.3	.01471				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 11 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
11:00	40,800	640	98	1900	59.4	56.2	
11:30	28,100	624	97	1844	59.0	56.0	
12:00	14,800	640	95	1921	59.6	57.4	
12:30	10,600	652	93	1888	59.8	58.0	
13:00	4682	682	85	1832	59.8	58.4	
13:30	2664	523	95	1824	59.8	56.6	
14:00	2840	545	81	1882	59.9	54.4	
14:30	1888	426	78	1981	59.8	52.1	
15:00	5440	489	91	1738	58.7	52.5	
16:30	4745	476	90	1056	52.1	62.4	
16:00	4643	516	98	967	52.3	54.3	
16:30	4640	525	89	967	53.5	54.8	
17:00	4621	581	88	1098	50.5	63	
17:30	4592	423	91	1088	50.3	63	
18:00	4611	459	91	1133	51.3	64.1	
18:30	4047	472	89	927	45.3	65.3	
19:00	4308	435	90	989	51.2	64.1	
20:00	3984	476	89	1112	50.9	64.1	
21:00	4127	515	88	1289	51.3	63.0	
22:00	4567	520	89	974	54.5	65.1	
23:00	4333	482	89	998	51.8	64.3	
24:00	5002	438	92	1146	52.1	64	

9-14 MON

12A

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 12 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
08:00	1922	223	89	1016	44.9	93.8	
09:00	2147	241	89	1285	44.3	76.4	
10:00	3993	245	94	920	46.2	93.2	
11:00	2600	258	91	1092	47.2	91.6	
13:00	2535	263	90	1409	49.3	71.3	
15:00	2496	271	90	1400	48.1	73.1	
17:00	3027	273	91	1389	49	61.3	
19:00	3268	277	92	1393	49.1	61.8	
21:00	2986	288	91	1415	50.5	78.6	
23:00	3005	231	93	1264	49.3	70.1	
24:00	3108	271	92	1348	48.9	68.4	
08:00	2682	231	92	1262	42.4	89.7	
09:00	2534	239	92	1282	46.8	79.1	
10:00	3181	240	93	1164	49.4	82.4	
11:00	2649	242	91	1113	47.8	63.8	
13:00	3184	242	91	1059	43.2	60.1	
15:00	2932	249	92	1043	47.3	61.3	
17:00	2953	251	92	1104	45.1	66.4	
19:00	3201	253	93	1068	44.3	64.7	
21:00	3027	271	92	1253	47.4	69.2	
23:00	2981	288	91	1191	49.3	63.3	
24:00	2923	289	91	1231	44.1	62.1	

TUESDAY 9-15

WED 9-16

12B

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 12 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
9-17 THURSDAY 08:00	3221	240	93	1298	41.7	93.1	
10:00	2142	241	89	1201	43.5	92.1	
12:00	2338	252	90	1548	37.3	83.4	
14:00	3142	261	92	1321	47.2	92.1	
16:00	3562	232	94	1107	45.3	80.1	
18:00	3252	258	93	1356	44.3	77.2	
20:00	3108	262	92	1408	45.3	79.7	
22:00	3235	271	92	1379	44.8	80.6	
24:00	3335	277	92	1365	43.9	85.6	
9-18 FRIDAY 08:00	2496	191	93	1052	40	81.6	
10:00	2373	202	92	1132	42.9	82.3	
11:00	2373	231	91	1132	42.9	82.3	

ARM ENVIRONMENTAL SERVICES, INC.

AFVR – OVA Field Calibration Sheet

[Page 1 of 1]

Site Name: CROWN SC 015 Location: 3800 DEVINE ST COLUMBIA SC

AFVR Contractor: ARM Personnel: JAMES GANTT, KHALIL

(check one) Thermo TVA-1000B Flame Ionization Detector ____ Rae Systems Mini Rae 3000 Photo Ionization Detector____

Date	Time	Zero Air	100 PPM Isobutylene	500 PPM Methane	Post-Calibration Zero Air Reading	Post Calibration Gas Standard Reading
9-21-2020	07:00	✓		✓	.61	501
9-21-2020	1500	✓		✓	.73	498
9-22-2020	07:00	✓		✓	1.01	502
9-22-2020	16:00	✓		✓	.82	500
9-23-2020	07:00	✓		✓	.05	499
9-23-2020	15:00	✓		✓	.6	501
9-24-2020	07:00	✓		✓	.71	498
9-24-2020	15:00	✓		✓	.3	489
9-25-2020	07:00	✓		✓	.61	500
9-25-2020	15:00	✓		✓	.3	489
				✓	.	
				✓		

ARM ENVIRONMENTAL SERVICES, INC.

96-hr. AFVR - Field Notes

[Page 1 of 12]

Site Name: Crown SC 015 Location: 3800 Devine St Columbia SC

AFVR Contractor: ARM Personnel: James Gantt Khalil

Date: 9-21-2020 Ambient Air Temperature and General Weather Condition: 68°-78 sunny

Start Time 1: 09:00 9-21-20 Stop Time 1: 09:00 9-25-20 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 96-hour AFVR Event: 602 gallons

Total volume of product removed during the 96-hour AFVR Event: NM

Product / Water Recovery Rate: .10 gallons/min ~~PM~~

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
RW-1	NM	15.71	NM	20.3	200	
RW-2	NM	15.66	NM	18.8	241	
MW-5R	NM	15.19	NM	18.1	161	

N/M – Not Measurable (not detected)

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 12]

9-1-2020 MONDAY

Time	MW- RW1 Vacuum at Targeted Well (in. Hg)	MW- RW2 Vacuum at Targeted Well (in. Hg)	MW- 5R Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
09:00	3	5	12				
09:30	5	7	12				
10:00	5	5	12				
10:30	5	5	12				
11:00	5	5	10				
11:30	5	5	10				
12:00	9	12	8				
12:30	12	17	8				
13:00	18	20	8				
13:30	9	19	9				
14:00	13	17	9				
14:30	15	17	8				
15:00	17	20	8				
15:30	18	20	8				
16:00	18	18	8				
16:30	18	14	8				
19:00	17	18	10				
19:00	17	18	10				
20:00	17	18	10				
21:00	17	18	10				
22:00	17	18	10				
23:00	17	18	10				
24:00	17	18	10				

Vacuum at Pump: 19

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 12]

		MW- RW1	MW- RW2	MW- 5R	MW-	MW-	MW-	MW-
	Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
9-22-2020 TUESDAY	08:00	2	13	10				
	09:00	3	14	10				
	10:00	3	14	8				
	12:00	3	17	9				
	14:00	3	14	5				
	16:00	3	7	5				
	18:00	4	8	7				
	20:00	4	8	7				
	22:00	3	9	6				
	24:00	3	8	6				
9-23-2020 WEDNESDAY	08:00	4	6	8				
	10:00	5	18	13				
	12:00	15	17	8				
	14:00	15	17	8				
	16:00	15	17	8				
	18:00	13	12	8				
	20:00	13	12	8				
	22:00	14	13	8				
	24:00	14	12	8				

Vacuum at Pump: 17

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 12]

	MW- RW1	MW- RW2	MW- 5R	MW-	MW-	MW-	MW-
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
THURSDAY 9-24-2020							
08:00	3	15	9				
10:00	16	15	7				
12:00	18	18	7				
14:00	18	18	7				
16:00	17	17	7				
18:00	17	16	8				
20:00	18	15	7				
22:00	18	15	7				
24:00	17	16	8				
FRIDAY 9-25-2020							
08:00	5	14	10				
09:00	5	13	8				

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 5 of 12]

MONDAY 9-21-2020

	Stinger Placement: MW- RW1		Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
09:00	16		16.0		16.0			
09:30	16.5		16.5		16.5			
10:00	17.0		17.0		17.0			
10:30	17.5		17.5		17.5			
11:00	18.0		18.0		18.0			
11:30	18.5		18.5		↓			
12:00	19.0		19.0					
1230	19.5		19.5					
13:00	20.0		20.0					
13:30	20.5		20.5					
14:00	~~24~~.0		21.0					
14:30	21.5		21.5					
15:00	22.0		22.0					
15:30	22.5		22.5					
16:00	23.0		23.0					
16:30	23.0		23.0					
17:00	23.0		23.0					
19:00	23.0		23.0		18.0			
20:00	↓		↓		↓			
21:00								
22:00								
23:00								
24:00								

Vacuum at Pump: 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 6 of 12]

		Stinger Placement: MW- RW1		Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
TUESDAY 9-22-2020	08:00	23		23		18			
	09:00	23		23		18			
	10:00	23		23		18			
	12:00	23		23		18			
	14:00	23		23		18			
	16:00	23		23		18			
	18:00	23		23		18			
	20:00	23		23		18			
	22:00	23		23		18			
	24:00	23		23		18			
WEDNESDAY 9-23-2020	8:00	23		23		18			
	10:00	23		23		18			
	12:00	25		25		20			
	14:00	25		25		20			
	16:00	25		25		20			
	18:00	23		23		18			
	20:00	23		23		18			
	22:00	23		23		18			
	24:00	23		23		18			

Vacuum at Pump: 17

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 7 of 12]

		Stinger Placement: MW- RW1		Stinger Placement: MW- RW2		Stinger Placement: MW- 5R		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
THURSDAY 9-24-2020	08:00	23		23		18			
	10:00	20		20		18			
	12:00	20		20		16			
	14:00	23		23		16			
	16:00	23		23		14			
	18:00	20		20		44			
	20:00	20		20		18			
	22:00	23		23		18			
	24:00	23		23		18			
FRIDAY 9-25-2020	08:00	23		23		18			
	09:00	23		23		18			

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 8 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

MONDAY 9-21-2020

Time	MW- RW3		MW- M21		MW- M7R		MW-	
	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
09:00	.02	0	16.2	0.01471	15.9	0.01471		
09:30	.01		16.2					
10:00	0		16.2					
10:30	0		16.2					
11:00			16.2					
11:30			16.2					
12:00			16.2					
12:30			16.2					
13:00			16.2					
13:30			16.2					
14:00			16.2		15.9			
14:30			16.2		15.9			
15:00			16.2		15.9			
15:30			16.2		15.9			
16:00			16.2		15.9			
16:30			16.2		15.9			
17:00			15.8		14.8			
19:00			15.8	0.01471	14.8	0.0147		
20:00			15.8		14.8			
21:00			15.8		14.8			
22:00			15.8		14.8			
23:00			15.8		14.8			
24:00	0	0	15.8		14.8	0.0147		

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 9 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- RW3		MW- M21		MW- RW7R		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
TUESDAY 9-22-2020	08:00	0	0	15.9	.13239	15.8	.022065		
	09:00			15.9	.022065	15.8	.01471		
	10:00			15.9	.022065	15.8	.01471		
	12:00			15.9	.022065	15.8	.01471		
	14:00			15.8	.110325	14.8	.022065		
	16:00			15.7	.110325	14.8	.02942		
	18:00			15.8	.110325	14.8	.02942		
	20:00			15.8	.007355	14.8	.02942		
	22:00			15.8	.007355	14.8	.036775		
	24:00	0	0	15.8	.007355	14.8	.036775		
WEDNESDAY 9-23-2020	08:00	0	0	15.75	.007355	14.85	.007355		
	10:00								
	12:00								
	14:00								
	16:00								
	18:00								
	20:00								
	22:00								
	24:00	0	0	15.75	.007355	14.85	.007355		

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 10 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- RW3		MW- M21		MW- RW 7R		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
9-24-2020	08:00	0		15.8	.01471	14.85	.01471		
	~~09~~:00	0		15.8	.01471	14.85	.01471		
12:60	~~10:00~~	0		15.8	.01471	14.85	.01471		
	14:00	0		15.8	.007355	14.85	.01471		
	16:00	0		15.8	.007355	14.85	.01471		
THURSDAY	18:00	0		15.8	.007355	14.85	.01471		
	20:00	0		15.8	.01471	14.85	.01471		
	22:00	0		15.8	.01471	14.85	.01471		
	24:00	0		15.8	.01471	14.85	.01471		
9-25-2020	08:00	0		15.8	.007355	14.8	.01471		
FRIDAY	09:00	0		15.8	.007355	14.8	.01471		

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 11 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
09:00	4017	2	99	1262	52.2	58.7	
09:30	3201	2	99	1293	52.3	60.1	
10:00	3172	3	99	1421	54.1	58.7	
10:30	3812	5	99	1411	49.3	61.3	
11:00	3919	5	99	1301	49.71	72.4	
11:30	3234	8	99	1372	42.44	70.5	
12:00	3742	8	99	1569	40.69	80.6	
12:30	4137	8	99	1189	44.6	56.3	
13:00	4721	11	99	1225	42.1	58.2	
13:30	4238	16	99	1047	46.9	89.6	
14:00	4129	20	99	983	45.8	88.7	
14:30	3958	22	99	844	42.7	83.1	
15:00	3421	26	99	901	47.67	81.1	
15:30	3816	29	99	891	46.42	82.8	
16:00	4128	36	99	1046	43.8	81.2	
16:30	4624	39	99	1123	43.6	82.2	
17:00	4127	48	99	972	44.1	92.0	
19:00	4312	52	99	818	43.2	92.2	
21:00	4208	58	99	989	45.3	91.3	
23:00	3878	66	98	1124	42.9	89.7	
24:00	4007	74	98	1082	41.8	93.9	
08:00	3638	121	97	2288	46.1	32.8	
09:00	4821	126	97	997	40.6	78.5	
10:00	4321	138	96	1202	44.2	75.1	
12:00	3862	149	96	1175	46.1	80.2	
14:00	4123	161	96	1410	47.1	59.3	
16:00	4422	181	9	1745	42.8	89.6	
18:00	3812	203	95	1604	48.4	48.8	

9-21 MONDAY

9-22-2025 TUESDAY

96-hr. Aggressive Fluid/Vapor Recovery Notes

	Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
TUES 9-22-2020	20:00	3784	222	95	1807	45.4	72.8	
	22:00	4040	241	95	1943	44.3	85.3	
	24:00	4238	263	94	2001	44.5	87.6	
WEDNESDAY 9-23-2020	08:00	3943	403	90	2338	45.9	42.3	
	10:00	2663	422	85	967	39.1	92.1	
	12:00	4321	445	90	1260	41.4	90.6	
	14:00	4038	403	89	893	49.6	60.6	
	16:00	2640	491	82	1391	43.9	62.5	
	18:00	3232	522	84	1101	44.3	71.3	
	20:00	3582	552	85	1472	45.1	72.7	
	22:00	3981	564	86	1081	45.1	69.6	
	24:00	4091	591	86	989	43.6	75.1	
THURSDAY 9-24-2020	08:00	3862	3	99	1747	42.7	62.4	
	10:00	2893	3	99	845	43.7	92.3	
	12:00	3212	6	99	1035	43.8	91.7	
	14:00	3416	9	99	964	44.7	92.2	
	16:00	3101	11	99	1101	43.9	90.1	
	18:00	3508	13	99	1248	42.7	89.9	
	20:00	3801	16	99	1306	43.5	93.4	
	22:00	3008	19	99	1131	40.3	95.7	
	24:00	2987	24	99	1261	39.4	97.6	
FRIDAY 9-25-2020	08:00	2823	61	97	1278	43.2	87.3	
	09:00	3123	79	97	1321	40.1	80.2	

APPENDIX B

AFVR Mass Removal Calculations

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Q_{std} = (60 sec/min) (1-B_{ws}) (V) (A) (528° R / T_s)

B_{wsw} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

= (B_{wsw} / 18 lb-mole H_2O) / [1/28.84 lb-mole dry air) + (B_{wsw} / 18 lb-mole H_2O)]

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft^2 of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

R° = (C° + 273.15) x 9/5

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

PMR = PMR_c (# of minutes / 60)

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

= C_c (Q_{std}) (60 min/hr)

C_c = $C_{c:m}$ (62.43 x 10^{-9} lb-m^3/mg-ft^3)

$C_{c:m}$ = mg/dsm^3 - mass concentration of TGNMO emissions

= PPM_c (M_c / K_4)

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

= (PPM_{meas}) (K) = PPM_v

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - K=1, propane - K=3, isobutylene - K=4, hexane - K=6

K_4 = 24.07 $dsm^3/10^6$ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dcsf - mass concentration of TGNMO emissions sa carbon, dry basis, at standard temperature and pressure

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
9/14/2020	11:00	59.4	56.2	0.076	0.108	31.67	0.022	598.6	32.57
	11:30	59.0	56.0	0.074	0.106	30.73	0.022	597.9	31.74
	12:00	59.6	57.4	0.079	0.112	32.02	0.022	599.0	32.79
	12:30	59.8	58.0	0.080	0.114	31.47	0.022	599.3	32.12
	13:00	59.8	58.4	0.081	0.115	30.53	0.022	599.3	31.14
	13:30	59.8	56.6	0.078	0.111	30.40	0.022	599.3	31.13
	14:00	59.9	54.4	0.075	0.107	31.37	0.022	599.5	32.25
	14:30	59.8	52.1	0.071	0.102	33.02	0.022	599.3	34.15
	15:00	58.7	52.5	0.068	0.098	28.97	0.022	597.3	30.21
	15:30	52.1	62.4	0.058	0.085	17.60	0.022	585.5	19.01
	16:00	52.3	54.3	0.050	0.074	16.12	0.022	585.8	17.59
	16:30	53.5	54.8	0.054	0.080	16.12	0.022	588.0	17.42
	17:00	50.5	63.0	0.053	0.079	18.30	0.022	582.6	19.98
	17:30	50.3	63.0	0.053	0.078	18.13	0.022	582.2	19.83
	18:00	51.3	64.1	0.057	0.083	18.88	0.022	584.0	20.47
	18:30	45.3	65.3	0.042	0.063	15.45	0.022	573.2	17.45
	19:00	51.2	64.1	0.057	0.083	16.48	0.022	583.8	17.88
	20:00	50.9	64.1	0.056	0.082	18.53	0.022	583.3	20.15
	21:00	51.3	63.0	0.056	0.082	21.48	0.022	584.0	23.32
	22:00	54.5	65.1	0.069	0.099	16.23	0.022	589.8	17.12
	23:00	51.8	64.3	0.059	0.086	16.63	0.022	584.9	17.95
9/15/2020	0:00	52.1	64.0	0.059	0.087	19.10	0.022	585.5	20.58
	8:00	44.9	93.8	0.060	0.088	16.93	0.022	572.5	18.63
	9:00	44.3	76.4	0.047	0.070	21.42	0.022	571.4	24.08
	10:00	46.2	93.2	0.065	0.094	15.33	0.022	574.8	16.70
	11:00	47.2	91.6	0.067	0.097	18.20	0.022	576.6	19.68
	13:00	49.3	71.3	0.057	0.084	23.48	0.022	580.4	25.60
	15:00	48.1	73.1	0.055	0.081	23.33	0.022	578.3	25.61
	17:00	49.0	61.3	0.048	0.071	23.15	0.022	579.9	25.61
	19:00	49.1	61.8	0.048	0.072	23.22	0.022	580.1	25.65
	21:00	50.5	78.6	0.068	0.098	23.58	0.022	582.6	25.21
	23:00	49.3	70.1	0.056	0.083	21.07	0.022	580.4	23.00

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
9/16/2020	0:00	48.9	68.4	0.053	0.079	22.47	0.022	579.7	24.65
	8:00	42.4	89.7	0.050	0.074	21.03	0.022	568.0	23.68
	9:00	46.8	79.1	0.056	0.082	21.37	0.022	575.9	23.52
	10:00	49.4	82.4	0.067	0.098	19.40	0.022	580.6	20.83
	11:00	47.8	63.8	0.047	0.070	18.55	0.022	577.7	20.63
	13:00	43.2	60.1	0.034	0.052	17.65	0.022	569.4	20.30
	15:00	47.3	61.3	0.044	0.065	17.38	0.022	576.8	19.46
	17:00	45.1	66.4	0.042	0.063	18.40	0.022	572.9	20.78
	19:00	44.3	64.7	0.039	0.059	17.80	0.022	571.4	20.24
	21:00	47.4	69.2	0.050	0.074	20.88	0.022	577.0	23.15
	23:00	49.3	63.3	0.050	0.075	19.85	0.022	580.4	21.86
9/17/2020	0:00	44.1	62.1	0.037	0.056	20.52	0.022	571.1	23.42
	8:00	41.7	93.1	0.050	0.074	21.63	0.022	566.7	24.41
	10:00	43.5	92.1	0.055	0.081	20.02	0.022	570.0	22.30
	12:00	37.3	83.4	0.034	0.052	25.80	0.022	558.8	30.22
	14:00	47.2	92.1	0.067	0.098	22.02	0.022	576.6	23.80
	16:00	45.3	80.1	0.052	0.077	18.45	0.022	573.2	20.52
	18:00	44.3	77.2	0.047	0.070	22.60	0.022	571.4	25.39
	20:00	45.3	79.7	0.052	0.077	23.47	0.022	573.2	26.11
	22:00	44.8	80.6	0.051	0.075	22.98	0.022	572.3	25.64
9/18/2020	0:00	43.9	85.6	0.052	0.076	22.75	0.022	570.7	25.43
	8:00	40.0	81.6	0.039	0.059	17.53	0.022	563.7	20.21
	10:00	42.9	82.3	0.047	0.070	18.87	0.022	568.9	21.31
	11:00	42.9	82.3	0.047	0.070	18.87	0.022	568.9	21.31

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
9/14/2020	11:00	0	32.57	40800	40800	20358	- - -	- - -	0.00
	11:30	30	31.74	28100	28100	14021	0.00088	1.67	0.83
	12:00	30	32.79	14800	14800	7385	0.00046	0.91	0.45
	12:30	30	32.12	10600	10600	5289	0.00033	0.64	0.32
	13:00	30	31.14	4682	4682	2336	0.00015	0.27	0.14
	13:30	30	31.13	2664	2664	1329	0.00008	0.16	0.08
	14:00	30	32.25	2840	2840	1417	0.00009	0.17	0.09
	14:30	30	34.15	1998	1998	997	0.00006	0.13	0.06
	15:00	30	30.21	5440	5440	2714	0.00017	0.31	0.15
	15:30	30	19.01	4745	4745	2368	0.00015	0.17	0.08
	16:00	30	17.59	4643	4643	2317	0.00014	0.15	0.08
	16:30	30	17.42	4640	4640	2315	0.00014	0.15	0.08
	17:00	30	19.98	4621	4621	2306	0.00014	0.17	0.09
	17:30	30	19.83	4592	4592	2291	0.00014	0.17	0.09
	18:00	30	20.47	4611	4611	2301	0.00014	0.18	0.09
	18:30	30	17.45	4047	4047	2019	0.00013	0.13	0.07
	19:00	30	17.88	4308	4308	2150	0.00013	0.14	0.07
	20:00	60	20.15	3984	3984	1988	0.00012	0.15	0.15
	21:00	60	23.32	4127	4127	2059	0.00013	0.18	0.18
	22:00	60	17.12	4567	4567	2279	0.00014	0.15	0.15
	23:00	60	17.95	4333	4333	2162	0.00013	0.15	0.15
9/15/2020	0:00	60	20.58	5002	5002	2496	0.00016	0.19	0.19
	8:00	480	18.63	1922	1922	959	0.00006	0.07	0.54
	9:00	60	24.08	2147	2147	1071	0.00007	0.10	0.10
	10:00	60	16.70	3993	3993	1992	0.00012	0.12	0.12
	11:00	60	19.68	2600	2600	1297	0.00008	0.10	0.10
	13:00	120	25.60	2535	2535	1265	0.00008	0.12	0.24
	15:00	120	25.61	2496	2496	1245	0.00008	0.12	0.24
	17:00	120	25.61	3027	3027	1510	0.00009	0.14	0.29
	19:00	120	25.65	3268	3268	1631	0.00010	0.16	0.31
	21:00	120	25.21	2986	2986	1490	0.00009	0.14	0.28
	23:00	120	23.00	3005	3005	1499	0.00009	0.13	0.26

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
9/16/2020	0:00	60	24.65	3108	3108	1551	0.00010	0.14	0.14
	8:00	480	23.68	2682	2682	1338	0.00008	0.12	0.95
	9:00	60	23.52	2534	2534	1264	0.00008	0.11	0.11
	10:00	60	20.83	3181	3181	1587	0.00010	0.12	0.12
	11:00	60	20.63	2649	2649	1322	0.00008	0.10	0.10
	13:00	120	20.30	3184	3184	1589	0.00010	0.12	0.24
	15:00	120	19.46	2932	2932	1463	0.00009	0.11	0.21
	17:00	120	20.78	2953	2953	1473	0.00009	0.11	0.23
	19:00	120	20.24	3201	3201	1597	0.00010	0.12	0.24
	21:00	120	23.15	3027	3027	1510	0.00009	0.13	0.26
	23:00	120	21.86	2981	2981	1487	0.00009	0.12	0.24
9/17/2020	0:00	120	23.42	2923	2923	1458	0.00009	0.13	0.26
	8:00	480	24.41	3221	3221	1607	0.00010	0.15	1.18
	10:00	120	22.30	2142	2142	1069	0.00007	0.09	0.18
	12:00	120	30.22	2338	2338	1167	0.00007	0.13	0.26
	14:00	120	23.80	3142	3142	1568	0.00010	0.14	0.28
	16:00	120	20.52	3562	3562	1777	0.00011	0.14	0.27
	18:00	120	25.39	3252	3252	1623	0.00010	0.15	0.31
	20:00	120	26.11	3108	3108	1551	0.00010	0.15	0.30
	22:00	120	25.64	3235	3235	1614	0.00010	0.16	0.31
9/18/2020	0:00	120	25.43	3335	3335	1664	0.00010	0.16	0.32
	8:00	480	20.21	2496	2496	1245	0.00008	0.09	0.75
	10:00	120	21.31	2373	2373	1184	0.00007	0.09	0.19
	11:00	60	25.43	2373	2373	1184	0.00007	0.11	0.11

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-5R, RW-2, & RW-3 **13.63**

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Q_{std} = (60 sec/min) (1-B_{ws}) (V) (A) (528° R / T_s)

B_{wsw} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

= (B_{wsw} / 18 lb-mole H_2O) / [1/28.84 lb-mole dry air) + (B_{wsw} / 18 lb-mole H_2O)]

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft^2 of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

R° = (C° + 273.15) x 9/5

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

PMR = PMR_c (# of minutes / 60)

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

= C_c (Q_{std}) (60 min/hr)

C_c = $C_{c:m}$ (62.43 x 10^{-9} lb-m^3/mg-ft^3)

$C_{c:m}$ = mg/dsm^3 · mass concentration of TGNMO emissions

= PPM_c (M_c / K_4)

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

= (PPM_{meas}) (K) = PPM_v

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - K=1, propane - K=3, isobutylene - K=4, hexane - K=6

K_4 = 24.07 $dsm^3/10^6$ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dcsf - mass concentration of TGNMO emissions sa carbon, dry basis, at standard temperature and pressure

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
9/21/2020	9:00	52.2	58.7	0.054	0.080	21.03	0.022	585.6	22.82
	9:30	52.3	60.1	0.056	0.082	21.55	0.022	585.8	23.32
	10:00	54.1	58.7	0.060	0.088	23.68	0.022	589.1	25.33
	10:30	49.3	61.3	0.049	0.072	23.52	0.022	580.4	25.96
	11:00	49.7	72.4	0.060	0.087	21.68	0.022	581.1	23.52
	11:30	42.4	70.5	0.039	0.058	22.87	0.022	568.1	26.18
	12:00	40.7	80.6	0.040	0.061	26.15	0.022	564.9	30.03
	12:30	44.6	56.3	0.034	0.052	19.82	0.022	572.0	22.68
	13:00	42.1	58.2	0.031	0.047	20.42	0.022	567.5	23.67
	13:30	46.9	89.6	0.064	0.093	17.45	0.022	576.1	18.97
	14:00	45.8	88.7	0.060	0.087	16.38	0.022	574.1	17.99
	14:30	42.7	83.1	0.047	0.070	14.07	0.022	568.5	15.90
	15:00	47.7	81.1	0.060	0.088	15.02	0.022	577.5	16.38
	15:30	46.4	82.8	0.057	0.084	14.85	0.022	575.2	16.33
	16:00	43.8	81.2	0.049	0.072	17.43	0.022	570.5	19.58
	16:30	43.6	82.2	0.049	0.072	18.72	0.022	570.2	21.03
	17:00	44.1	92.0	0.056	0.083	16.20	0.022	571.1	17.97
	19:00	43.2	92.2	0.054	0.079	13.63	0.022	569.4	15.22
	21:00	45.3	91.3	0.060	0.088	16.48	0.022	573.2	18.12
	23:00	42.9	89.7	0.051	0.076	18.73	0.022	568.9	21.01
9/22/2020	0:00	41.8	93.9	0.051	0.075	18.03	0.022	566.9	20.32
	8:00	46.1	32.8	0.021	0.033	38.13	0.022	574.7	44.33
	9:00	40.6	78.5	0.039	0.059	16.62	0.022	564.8	19.12
	10:00	44.2	75.1	0.046	0.068	20.03	0.022	571.2	22.57
	12:00	46.1	80.2	0.054	0.080	19.58	0.022	574.7	21.65
	14:00	47.1	59.3	0.042	0.062	23.50	0.022	576.5	26.40
	16:00	42.8	89.6	0.051	0.076	29.08	0.022	568.7	32.65
	18:00	48.4	48.8	0.036	0.055	26.73	0.022	578.8	30.15
	20:00	45.4	72.8	0.047	0.070	30.12	0.022	573.4	33.73
	22:00	44.3	85.3	0.053	0.078	32.38	0.022	571.4	36.10
9/23/2020	0:00	44.5	87.6	0.055	0.081	33.35	0.022	571.8	37.03
	8:00	45.9	42.3	0.027	0.042	38.97	0.022	574.3	44.90

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
	10:00	39.1	92.1	0.042	0.064	16.12	0.022	562.1	18.54
	12:00	41.4	90.6	0.048	0.071	21.00	0.022	566.2	23.80
	14:00	49.6	60.6	0.049	0.072	14.88	0.022	581.0	16.41
	16:00	43.9	62.5	0.037	0.056	23.18	0.022	570.7	26.49
	18:00	44.3	71.3	0.043	0.065	18.35	0.022	571.4	20.74
	20:00	45.1	72.7	0.046	0.069	24.53	0.022	572.9	27.53
	22:00	45.1	69.6	0.044	0.066	18.02	0.022	572.9	20.28
9/24/2020	0:00	43.6	75.1	0.044	0.066	16.48	0.022	570.2	18.65
	8:00	42.7	62.4	0.034	0.052	29.12	0.022	568.5	33.52
	10:00	43.7	92.3	0.055	0.082	14.08	0.022	570.3	15.66
	12:00	43.8	91.7	0.055	0.081	17.25	0.022	570.5	19.18
	14:00	44.7	92.2	0.059	0.086	16.07	0.022	572.1	17.73
	16:00	43.9	90.1	0.055	0.080	18.35	0.022	570.7	20.42
	18:00	42.7	89.9	0.051	0.075	20.80	0.022	568.5	23.36
	20:00	43.5	93.4	0.055	0.082	21.77	0.022	570.0	24.22
	22:00	40.3	95.7	0.047	0.071	18.85	0.022	564.2	21.44
9/25/2020	0:00	39.4	97.6	0.046	0.069	21.02	0.022	562.6	24.03
	8:00	43.2	87.3	0.051	0.075	21.30	0.022	569.4	23.89
	9:00	40.1	80.2	0.039	0.059	22.02	0.022	563.9	25.39

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c;m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
9/21/2020	9:00	0	22.82	4017	4017	2004	- - -	- - -	0.00
	9:30	30	23.32	3201	3201	1597	0.00010	0.14	0.07
	10:00	30	25.33	3172	3172	1583	0.00010	0.15	0.08
	10:30	30	25.96	3812	3812	1902	0.00012	0.18	0.09
	11:00	30	23.52	3919	3919	1955	0.00012	0.17	0.09
	11:30	30	26.18	3234	3234	1614	0.00010	0.16	0.08
	12:00	30	30.03	3742	3742	1867	0.00012	0.21	0.11
	12:30	30	22.68	4137	4137	2064	0.00013	0.18	0.09
	13:00	30	23.67	4721	4721	2356	0.00015	0.21	0.10
	13:30	30	18.97	4238	4238	2115	0.00013	0.15	0.08
	14:00	30	17.99	4129	4129	2060	0.00013	0.14	0.07
	14:30	30	15.90	3958	3958	1975	0.00012	0.12	0.06
	15:00	30	16.38	3421	3421	1707	0.00011	0.10	0.05
	15:30	30	16.33	3816	3816	1904	0.00012	0.12	0.06
	16:00	30	19.58	4128	4128	2060	0.00013	0.15	0.08
	16:30	30	21.03	4624	4624	2307	0.00014	0.18	0.09
	17:00	30	17.97	4127	4127	2059	0.00013	0.14	0.07
	19:00	120	15.22	4312	4312	2152	0.00013	0.12	0.25
	21:00	120	18.12	4208	4208	2100	0.00013	0.14	0.29
	23:00	120	21.01	3878	3878	1935	0.00012	0.15	0.30
9/22/2020	0:00	60	20.32	4007	4007	1999	0.00012	0.15	0.15
	8:00	480	44.33	3638	3638	1815	0.00011	0.30	2.41
	9:00	60	19.12	4821	4821	2405	0.00015	0.17	0.17
	10:00	60	22.57	4321	4321	2156	0.00013	0.18	0.18
	12:00	120	21.65	3862	3862	1927	0.00012	0.16	0.31
	14:00	120	26.40	4123	4123	2057	0.00013	0.20	0.41
	16:00	120	32.65	4422	4422	2206	0.00014	0.27	0.54
	18:00	120	30.15	3812	3812	1902	0.00012	0.21	0.43
	20:00	120	33.73	3784	3784	1888	0.00012	0.24	0.48
	22:00	120	36.10	4040	4040	2016	0.00013	0.27	0.55
9/23/2020	0:00	120	37.03	4238	4238	2115	0.00013	0.29	0.59
	8:00	480	44.90	3943	3943	1967	0.00012	0.33	2.65

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
	10:00	120	18.54	2663	2663	1329	0.00008	0.09	0.18
	12:00	120	23.80	4321	4321	2156	0.00013	0.19	0.38
	14:00	120	16.41	4038	4038	2015	0.00013	0.12	0.25
	16:00	120	26.49	2640	2640	1317	0.00008	0.13	0.26
	18:00	120	20.74	3232	3232	1613	0.00010	0.13	0.25
	20:00	120	27.53	3582	3582	1787	0.00011	0.18	0.37
	22:00	120	20.28	3981	3981	1986	0.00012	0.15	0.30
9/24/2020	0:00	120	18.65	4091	4091	2041	0.00013	0.14	0.29
	8:00	480	33.52	3862	3862	1927	0.00012	0.24	1.94
	10:00	120	15.66	2893	2893	1443	0.00009	0.08	0.17
	12:00	120	19.18	3212	3212	1603	0.00010	0.12	0.23
	14:00	120	17.73	3416	3416	1704	0.00011	0.11	0.23
	16:00	120	20.42	3101	3101	1547	0.00010	0.12	0.24
	18:00	120	23.36	3508	3508	1750	0.00011	0.15	0.31
	20:00	120	24.22	3801	3801	1897	0.00012	0.17	0.34
	22:00	120	21.44	3008	3008	1501	0.00009	0.12	0.24
9/25/2020	0:00	120	24.03	2987	2987	1490	0.00009	0.13	0.27
	8:00	480	21.44	2823	2823	1409	0.00009	0.11	0.91
	9:00	60	24.03	3123	3123	1558	0.00010	0.14	0.14

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-5R, RW-1, & RW-2 **18.23**

APPENDIX C

Disposal Manifest(s)

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 2581

2. Page 1 of

3. Generator's Name and Mailing Address
Crown SC 015
3800 Devine St.
Columbia, S.C

25-3011.2-20

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK Tank Services
425 Boulevard Rd

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	1,247	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

Includes 41.5 gallons of purge water from Crown SC-517, Pacolet UST Permit #08466

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Billy Pittenger Agent for Crown SC 015
Signature: Billy Pittenger
Date: Month 9 Day 18 Year 20

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger
Signature: Billy Pittenger
Date: Month 9 Day 18 Year 20

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson
Signature: Jasmine Anderson
Date: Month 9 Day 18 Year 20

NON-HAZARDOUS WASTE

16772624
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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
(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: 9-18-20

11:47
16772624

SCALE: 1868

LOCATION: LOVES COUNTRY STORES
I-77 AND HWY 48 EXIT 5
CAYCE SC

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

STEER AXLE	11860 lb
DRIVE AXLE	19460 lb
	00 lb
TRAILER AXLE	31320 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)

1247.00 GALLONS MANIF# 2581

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

COMPANY: ARMLINES

TRACTOR #: 2 . 0 TRAILER #:

WEIGH NUMBER
2624

FEE: $12.00

WEIGHMASTER OR WEIGHER SIGNATURE: JENNIFER GRIGSBY

TICKET # OF FULL $ WEIGH (IF REWEIGH):

DRIVER IN TRUCK UNLESS CHECKED HERE:

CUSTOMER COPY

© CAT Scale® Reg 3071 1/20

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 2582

2. Page 1 of

3. Generator's Name and Mailing Address
Crown - SC 015
3800 Devine St.
Columbia, S.C

25-3011.2-20

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK Tank Services
425 Boulevard Rd
Sumter, S.C

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	602	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

SC 015

Printed/Typed Name: Billy Pittenger Agent for Crown | Signature: Billy Pittenger | Date: Month 9 Day 25 Year 20

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date: Month 9 Day 25 Year 20

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmeni Andrew | Signature: Jasmeni Andrew | Date: Month 9 Day 25 Year 20

NON-HAZARDOUS WASTE

16071922
TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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**
(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: 9-24-20

07:32
16071922

PUBLIC WEIGHMASTER'S CERTIFICATE OF WEIGHT & MEASURE

SCALE: 3194
LOCATION: LOVES COUNTRY STORE
I 20 EXIT 87
ELGIN SC

STEER AXLE	12920	lb
DRIVE AXLE	32000	lb
TRAILER AXLE	00	lb
*GROSS WEIGHT	44920	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.

1769 gallons manifest 2583

IMPRINT SEAL HERE
(IF APPLICABLE)

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

COMPANY ARM ENVIROMENTAL TRACTOR # 01 TRAILER # 00

WEIGH NUMBER
1922

FEE $12.00

WEIGHMASTER OR WEIGHER SIGNATURE: [signature]
JENNIFER L

TICKET # OF FULL $ WEIGH (IF REWEIGH)

CUSTOMER COPY

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Underground Storage Tank Management Division
Tank Owner Information Form

dhec
S.C. Department of Health and Environmental Control

Facility Name: SC015	Permit ID: 07680	Release Date(s): 8/15/89
Facility Address: 3800 DEVINE ST		
City: COLUMBIA	South Carolina	Zip Code: 29205
Tank Owner Name: CROWN CENTRAL LLC		
Mailing Address: 1 N CHARLES ST STE 107		
City: BALTIMORE	State: MD	Zip Code: 21201-3759
Name of Tank Owner (or Authorized Agent if Owner is a Business Entity) (print):		
Signature:		Date:

If you are a sole proprietor as the tank owner and choose to not to have any agents, please initial _____, identifying you are the only person authorized to sign invoices and/or select a certified site rehabilitation contractor for the referenced release(s).

I certify that the agents identified below are **authorized to select a certified site rehabilitation contractor and/or sign invoices** on behalf of the tank owner for compensation from SUPERB Account for site rehabilitation activities conducted under the UST release(s) referenced above; print name, affiliation with tank owner, and signature (non-black ink). _____ (tank owner initial)

	Authorized to sign invoices on behalf of the tank owner	Authorized to select a certified site rehabilitation contractor
Name: Affiliation: Signature: Date:	Yes☐ No ☐	Yes☐ No ☐
Name: Affiliation: Signature: Date:	Yes☐ No ☐	Yes☐ No ☐
Name: Affiliation: Signature: Date:	Yes☐ No ☐	Yes☐ No ☐
Name: Affiliation: Signature: Date:	Yes☐ No ☐	Yes☐ No ☐



D-4075 7/20

dhec
Healthy People. Healthy Communities.

DEC 16 2020

CROWN CENTRAL LLC
1 N CHARLES ST STE 107
BALTIMORE, MD 21201-3759

Re: Tank Owner Information

To Whom It May Concern:

The South Carolina Department Health and Environmental Control (DHEC) Underground Storage Tank (UST) Management Division (Division) is enhancing its efforts to accurately update our agency database with correct information in regards to the tank owner and identified agents. The Division is preparing for the transition to our new ePermitting database system in the foreseeable future. This updated information will allow the Division to provide consistency in communication with the tank owner and authorized agents via telephone, email, or postal service when necessary. For your convenience if there is any information that is incorrect, either on this form or in the DHEC UST registry on our webpage (*https://apps.dhec.sc.gov/Environment/USTRegistry*), please provide the correct information.

Please return the enclosed form no later than 30 days from receipt of this letter. If you have any questions or need additional time to submit the form, please contact me at ariailrd@dhec.sc.gov or (803) 898-9418. You can also contact the Division at (803) 898-2254 or (803) 898-0589.

Sincerely,

Ryan D. Ariail, Customer Service Liaison
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Cc: Technical File

Enc: Tank Owner Information Form (D-4075)

dhec

Underground Storage Tank Management Division
Field Data Information Sheet – Monitoring Well Gauging

UST 108 DOCKETING

Site Information

Date: 3/5/21	Site ID #: 07680	Site Name: SC-015
County: Richland	Project Manager: B. Baldwin	Field Personnel:

Well Gauging Information

Well ID:	Total Well Depth (ft.)	Screened Interval (ft.)	Depth to Free Product (ft.)	Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault?
MW-5R			—	13.15	—	—	—	Yes	Yes	No
RW-1			Unk	Unk						
RW-2			—	13.29	—	No	No	Yes	Yes	Yes
RW-3			13.85	~~13.90~~	0.05'	No	No	Yes	Yes	No
MW-21										

odor

Notes: - MW-5R needs new well cap

Signature:

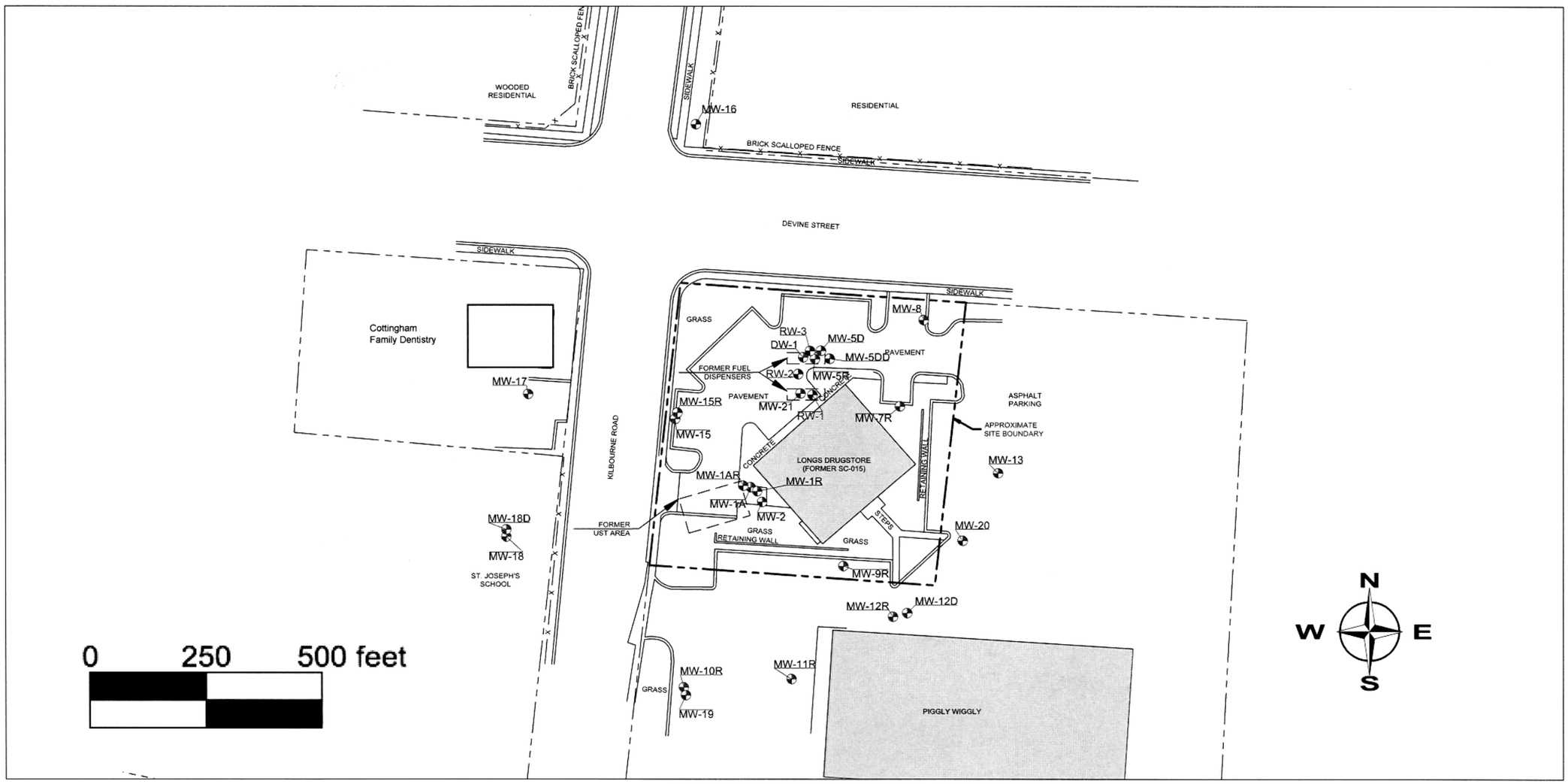

FIGURE 2B: SITE MAP

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

dhec
Healthy People. Healthy Communities.

MAR 11 2021

CAROL BOEMMEL
CROWN CNETRAL LLC
1 NORTH CHARLES STREET
SUITE 2200
BALTIMORE MD 21201-3759

UST 109 Tech DOCKETING

Re: **Aggressive Fluid and Vapor Recovery Notice to Proceed**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA #63384
Release reported August 15, 1989
AFVR Report received October 9, 2020
Richland County

Dear Ms. Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the above referenced report which documents free-phase product (FPP) or Chemicals of Concern (CoC) in the subsurface as a result of the above referenced release.

In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations R.61-92, an Aggressive Fluid and Vapor Recovery (AFVR) event may proceed immediately upon receipt of this letter as outlined in this directive and the current revision of the UST Quality Assurance Program Plan (QAPP). Two (2) 96-hour AFVR events should be performed. The first event should utilize MW-5R, RW-1, and RW-2. The second event should utilize MW-5R, RW-2, and RW-3. The stingers shall be lowered at six inch intervals starting at the water table interface to a target depth of 18 feet in the MW-5R, and a target depth of 23 wells. **Please be aware that the AFVR Procedures have been updated.** Please advance to the target depth(s) within the first eight (8) hours of the event. Thereafter, the stinger(s) should be adjusted to achieve the highest vapor recovery while maintaining dewatering of the smear zone. Off-gas treatment will be necessary. A copy of the current revision of the UST Division's QAPP is available at https://scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessment-clean/quality-assurance.

As soon as the beginning date of the event has been scheduled, please contact the Project Manager listed below.

The AFVR Report should be submitted within 90 days from the date of this correspondence. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

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 is obtained from the UST Management Division. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by DHEC for the cost to be paid. DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

DHEC grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If CoC concentrations, based on laboratory analysis, are below Risk Based Screening Levels, 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 concerning this site, please reference UST Permit #07680. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,

Brad Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Annie Smith-Jones, 2112 Loblolly Lane, Johns Island, SC 29455 (w/enc)
QES, Inc., 2112 Loblolly Lane, Johns Island, SC 29445 (w/enc)
Technical file (w/enc)

Approved Cost Agreement 63384

Facility: 07680 SC015
BALDWIBA
PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
S REPORT PROJECT MANAGEMENT				
	S REPORT PREP & PROJ. MANAGEMENT	0.1200	$30,945.890	3,713.51
W AFVR				
	14 AFVR SITE RECONNAISSANCE	1.0000	$216.870	216.87
	16 AFVR EFFLUENT DISPOSAL	3,000.0000	$0.470	1,410.00
	17 AFVR MOB - DEMOB	2.0000	$417.730	835.46
	4 96 HOUR EVENT	2.0000	$13,409.520	26,819.04
	8 OFF GAS TREATMENT 96 HOUR	2.0000	$832.260	1,664.52
		Total Amount		34,659.40

AFVR Audit Form
Underground Storage Tank Management Division

RESULTS:
- ☑ Satisfactory
- ☐ Issues

Date: 4/7/21 Project Manager: B. Baldwin DHEC Field Staff: B. Baldwin

Contractor: AES / ARM Contractor Field Staff: James

Site Number: ~~07100~~ 07680 Site Name: SC-015

Time Arrived at Site: 10:32 Time Leaving Site: 10:45 Weather Conditions: Sunny, 70°

1. Operator on site? ☑ YES ☐ NO
2. Proper safety devices employed (e.g. traffic cones, barriers, etc.)? ☑ YES ☐ NO
3. Correct extraction well(s) being used? ☑ YES ☐ NO
4. Vacuum gauge(s) installed on extraction well(s)? ☑ YES ☐ NO
5. Vacuum gauge(s) installed on adjacent monitoring well(s)? ☑ YES ☐ NO
6. AFVR unit connected to grounded metal object? ☑ YES ☐ NO
7. Stinger(s) set at target depth(s)? ☑ YES ☐ NO
8. Other extraction and monitoring well(s) sealed? ☑ YES ☐ NO
9. Data recorded at appropriate time intervals? ☑ YES ☐ NO Last two recorded times? ☑ YES ☐ NO
10. Off-gas treatment (if applicable)? ☑ YES ☐ NO
11. Complete Data Records:
    - ☑ Stinger Depth
    - ☑ Airflow Rate/Velocity
    - ☑ Vacuum Readings for Extraction Well(s)
    - ☑ Vacuum Readings for Adjacent Monitoring Well(s)
    - ☑ Water Level Measurement for Adjacent Monitoring Well(s)
    - ☑ Pre-treatment Vapor Concentration Measurements
    - ☑ Post-treatment Vapor Concentration Measurements

UST 110 DOCKETING

Signature: [signature] Date: 4/7/21

Notes:

Notes (continued): _____

UST AFVR AUDIT FORM

- Purpose of the form is to record information gathered during an audit of AFVR events.
- DHEC UST Project Managers and Field Staff.
- Item-by-item instructions for completing the form.
  - Fill in all Site Information boxes.
  - Answer all questions and record any applicable information in the blanks.
  - Sign and date the form.
  - Record any applicable notes.
- Form is scanned and saved electronically – Record Group Number 169, Retention Schedule 13300

Document Receipt Information

☒ Hard Copy ■ CD ☐ Email

Date Received 5-17-21

Permit Number 07680

Project Manager Brad Baldwin

Name of Contractor QES

Docket Number 111Tech

Document Title AFVR

Scanned _____

Q_{E_S}

Quality Environmental Solutions, Inc.

2112 Loblolly Lane
Johns Island, SC 29455

May 12, 2021

Mr. Bradley A. Baldwin, GIT, Hydrogeologist
South Carolina Department of Health and Environmental Control
UST Management Division
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2021 AFVR Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit #07680

Dear Mr. Baldwin:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2021 AFVR Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently operated as a Long's Drugstore; the underground storage tanks associated with the former Crown Fast Fare fueling facility were removed in July 1991.

The SCDHEC Notice to Proceed (NTP) for completion of two consecutive 96-hour aggressive fluid-vapor recovery (AFVR) events was issued by SCDHEC on March 11, 2021. The AFVR events were completed during the weeks of April 5 and April 12, 2021 with extraction from the three recovery wells (RW-1, RW-2 and RW-3) and monitoring well MW-5R. Previous consecutive 96-hour AFVR events were completed in September 2020 with extraction from the same wells. A July 2018 96-hour AFVR event included extraction from the three newly installed recovery wells.

The 2018 AFVR event with extraction from the three recovery wells produced 832 gallons of impacted water and approximately 74 gallons of petroleum equivalent vapors. This equivalent product recovery was significantly higher than the September 2020 AFVR totals of 5.17 gallons and the 0.43 equivalent gallons during the April 2021 AFVR events. The recovery declines indicate that the AFVR events have reduced the residual petroleum hydrocarbon mass in the impacted soil beneath the former dispenser islands. This is also confirmed with the significant reductions in extraction vapor flame ionization detector (FID) part per million (PPM) readings from 2018 to 2021 (maximum readings of 190,000 PPM in 2018, 4,821 PPM in 2020 and 781 PPM in 2021).

QES recommends completion of a post-AFVR groundwater sampling event to evaluate the effectiveness of the AFVR events along with a comparison to the the Site-Specific Target Levels (SSTLs) established for five monitoring wells and the recovery wells.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2021 AFVR Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File: SC-015

2021 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT #07680

Submitted to:

Mr. Bradley A. Baldwin, GIT, Hydrogeologist
South Carolina Department of Health
and Environmental Control
Underground Storage Tank Management Division
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central, LLC
2112 Loblolly Lane
John island, SC 29455

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
2112 Loblolly Lane
Johns Island, SC 29455
Contractor Certification Number 461
410-841-5552

May 12, 2021

2021 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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Figure 2A: Site Vicinity Map
Figure 2B: Site Map

Appendices

Appendix G: Disposal Manifests
Appendix K: Data Verification Checklist
Appendix X: ARM AFVR Report

2021 AFVR REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2021 Aggressive Fluid-Vapor Recovery (AFVR) Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the completion of two consecutive 96-hour AFVR events utilizing the three recovery wells installed in 2018 (RW-1, RW-2 and RW-3) and monitoring well MW-5R.

The AFVR events were conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #2* (QES 2020) and the March 11, 2021 SCDHEC *Aggressive Fluid and Vapor Recovery Notice to Proceed and Approved Cost Agreement #63384* (SCDHEC 2021).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugstore) UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803-782-6274
Current Property Use	Long's Drugstore

The Site is currently developed with a Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline fueling facility). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a Fast Fare fueling facility at the Site which included three steel gasoline USTs. The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen AFVR events have been completed at the Site between April 2010 and July 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater contamination.
- Three recovery wells were installed at the Site in June 2018 followed by completion of a 96-hour AFVR event in July 2018.
- Site-Specific Target Levels (SSTLs) were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The Site monitoring wells were sampled in May 2020 with LNAPL detected in recovery wells RW-2 and RW-3 and monitoring well MW-5R.
- Two consecutive follow-up 96-hour AFVR events were completed in September 2020 with extraction from the three recovery wells and MW-5R.
- SCDHEC gauged the wells on May 5, 2021 with 0.05 feet of LNAPL detected in RW-3. The March 11, 2021 AFVR Notice to Proceed (NTP) was issued the following week.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 AFVR EVENTS

The March 11, 2021 SCDHEC NTP included completion of two consecutive 96-hour AFVR events utilizing the three recovery wells and monitoring well MW-5R. The first 96-hour event targeted mass removal from RW-1, RW-2 and MW-5R from April 5-9, 2021. The second AFVR event targeted RW-2, RW-3 and MW-5R and was completed from April 12-16, 2021. Vacuum pressure readings and depths to water were measured in adjacent wells RW-3 and MW-21 during the first event and RW-1 and MW-21 during the second event. The locations of the target recovery wells (RW-1, RW-2 and RW-3), target monitoring well MW-5R and the adjacent monitoring well MW-21 are shown on **Figure 2B**.

The AFVR was conducted by ARM Environmental Services, Inc. (ARM) with oversight by QES. A Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute and 25 inches of mercury, with off-gas treatment through vapor-phase granular activated carbon scrubber, was utilized to complete the event. The first AFVR event commenced at 10:00 AM on April 5, 2021 and was completed at 10:00 AM on April 9, 2021. The second AFVR event commenced at 10:00 AM on April 12, 2021 and was completed at 10:00 AM on April 16, 2021.

LNAPL was not detected in the gauged wells prior to or following the AFVR events. Field notes summarizing the data collected during the AFVR events are included in Appendix A of the ARM May 3, 2012 letter report included as **Appendix X** of this report. System readings were recorded for off-gas concentrations, flow measurements, and vacuum pressure throughout each of the AFVR events.

The total volatile organic compound (VOC) concentrations measured during the first extraction event with a flame ionization detector (FID) ranged from 221 parts per million (PPM) to 545 PPM. A total of 1.10 pounds (equivalent to 0.18 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the first 96-hour event based on the data collected throughout the event. The total VOC concentrations measured during the second AFVR event ranged from 325 PPM to 781 PPM. A total of 1.53 pounds (equivalent to 0.25 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) was removed during the second 96-hour event based on the data collected throughout the event. The calculations used to determine the Pollutant Mass Removal are included in Appendix B of the attached ARM letter report.

Approximately 921 gallons of fluids were extracted during the first AFVR event and approximately 1,026 gallons during the subsequent event. The disposal manifests for the 1,947 gallons of petroleum-impacted groundwater generated during the AFVR events are included in **Appendix G**. The quantity of waste fluid generated during the event was determined by weight scales before and after off-loading the storage vessel at the disposal facility.

3.0 CONCLUSION AND RECOMMENDATION

Two consecutive 96-hour AFVR events were completed during the weeks of April 5 and April 12, 2021 with extraction from the Site three recovery wells (RW-1, RW-2 and RW-3) and monitoring well MW-5R. Previous consecutive 96-hour AFVR events were completed in September 2020 with extraction from the same wells. A July 2018 96-hour AFVR event included extraction from the three newly installed recovery wells.

The 2018 AFVR event with extraction from the three recovery wells produced 832 gallons of impacted water and approximately 74 gallons of petroleum equivalent vapors. This equivalent product recovery was significantly higher than the September 2020 AFVR totals of 5.17 gallons and the 0.43 equivalent gallons during the April 2021 AFVR events. The recovery declines indicate that the AFVR events have reduced the residual petroleum hydrocarbon mass in the impacted soil beneath the former dispenser islands. This is also confirmed with the significant reductions in extraction vapor FID readings from 2018 to 2021 (maximum readings of 190,000 PPM in 2018, 4,821 PPM in 2020 and 781 PPM in 2021).

QES recommends completion of a post-AFVR groundwater sampling event to evaluate the effectiveness of the AFVR events along with comparison to the Site SSTLs established for five monitoring wells and the three recovery wells.

REFERENCES

Quality Environmental Solutions, Inc. (QES). *2017 Groundwater Assessment Report,* Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680. December 29, 2017.

QES. *2018 Recovery Well Installation and AFVR Report*, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680. August 2, 2018.

QES. *2020 Groundwater Assessment Report,* Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680. June 3, 2020.

QES. *2020 AFVR Report*, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680. October 5, 2020.

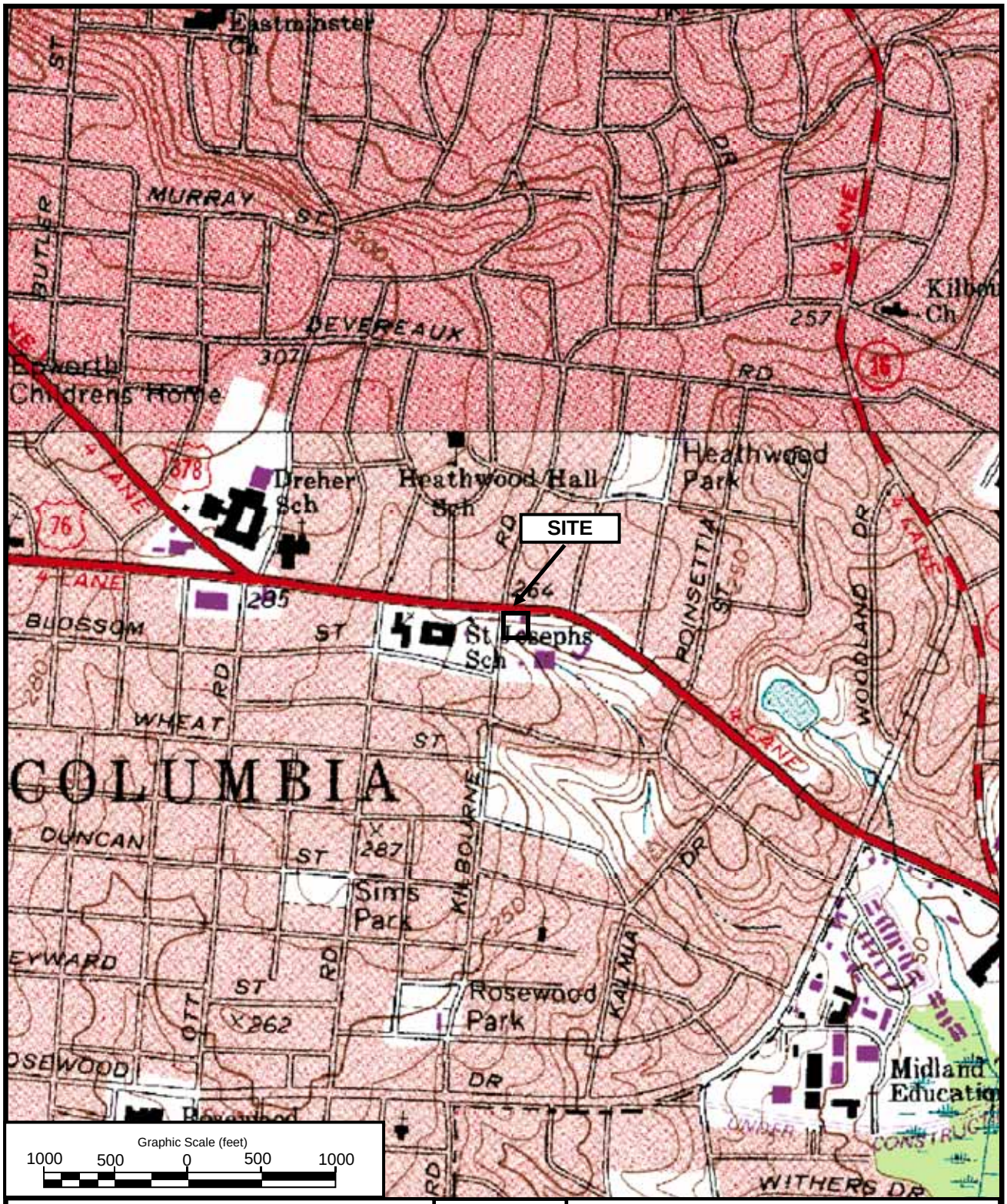
QES. *Annual Contractor Quality Assurance Plan (ACQAP), Revision #2.* August 28, 2020.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 4.* July 2020.

SCDHEC. *Aggressive Fluid and Vapor Recovery Notice to Proceed,* SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA#62002, Release reported August 15, 1989, AFVR Report received October 9, 2020, Richland County*.* March 11, 2021

Terracon Consultants, Inc. (Terracon). *Ground Water Assessment Report,* Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit *#07680*. June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

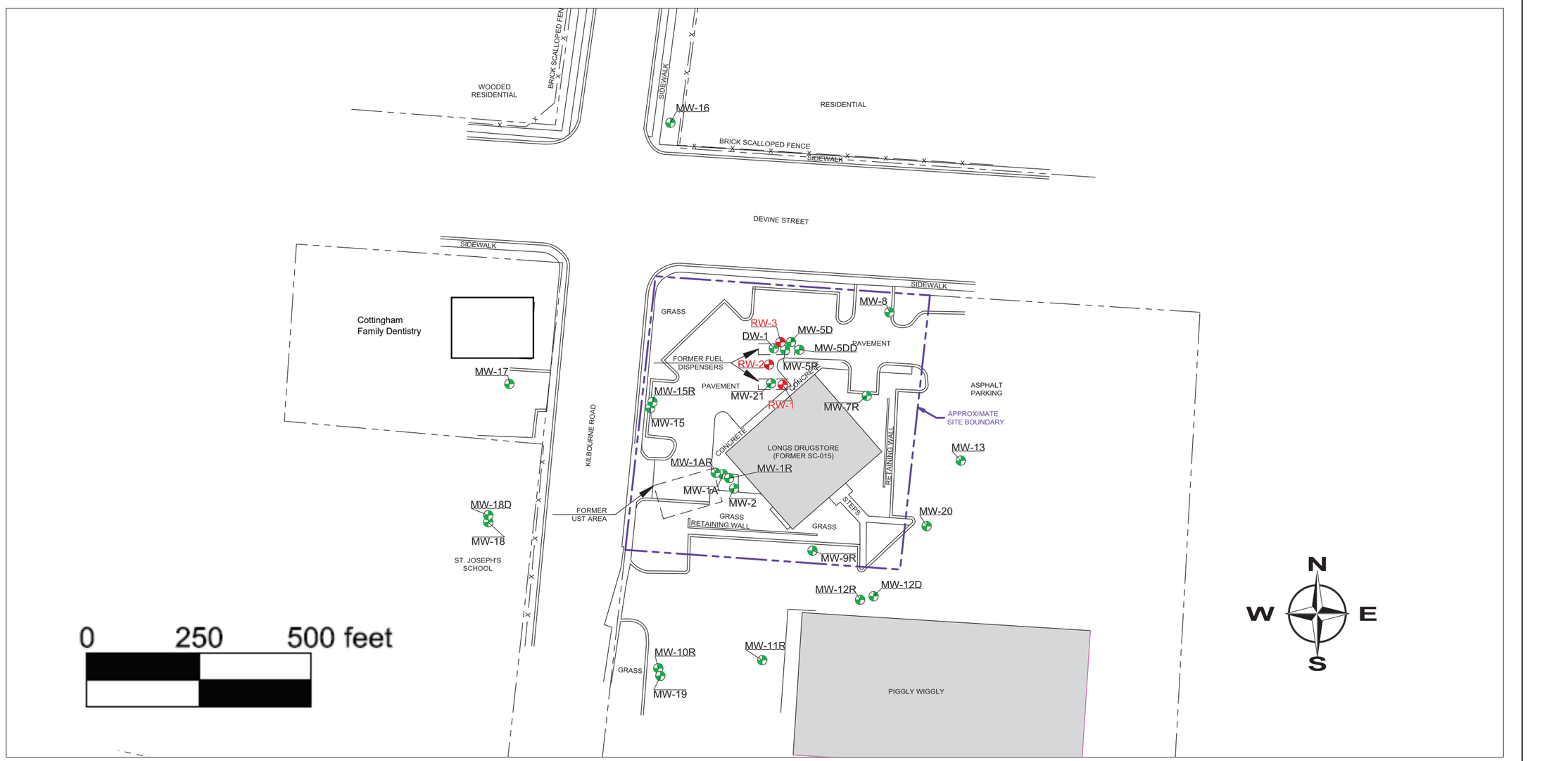
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

APPENDIX G

DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

25-3011.3-21

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3114

2. Page 1 of

3. Generator's Name and Mailing Address FORMER CROWN SC-015
3800 DEVINE ST
COLUMBIA SC

4. Generator's Phone ( )

5. Transporter 1 Company Name: ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK SERVICES
425 BOULEVARD RD
SUMTER SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	921	GAL
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date: Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date: Month 4 Day Year 2021

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson | Signature: Jasmine Anderson | Date: Month 4 Day 28 Year 21

NON-HAZARDOUS WASTE

27331547

TICKET NUMBER

CAT SCALE®

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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**
(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:

STEER AXLE

DRIVE AXLE

SCALE:

LOCATION:

TRAILER AXLE

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.

	Manifest	Gallons
Total ~~3000~~ gallons	3114	921
3920 gallons	3115	1026
	3116	1585

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

COMPANY MR-1 TRACTOR # 32 TRAILER #

FEE WEIGHMASTER OR WEIGHER SIGNATURE ME-3 TICKET # OF FULL $ WEIGH (IF REWEIGH) 389

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

WEIGH NUMBER 1547

COPY

© CAT Scale® Reg 3074 8/20

25-3011, 3-21

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3115

2. Page 1 of

3. Generator's Name and Mailing Address
Former Crown SC-015
3800 DEVINE ST
Columbia SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK SERVICES
425 BUCKSHOALS RD
SUMTER SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	1026	GAL
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date (Month / Day / Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date (Month / Day / Year): 4 / 28 / 21

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month / Day / Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson | Signature: Jasmine Anderson | Date (Month / Day / Year): 4 / 28 / 21

27331547

TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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**
(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:

SCALE:

LOCATION:

STEER AXLE

DRIVE AXLE

TRAILER AXLE

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.

Total 39000 gallons

Manifest Gallons
3114 921
3115 1026
3116 1585
MR-1 32
ME-3 389

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: ____

© CAT Scale® Reg 3074 8/20

COPY

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

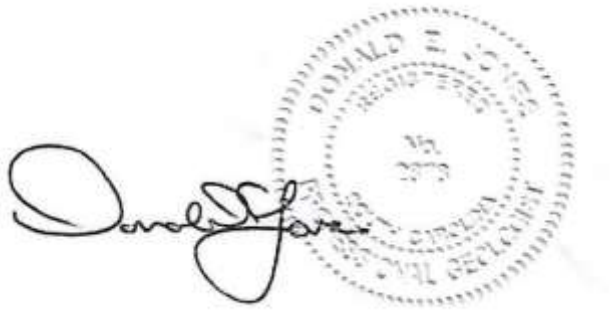
Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			X
45	Is the laboratory performing the analyses properly certified?			X
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)	X		
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information? N/A

Project Verifier:



Date: May 12, 2021

APPENDIX X

ARM AFVR REPORT

ARM ENVIRONMENTAL SERVICES, INC.
ASSESSMENT & REMEDIAL SERVICES armenv.com

May 3, 2021

Donald E. Jones, CPG
Quality Environmental Solutions, Inc.
3340 Seabrook Island Road
Johns Island, SC 29455

Re: Former Crown SC-015
96-Hour AFVR Event Report
3800 Devine Street
Columbia, Richland County, South Carolina
UST Permit #07680; CA #63384
ARM Project #25-3011.3-21

Dear Mr. Jones;

ARM Environmental Services, Inc. (ARM) has completed the 96-hour Aggressive Fluid Vapor Recovery (AFVR) events at the above-referenced site located in Richland County, South Carolina. The pertinent information regarding the AFVRs is presented on the following pages and in the appendices of this document.

The first 96-hour AFVR event was conducted on monitoring wells MW-5R, RW-1, and RW-2. The second 96-hour AFVR event was conducted on monitoring wells MW-5R, RW-2, and RW-3. Based on gauging of the fluids level upon completion of each AFVR, it appears that no free product was present above the groundwater at the site at the time of completion of the AFVR events.

If you should have any questions regarding the results of this assessment, or should you need additional information, please do not hesitate to contact our office.

Sincerely,
ARM Environmental Services, Inc.

Michele McLeod
Project Scientist

Michael L. Faris, P.G.
Senior Geologist

AFVR 1 of 2

ARM personnel mobilized to the Former Crown SC-015 site on April 5, 2021. Ambient air temperature was 60° - 70°F and the general weather conditions were primarily clear. The depths to product and water were measured and recorded for monitoring wells MW-5R, RW-1, and RW-2 prior to and subsequent to the event. No free product was measured in any of the wells prior to stinger placement into each well.

The AFVR was conducted by ARM utilizing a Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute (CFM) at 25 inches of mercury, with off-gas treatment through a vapor-phase granular activated carbon scrubber. Vacuuming began at 10:00 on April 5, 2021 and ended at 10:00 on April 9, 2021. At cessation of the 96-hour AFVR event, no appreciable thickness of free product was present in the wells. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 921 gallons of petroleum contact water were removed from the referenced wells during the event.

AFVR 2 of 2

ARM personnel remobilized to the Former Crown SC-015 site on April 12, 2021. Ambient air temperature was 70° - 82°F and the general weather conditions were primarily sunny. The depths to product and water were measured and recorded for monitoring wells MW-5R, RW-2, and RW-3 prior to and subsequent to the event. No free product was measured in any of the wells prior to stinger placement into each well.

The AFVR was conducted by ARM utilizing a Travaini liquid ring vacuum pump system capable of 325 cubic feet per minute (CFM) at 25 inches of mercury, with off-gas treatment through a vapor-phase granular activated carbon scrubber. Vacuuming began at 10:00 on April 12, 2021 and ended at 10:00 on April 16, 2021. At cessation of the 96-hour AFVR event, no appreciable thickness of free product was present in the wells. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 1,026 gallons of petroleum contact water were removed from the referenced wells during the event.

Pollutant Mass Removal

Weights of 1.10 pounds (a volume of 0.18 gallons) and 1.53 pounds (a volume of 0.25 gallons) of petroleum as vapor (total gaseous non-methane organic emissions) were removed during the 96-hour events based on the data collected during the AFVRs. The equations, variables, and calculations used to determine the pollutant mass removals are included in Appendix B.

Disposal

Disposal manifests for the 1,947 gallons of petroleum contact water generated during the events are included in Appendix C.

The quantity of waste fluids generated during the AFVRs is determined either by weigh scales before and after offloading the tank at the disposal facility or by gauging the tank with a tank gauging stick (some disposal facilities do not use weigh tickets). When used, the gauging stick is labeled in 8th-inch increments and is designed to gauge the quantity of fluids in a tank. The tank stick is inserted to the bottom of the tank and the measurement is recorded on a field data sheet. The measurement is then compared to a tank chart specific to the vacuum truck tank and the volume is recorded. Weigh tickets and / or tank stick measurements are included in Appendix C.

APPENDICES

A. Aggressive Fluid/Vapor Recovery (AFVR) Data Sheets
B. AFVR Mass Removal Calculations
C. Disposal Manifest(s)

APPENDIX A

Aggressive Fluid/Vapor Recovery (AFVR) Data Sheets

ARM ENVIRONMENTAL SERVICES, INC.

AFVR – OVA Field Calibration Sheet

[Page 1 of 1]

Site Name: FORMER CROWN SC-015 Location: 3800 DEVINE ST COLUMBIA SC

AFVR Contractor: ARM Personnel: JAMES GANTT / LYLE GREEN

(check one) Thermo TVA-1000B Flame Ionization Detector ____ Rae Systems Mini Rae 3000 Photo Ionization Detector____

Date	Time	Zero Air	100 PPM Isobutylene	500 PPM Methane	Post-Calibration Zero Air Reading	Post Calibration Gas Standard Reading
04-05-21	10:00	✓		✓	.3	501
04-05-21	18:30	✓		✓	.2	500
04-06-21	08:00	✓		✓	.4	498
04-06-21	16:00	✓		✓	.3	500
04-07-21	08:00	✓		✓	.4	500
04-07-21	16:00	✓		✓	.2	497
04-08-21	08:00	✓		✓	.2	502
04-08-21	4:00	✓		✓	.5	500
04-09-21	8:00	✓		✓	.3	497

ARM ENVIRONMENTAL SERVICES, INC.

96-hr. AFVR - Field Notes

[Page 1 of 12]

Site Name: FORMER CROWN SC-015 Location: 3800 DEVINE ST COLUMBIA SC

AFVR Contractor: ARM Personnel: JAMES GANTT / LYLE GREEN

Date: 4-5-21 Ambient Air Temperature and General Weather Condition: 60-70 CLEAR

Start Time 1: 10:00 4-5-21 Stop Time 1: 10:00 4-9-21 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 96-hour AFVR Event: 921 gallons

Total volume of product removed during the 96-hour AFVR Event: N/A

Product / Water Recovery Rate: 0.16 gals/min

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
RW-1	NM	14.01	NM	23.87	276	
RW-2	NM	13.78	NM	15.66	276	
MW 5R	NM	13.70	NM	17.56	369	

N/M – Not Measurable (not detected)

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 12]

MONDAY 4-5-21

Time	~~MW-~~ RW-1 Vacuum at Targeted Well (in. Hg)	~~MW-~~ RW-2 Vacuum at Targeted Well (in. Hg)	MW- 5R Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
10:00	12	7	12				
:30	12	7	12				
11:00	12	7	12				
:30	12	7	12				
12:00	12	7	12				
:30	9	7	12				
13:00	9	7	12				
:30	9	7	12				
14:00	9	7	12				
:30	9	9	12				
15:00	9	9	12				
:30	11	9	12				
16:00	11	7	10				
:30	11	7	10				
17:00	11	7	10				
:30	11	7	10				
18:00	11	7	10				
19:00	11	9	10				
20:00	11	9	10				
21:00	9	9	10				
22:00	9	9	10				
23:00	9	9	10				
24:00	9	9	10				

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 12]

		MW- RW-1	MW- RW-2	MW- 5R	MW-	MW-	MW-	MW-
	Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
TUESDAY 4-6-21	08:00	16	7	12				
	09:00	16	7	12				
	10:00	16	7	12				
	12:00	16	7	12				
	14:00	16	7	12				
	16:00	16	7	12				
	18:00	16	7	12				
	20:00	16	7	12				
	22:00	16	7	12				
	24:00	16	7	12				
WEDNESDAY 4-7-21	08	19	20	11				
	10	19	20	11				
	12	19	20	11				
	14	19	20	13				
	16	19	20	13				
	18	18	20	13				
	20	18	20	11				
	22	18	20	11				
	24	18	20	11				

Vacuum at Pump: 19

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 12]

	Time	~~MW-~~ RW-1 Vacuum at Targeted Well (in. Hg)	~~MW-~~ RW-2 Vacuum at Targeted Well (in. Hg)	MW-5R Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
4-8-21 THURSDAY	08:00	5	20	11				
	10:00	5	20	11				
	12:00	5	18	9				
	14:00	7	18	9				
	16:00	7	18	7				
	18:00	7	19	7				
	20:00	9	19	8				
	22:00	9	20	8				
	24:00	9	20	11				
4-9-21 FRIDAY								
	08:00	7	15	9				
	10:00	7	15	9				

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 5 of 12]

Monday 4-5-21

	Stinger Placement: ~~MW-~~ RW-1		Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: MW-5R		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
10:00	14.0		14.0		14.0			
:30	14.5		14.5		14.5			
11:00	15.0		15.0		15.0			
:30	15.5		15.5		15.5			
12:00	16.0		16.0		16.0			
:30	16.5		16.5		16.5			
13:00	17.0		17.0		17.0			
:30	17.5		17.5		17.5			
14:00	18.0		18.0		18.0			
:30	18.5		18.5		18.0			
15:00	19.0		19.0		18.0			
:30	19.5		19.5		18.0			
16:00	20.0		20.0		18.0			
:30	20.5		20.5		18.0			
17:00	22.0		22.0		18.0			
:30	22.5		22.5		18.0			
18:00	23.0		23.0		18.0			
19:00	18.0		18.0		16.0			
20:00	18.0		18.0		16.0			
21:00	16.0		16.0		12.0			
22:00	14.0		16.0		12.0			
23:00	14.0		16.0		14.0			
24:00	14.0		16.0		14.0			

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 6 of 12]

		Stinger Placement: ~~MW-~~ RW-1		Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: MW- 5R		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
TUESDAY 4-6-21	08:00	18		18		14			
	09:00	18		18		14			
	10:00	18		18		14			
	12:00	18		18		14			
	14:00	18		16		14			
	16:00	18		16		16			
	18:00	18		16		16			
	20:00	18		17		18			
	22:00	18		17		18			
	24:00	18		18		18			
WEDNESDAY 4-7-21	08	22		22		18			
	10	22		22		18			
	12	22		22		18			
	14	22		22		18			
	16	22		22		18			
	18	22		22		18			
	20	22		22		18			
	22	22		22		18			
	24	22		22		18			

Vacuum at Pump: 19

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 7 of 12]

		Stinger Placement: ~~MW-~~ RW-1		Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: MW- 5R		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
Thursday 4-8-21	08:00	22		22		18			
	10	22		22		18			
	12	22		22		18			
	14	22		18		18			
	16	22		18		22			
	18	22		18		22			
	20	22		18		22			
	22	22		18		22			
	24	22		18		22			
Friday 4-9-21	08	14		14		14			
	10	14		14		14			

Vacuum at Pump: 18

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 8 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

MONDAY 4-5-21

	MW- 21		~~MW-~~ RW-3		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
10:00	13.42	.002	13.47	.007				
:30	13.63	.003	13.50	.010				
11:00	13.82	.008	13.71	.010				
:30	13.99	.002	14.10	.009				
12:00	14.04	.010	14.53	.010				
:30	14.10	.002	15.12	.010				
13:00	14.17	.011	15.83	.010				
:30	14.25	.011	15.90	.008				
14:00	14.30	.010	15.98	.008				
:30	14.37	.010	16.06	.010				
15:00	14.44	.011	16.10	.009				
:30	14.49	.011	16.15	.010				
16:00	14.50	.010	16.09	.010				
:30	14.51	.010	16.07	.010				
17:00	14.52	.011	16.08	.009				
:30	14.55	.011	16.15	.009				
18:00	14.57	.009	16.30	.009				
19:00	15.09	.009	16.81	.012				
20:00	15.13	.011	16.80	.012				
21:00	15.15	.014	16.81	.013				
22:00	15.08	.014	16.83	.012				
23:00	15.07	.014	16.81	.012				
24:00	15.09	.014	16.80	.012				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 9 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW- 21		MW- ~~MW~~ RW-3		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
TUESDAY 4-6-21	08:00	15.08	.013	16.81	.014				
	09:00	15.06	.014	16.83	.013				
	10:00	15.09	.010	16.81	.013				
	12:00	16.15	.011	16.75	.010				
	14:00	16.13	.009	16.71	.008				
	16:00	15.10	.011	16.67	.008				
	18:00	15.13	.012	16.72	.010				
	20:00	15.15	.013	16.80	.008				
	22:00	15.10	.011	16.79	.011				
	24:00	15.08	.012	16.77	.008				
WEDNESDAY 4-7-21	08	16.77	.013	15.23	.014				
	10	17.01	.0006	15.23	.0008				
	12	16.91	.0005	15.29	.011				
	14	16.86	.011	15.30	.011				
	16	16.86	.012	15.32	.012				
	18	16.90	.011	15.33	.011				
	20	16.89	.012	15.35	.009				
	22	16.91	.011	15.37	.012				
	24	16.88	.011	15.40	.011				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 10 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

		MW-21		MW-RW-3		MW-		MW-	
	Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
Thursday 04-08-21	08:00	15.24	.008	1842	.007				
	10:00	15.31	.008	16.42	.0008				
	12:00	15.33	.008	16.74	.005				
	14:00	15.29	.008	16.67	.005				
	16:00	15.25	.008	16.65	.005				
	18:00	15.23	.008	16.58	.005				
	20:00	15.26	.012	16.60	.006				
	22:00	15.25	.009	16.63	.005				
	24:00	15.30	.006	16.61	.006				
Friday 04-09-21	08:00	15.26	.008	16.38	.005				
	10:00	15.27	.005	16.40	.006				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 11 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
MONDAY 4-5-21							
10:00	432	86	81	1322	58.6	23.4	
:30	412	82	81	1146	59.8	20.0	
11:00	441	88	81	1239	60.3	21.7	
:30	419	84	80	1186	58.3	20.4	
12:00	394	79	80	946	58.7	23.4	
:30	378	75	81	1015	59.0	24.3	
13:00	342	68	81	1224	58.2	26.0	
:30	359	72	80	1275	537	25.2	
14:00	354	71	80	1027	56.4	20.2	
:30	341	68	81	1313	57.8	23.7	
15:00	266	53	81	1342	57.3	25.1	
:30	283	56	81	1273	58.1	26.3	
16:00	328	65	81	1129	56.9	25.8	
:30	299	60	80	1098	57.2	27.8	
17:00	320	64	80	1303	53.7	29.4	
:30	311	62	81	1210	55.4	26.3	
18:00	330	66	80	1137	58.6	21.8	
19:00	313	62	81	1303	60.1	20.1	
20:00	325	65	80	1365	59.7	19.5	
21:00	415	83	80	1405	51.4	25.1	
22:00	330	66	80	1243	57.8	24.0	
23:00	269	54	80	1231	44.9	21.8	
24:00	221	44	81	1018	50.0	23.3	
TUESDAY 4-6-21							
08:00	235	47	80	1003	55.7	20.1	
09:00	240	48	80	1105	53.5	22.3	
10:00	225	45	80	1315	55.5	23.1	
12:00	262	52	81	1287	57.7	23.4	
14:00	291	58	81	1219	58.3	23.8	

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 12 of 12]

TUESDAY 4-6-21

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
16:00	248	49	81	1186	598	22.3	
18:00	280	56	80	1305	56.4	23.8	
20:00	310	62	80	1330	60.3	24.7	
22:00	287	57	81	1278	56.5	23.6	
24:00	265	53	80	1190	58.3	23.7	
08	232	46	81	1496	555	17.0	
10	502	101	80	951	49.6	22.2	
12	366	73	81	468	59.7	24.3	
14	355	71	80	1314	58.4	26.3	
16	361	72	81	1152	57.8	22.4	
18	421	84	81	1013	53.7	24.1	
20	380	76	80	1142	54.7	23.5	
22	257	51	81	1300	58.3	24.1	
24	410	82	80	1056	60.2	22.7	
08	273	54	81	821	44.1	34.6	
10	545	109	90	507	44.9	82.7	
12	376	75	81	874	53.3	28.1	
14	403	80	81	845	57.1	27.7	
16	429	86	80	792	54.8	26.5	
18	334	67	81	922	52.10	28.7	
20	379	76	81	867	56.3	29.5	
22	430	86	80	976	57.5	26.3	
24	225	45	80	845	56.3	27.2	
08	308	61	81	794	47.6	29.4	
10	325	65	80	718	51.3	27.3	

ARM ENVIRONMENTAL SERVICES, INC.

AFVR – OVA Field Calibration Sheet

[Page 1 of 1]

Site Name: FORMER CROWN SC-015 Location: 3800 DEVINE ST Columbia SC

AFVR Contractor: ARM Personnel: JAMES GANTT / LYLE GREEN

(check one) Thermo TVA-1000B Flame Ionization Detector ____ Rae Systems Mini Rae 3000 Photo Ionization Detector____

Date	Time	Zero Air	100 PPM Isobutylene	500 PPM Methane	Post-Calibration Zero Air Reading	Post Calibration Gas Standard Reading
04-12-21	10:00	✓		✓	.3	498
04-12-21	18:00	✓		✓	.3	500
04-13-21	08:00	✓		✓	.2	501
04-13-21	16:00	✓		✓	.4	497
04-14-21	08:00	✓		✓	.2	500
04-14-21	16:15	✓		✓	.5	502
04-15-21	08:00	✓		✓	.2	500
04-15-21	16:00	✓		✓	.3	502
04-16-21	08:00	✓		✓	.4	498

ARM ENVIRONMENTAL SERVICES, INC.

96-hr. AFVR - Field Notes

[Page 1 of 12]

Site Name: FORMER CROWN SC-015 Location: 3800 DEVINE ST Columbia SC

AFVR Contractor: ARM Personnel: JAMES GANTT / LYLE GREEN

Date: 4-12-21 Ambient Air Temperature and General Weather Condition: 70-82° sunny

Start Time 1: 10:00 4-12-21 Stop Time 1: 10:00 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 96-hour AFVR Event: 1026 gallons

Total volume of product removed during the 96-hour AFVR Event: NM

Product / Water Recovery Rate: 0.18 gals/min

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
RW2	NM	14.33	NM	14.45	307	
RW3	NM	14.85	NM	14.13	307	
MW5R	NM	14.19	NM	14.13	412	

N/M – Not Measurable (not detected)

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 12]

Monday 4-12-21

Time	~~MW-~~ RW-2 Vacuum at Targeted Well (in. Hg)	~~MW-~~ RW-3 Vacuum at Targeted Well (in. Hg)	MW-5R Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
10:00	10	17	15				
:30	10	17	15				
11:00	10	17	15				
:30	10	17	15				
12:00	8	17	15				
:30	8	17	13				
13:00	8	15	13				
:30	8	15	13				
14:00	8	15	13				
:30	9	15	13				
15:00	9	15	13				
:30	9	15	14				
16:00	9	15	14				
:30	9	13	14				
17:00	9	13	14				
:30	9	13	14				
18:00	10	13	14				
19:00	10	13	14				
20:00	10	13	14				
21:00	10	13	14				
22:00	10	14	14				
23:00	9	14	14				
24:00	9	14	14				

Vacuum at Pump: 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 12]

	Time	~~MW-~~ RW-2 Vacuum at Targeted Well (in. Hg)	~~MW-~~ RW-3 Vacuum at Targeted Well (in. Hg)	MW-5R Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)	MW- Vacuum at Targeted Well (in. Hg)
TUESDAY 4-13-21	08:00	12	14	13				
	09:00	12	14	13				
	10:00	12	15	13				
	12:00	12	15	13				
	14:00	12	16	13				
	16:00	12	16	13				
	18:00	10	14	12				
	20:00	10	14	12				
	22:00	10	12	12				
	24:00	10	12	12				
WEDNESDAY 4-14-21	08:00	12	12	10				
	10:00	12	12	8				
	12:00	8	12	8				
	14:00	8	12	8				
	16:00	8	12	8				
	18:00	8	12	8				
	20:00	8	12	8				
	22:00	9	11	9				
	24:00	9	11	9				

Vacuum at Pump: 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 12]

	~~MW-~~ RW-2	~~MW-~~ RW-3	MW- 5R	MW-	MW-	MW-	MW-
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)
08:00	8	7	6				
10:00	8	9	8				
12:00	8	9	8				
14:00	8	9	8				
16:00	8	9	6				
18:00	8	7	6				
20:00	8	7	6				
22:00	9	6	6				
24:00	9	7	6				
08:00	7	6	9				
10:00	7	6	9				

Vacuum at Pump: 19

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 5 of 12]

MONDAY 4-12-21

	Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: ~~MW-~~ RW-3		Stinger Placement: MW-5R		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
10:00	14.0		14.0		14.0			
:30	14.5		14.5		14.5			
11:00	15.0		15.0		15.0			
:30	15.5		15.5		15.5			
12:00	16.0		16.0		16.0			
:30	16.5		16.5		16.5			
13:00	17.0		17.0		18.0			
:30	17.5		17.5		18.0			
14:00	18.0		18.0		17.0			
:30	18.5		18.5		17.0			
15:00	19.0		19.0		16.0			
:30	19.5		19.5		16.0			
16:00	21.0		21.0		16.0			
:30	21.5		21.5		15.0			
17:00	22.0		22.0		15.0			
:30	22.5		22.5		14.0			
18:00	23.0		23.0		14.0			
19:00	20		18		14			
20:00	18		18		14			
21:00	16		15		15			
22:00	16		15		15			
23:00	16		15		15			
24:00	16		15		15			

Vacuum at Pump: 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 6 of 12]

		Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: ~~MW-~~ RW-3		Stinger Placement: MW- 5R		Stinger Placement: MW-	
	Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
TUESDAY 4-13-21	08:00	16		15		15			
	09:00	16		15		15			
	10:00	16		15		16			
	12:00	16		15		16			
	14:00	14		15		16			
	16:00	14		15		16			
	18:00	14		15		16			
	20:00	14		15		16			
	22:00	14		15		16			
	24:00	14		15		16			
WEDNESDAY 4-14-21	08:00	14		15		16			
	10:00	15		15		16			
	12:00	15		15		16			
	14:00	15		16		16			
	16:00	15		16		16			
	18:00	16		16		16			
	20:00	16		16		16			
	22:00	16		16		16			
	24:00	16		16		16			

Vacuum at Pump: 20

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 7 of 12]

	Stinger Placement: ~~MW-~~ RW-2		Stinger Placement: ~~MW-~~ RW-3		Stinger Placement: MW- 5R		Stinger Placement: MW-	
Time	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes	Stinger Depth	Notes
08:00	16		16		16			
10:00	16		16		18			
12:00	16		16		18			
14:00	16		14		16			
16:00	18		14		16			
18:00	18		14		16			
20:00	18		14		16			
22:00	18		15		16			
24:00	18		16		16			
08:00	18		16		14			
10:06	18		16		14			

Thursday 4/15-21

Friday 4-16-21

Vacuum at Pump: 19

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 8 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

MONDAY 4-12-21

	~~MW-~~ RW-1		MW-21		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
10:00	14.50	.003	14.15	.002				
:30	14.53	.003	14.17	.002				
11:00	14.52	.002	14.13	.002				
:30	14.55	.002	14.17	.001				
12:00	14.57	.002	14.19	.001				
:30	14.60	.003	14.21	.0008				
13:00	14.63	.001	14.24	.001				
:30	14.70	.001	14.27	.001				
14:00	14.79	.003	14.30	.001				
:30	14.25	.003	14.32	.0009				
15:00	14.73	.001	14.36	.0009				
:30	14.99	.001	14.40	.001				
16:00	14.92	.001	14.42	.0009				
:30	14.90	.001	14.44	.001				
17:00	14.92	.002	14.41	.001				
:30	14.95	.002	14.43	.001				
18:00	14.93	.001	14.46	.001				
19:00	14.97	.001	14.48	.001				
20:00	14.95	.003	14.51	.0009				
21:00	14.93	.003	14.49	.0008				
22:00	14.93	.002	14.50	.001				
23:00	14.94	.002	14.51	.001				
24:00	14.95	.002	14.50	.001				

96-hr. Aggressive Fluid/Vapor Recovery Notes
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vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

	MW- RW-1		MW- 21		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
TUESDAY 4-13-21								
08:00	16.04	.004	15.67	.002				
09:00	16.15	.003	15.13	.002				
10:00	16.20	.002	15.15	.001				
12:00	16.27	.002	15.18	.001				
14:00	16.17	.003	15.14	.002				
16:00	16.22	.002	15.16	.002				
18:00	16.28	.002	15.12	.001				
20:00	16.38	.002	15.19	.001				
22:00	16.40	.004	15.18	.003				
24:00	16.37	.002	15.19	.004				
WEDNESDAY 4-14-21								
08:00	16.82	.004	15.31	.003				
10:00	16.73	.004	15.33	.003				
12:00	16.62	.002	15.29	.001				
14:00	16.63	.001	15.32	.0008				
16:00	16.58	.001	15.27	.001				
18:00	16.56	.001	15.23	.0008				
20:00	16.85	.002	15.21	.0009				
22:00	16.83	.001	15.23	.0008				
24:00	16.86	.001	15.24	.001				

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 10 of 12]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

	MW- RW-1		MW- 21		MW-		MW-	
Time	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)	Water Level	Vacuum Influence at Well (in. Hg)
08:00	15.55	.006	14.55	.005				
10:00	15.46	.006	14.81	.004				
12:00	15.38	.005	14.77	.004				
14:00	15.42	.005	14.72	.003				
16:00	15.23	.005	14.69	.004				
18:00	15.40	.004	14.67	.003				
20:00	15.43	.004	14.65	.004				
22:00	15.41	.004	14.66	.003				
24:00	15.42	.004	14.65	.003				
08:00	15.16	.007	14.76	.006				
10:00	15.20	.004	14.78	.006				

THURSDAY 4-15-21

FRIDAY 4-16-21

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 11 of 12]

Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
MONDAY 4-12-21							
10:00	460	92	80	389	41.8	39.2	
:30	601	120	81	521	43.1	32.3	
11:00	662	132	81	586	49.4	37.3	
:30	572	114	81	532	42.0	34.9	
12:00	728	145	81	417	37.3	30.8	
:30	781	156	81	463	35.2	38.7	
13:00	716	143	81	472	38.4	35.5	
:30	681	136	81	501	33.3	33.7	
14:00	701	140	81	542	34.3	40.0	
:30	711	142	81	541	31.8	41.1	
15:00	689	137.	81	511	38.2	42.3	
:30	681	136	81	602	41.8	28.5	
16:00	673	134	81	581	43.1	26.5	
:30	651	130	81	611	44.6	31.2	
17:00	637	127	81	593	42.7	30.1	
:30	667	133	81	600	43.3	33.4	
18:00	681	136	81	574	43.8	46.5	
19:00	581	116	81	593	50.1	33.6	
20:00	616	123	81	490	41.3	28.7	
21:00	595	119	80	605	43.2	31.3	
22:00	675	135	80	597	49.1	39.4	
23:00	669	133	81	575	44.7	30.3	
24:00	715	143	80	478	40.5	27.5	
TUESDAY 4-13-21							
08:00	588	117	81	346	30.9	55.4	
09:00	754	151	80	635	38.8	50.1	
10:00	748	149	81	591	36.2	38.3	
12:00	727	145	81	457	35.4	37.2	
14:00	639	127	81	831	42.7	72.8	

96-hr. Aggressive Fluid/Vapor Recovery Notes
[Page 12 of 12]

	Time	FID *at stack* (ppm)	FID *off-gas* (ppm)	% Reduction	Velocity (ft. / min.)	Temp. (°C)	Relative Humidity (%)	Other
TUESDAY 4-13-21	16:00	613	122	81	846	49.3	30.3	
	18:00	575	115	80	959	59.6	29.4	
	20:00	654	130	81	942	47.9	35.3	
	22:00	701	140	81	713	52.0	50.5	
	24:00	745	149	80	667	53.1	39.5	
WEDNESDAY 4-14-21	08:00	529	106	80	830	49.2	41.5	
	10:00	689	138	80	998	50.1	42.3	
	12:00	666	133	81	957	58.7	29.2	
	14:00	586	117	81	916	57.3	29.4	
	16:00	589	118	80	1066	57.7	28.9	
	18:00	563	113	80	962	53.2	26.7	
	20:00	561	112	81	987	49.3	28.7	
	22:00	497	99	81	967	53.7	25.3	
	24:00	545	109	80	879	51.5	43.1	
THURSDAY 4-15-21	08:00	492	99	80	1279	47.1	32.4	
	10:00	475	95	80	1222	53.4	24.4	
	12:00	398	80	80	1053	55.8	21.9	
	14:00	387	77	81	1121	54.9	23.7	
	16:00	397	79	81	1131	54.3	25.9	
	18:00	403	80	81	1092	57.7	23.9	
	20:00	384	77	80	1173	48.5	24.5	
	22:00	472	94	81	1231	53.7	25.1	
	24:00	365	73	80	1125	54.6	23.8	
FRIDAY 4-16-21	08:00	325	65	80	1312	46.9	24.0	
	10:00	341	68	81	1123	45.1	25.2	

APPENDIX B

AFVR Mass Removal Calculations

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Q_{std} = (60 sec/min) (1-B_{ws}) (V) (A) (528° R / T_s)

B_{wsw} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

= (B_{wsw} / 18 lb-mole H_2O) / [1/28.84 lb-mole dry air) + (B_{wsw} / 18 lb-mole H_2O)]

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft^2 of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

R° = (C° + 273.15) x 9/5

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

PMR = PMR_c (# of minutes / 60)

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

= C_c (Q_{std}) (60 min/hr)

C_c = $C_{c:m}$ (62.43 x 10^{-9} lb-m^3/mg-ft^3)

$C_{c:m}$ = mg/dsm^3 - mass concentration of TGNMO emissions

= PPM_c (M_c / K_4)

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

= (PPM_{meas}) (K) = PPM_v

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - K=1, propane - K=3, isobutylene - K=4, hexane - K=6

K_4 = 24.07 $dsm^3/10^6$ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dcsf - mass concentration of TGNMO emissions sa carbon, dry basis, at standard temperature and pressure

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
4/5/2021	10:00	58.6	23.4	0.028	0.043	22.03	0.022	597.2	24.37
	10:30	59.8	20.0	0.026	0.039	19.10	0.022	599.3	21.14
	11:00	60.3	21.7	0.029	0.044	20.65	0.022	600.2	22.72
	11:30	58.3	20.4	0.024	0.037	19.77	0.022	596.6	22.03
	12:00	58.7	23.4	0.029	0.044	15.77	0.022	597.3	17.43
	12:30	59.0	24.3	0.030	0.046	16.92	0.022	597.9	18.64
	13:00	58.2	26.0	0.031	0.047	20.40	0.022	596.4	22.50
	13:30	53.7	25.2	0.024	0.037	21.25	0.022	588.3	24.02
	14:00	56.4	20.2	0.022	0.034	17.12	0.022	593.2	19.26
	14:30	57.8	23.7	0.028	0.042	21.88	0.022	595.7	24.30
	15:00	57.3	25.1	0.029	0.044	22.37	0.022	594.8	24.83
	15:30	58.1	26.3	0.031	0.048	21.22	0.022	596.3	23.40
	16:00	56.9	25.8	0.029	0.044	18.82	0.022	594.1	20.91
	16:30	57.2	27.8	0.032	0.048	18.30	0.022	594.6	20.23
	17:00	53.7	29.4	0.028	0.043	21.72	0.022	588.3	24.39
	17:30	55.4	26.3	0.027	0.042	20.17	0.022	591.4	22.56
	18:00	58.6	21.8	0.026	0.040	18.95	0.022	597.2	21.03
	19:00	60.1	20.1	0.026	0.040	21.72	0.022	599.9	24.00
	20:00	59.7	19.5	0.025	0.038	22.75	0.022	599.1	25.22
	21:00	51.4	25.1	0.021	0.033	23.42	0.022	584.2	26.77
	22:00	51.8	24.0	0.021	0.032	20.72	0.022	584.9	23.68
	23:00	44.9	21.8	0.013	0.020	20.52	0.022	572.5	24.24
4/6/2021	0:00	50.0	23.3	0.018	0.028	16.97	0.022	581.7	19.57
	8:00	55.7	20.1	0.021	0.032	16.72	0.022	591.9	18.87
	9:00	53.5	22.3	0.021	0.032	18.42	0.022	588.0	20.93
	10:00	55.5	23.1	0.024	0.037	21.92	0.022	591.6	24.64
	12:00	57.7	23.4	0.027	0.042	21.45	0.022	595.5	23.84
	14:00	58.3	23.8	0.028	0.044	20.32	0.022	596.6	22.49
	16:00	59.8	22.3	0.029	0.044	19.77	0.022	599.3	21.78
	18:00	56.4	23.8	0.026	0.040	21.75	0.022	593.2	24.32
	20:00	60.3	24.7	0.033	0.050	22.17	0.022	600.2	24.24
	22:00	56.5	23.6	0.026	0.040	21.30	0.022	593.4	23.81

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
4/7/2021	0:00	58.3	23.7	0.028	0.043	19.83	0.022	596.6	21.96
	8:00	55.5	17.0	0.017	0.027	24.93	0.022	591.6	28.32
	10:00	49.6	22.2	0.017	0.027	15.85	0.022	581.0	18.34
	12:00	59.7	24.3	0.031	0.048	7.80	0.022	599.1	8.56
	14:00	58.4	26.3	0.032	0.048	21.90	0.022	596.8	24.12
	16:00	57.8	22.4	0.026	0.040	19.20	0.022	595.7	21.37
	18:00	53.7	24.1	0.023	0.035	16.88	0.022	588.3	19.12
	20:00	54.7	23.5	0.023	0.036	19.03	0.022	590.1	21.47
	22:00	58.3	24.1	0.029	0.044	21.67	0.022	596.6	23.97
4/8/2021	0:00	60.2	22.7	0.030	0.045	17.60	0.022	600.0	19.34
	8:00	44.1	34.6	0.020	0.031	13.68	0.022	571.1	16.03
	10:00	44.9	82.7	0.053	0.078	8.45	0.022	572.5	9.40
	12:00	53.3	26.1	0.024	0.038	14.57	0.022	587.6	16.48
	14:00	57.1	27.7	0.031	0.048	14.08	0.022	594.5	15.58
	16:00	54.8	26.5	0.027	0.041	13.20	0.022	590.3	14.81
	18:00	52.0	28.7	0.025	0.039	15.37	0.022	585.3	17.43
	20:00	56.3	29.5	0.032	0.049	14.45	0.022	593.0	16.00
	22:00	57.5	26.3	0.030	0.046	16.27	0.022	595.2	18.00
4/9/2021	0:00	56.3	27.2	0.030	0.045	14.08	0.022	593.0	15.66
	8:00	47.6	29.4	0.020	0.032	13.23	0.022	577.4	15.33
	10:00	51.3	27.3	0.023	0.036	11.97	0.022	584.0	13.65

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
4/5/2021	10:00	0	24.37	432	432	216	- - -	- - -	0.00
	10:30	30	21.14	412	412	206	0.00001	0.02	0.01
	11:00	30	22.72	441	441	220	0.00001	0.02	0.01
	11:30	30	22.03	419	419	209	0.00001	0.02	0.01
	12:00	30	17.43	394	394	197	0.00001	0.01	0.01
	12:30	30	18.64	378	378	189	0.00001	0.01	0.01
	13:00	30	22.50	342	342	171	0.00001	0.01	0.01
	13:30	30	24.02	359	359	179	0.00001	0.02	0.01
	14:00	30	19.26	354	354	177	0.00001	0.01	0.01
	14:30	30	24.30	341	341	170	0.00001	0.02	0.01
	15:00	30	24.83	266	266	133	0.00001	0.01	0.01
	15:30	30	23.40	283	283	141	0.00001	0.01	0.01
	16:00	30	20.91	328	328	164	0.00001	0.01	0.01
	16:30	30	20.23	299	299	149	0.00001	0.01	0.01
	17:00	30	24.39	320	320	160	0.00001	0.01	0.01
	17:30	30	22.56	311	311	155	0.00001	0.01	0.01
	18:00	30	21.03	330	330	165	0.00001	0.01	0.01
	19:00	60	24.00	313	313	156	0.00001	0.01	0.01
	20:00	60	25.22	325	325	162	0.00001	0.02	0.02
	21:00	60	26.77	415	415	207	0.00001	0.02	0.02
	22:00	60	23.68	330	330	165	0.00001	0.01	0.01
	23:00	60	24.24	269	269	134	0.00001	0.01	0.01
4/6/2021	0:00	60	19.57	221	221	110	0.00001	0.01	0.01
	8:00	480	18.87	235	235	117	0.00001	0.01	0.07
	9:00	60	20.93	240	240	120	0.00001	0.01	0.01
	10:00	60	24.64	225	225	112	0.00001	0.01	0.01
	12:00	120	23.84	262	262	131	0.00001	0.01	0.02
	14:00	120	22.49	291	291	145	0.00001	0.01	0.02
	16:00	120	21.78	248	248	124	0.00001	0.01	0.02
	18:00	120	24.32	280	280	140	0.00001	0.01	0.03
	20:00	120	24.24	310	310	155	0.00001	0.01	0.03
	22:00	120	23.81	287	287	143	0.00001	0.01	0.03

Site: Former Crown SC-015 - Event 1 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
4/7/2021	0:00	120	21.96	265	265	132	0.00001	0.01	0.02
	8:00	480	28.32	232	232	116	0.00001	0.01	0.10
	10:00	120	18.34	502	502	250	0.00002	0.02	0.03
	12:00	120	8.56	366	366	183	0.00001	0.01	0.01
	14:00	120	24.12	355	355	177	0.00001	0.02	0.03
	16:00	120	21.37	361	361	180	0.00001	0.01	0.03
	18:00	120	19.12	421	421	210	0.00001	0.02	0.03
	20:00	120	21.47	380	380	190	0.00001	0.02	0.03
	22:00	120	23.97	257	257	128	0.00001	0.01	0.02
4/8/2021	0:00	120	19.34	410	410	205	0.00001	0.01	0.03
	8:00	480	16.03	273	273	136	0.00001	0.01	0.07
	10:00	120	9.40	454	454	227	0.00001	0.01	0.02
	12:00	120	16.48	376	376	188	0.00001	0.01	0.02
	14:00	120	15.58	403	403	201	0.00001	0.01	0.02
	16:00	120	14.81	429	429	214	0.00001	0.01	0.02
	18:00	120	17.43	334	334	167	0.00001	0.01	0.02
	20:00	120	16.00	379	379	189	0.00001	0.01	0.02
	22:00	120	18.00	430	430	215	0.00001	0.01	0.03
4/9/2021	0:00	120	15.66	225	225	112	0.00001	0.01	0.01
	8:00	480	15.33	300	300	150	0.00001	0.01	0.07
	10:00	120	13.65	325	325	162	0.00001	0.01	0.02

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-5R, RW-1, & RW-2 **1.10**

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Q_{std} = (60 sec/min) (1-B_{ws}) (V) (A) (528° R / T_s)

B_{wsw} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

= (B_{wsw} / 18 lb-mole H_2O) / [1/28.84 lb-mole dry air) + (B_{wsw} / 18 lb-mole H_2O)]

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft^2 of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

R° = (C° + 273.15) x 9/5

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

PMR = PMR_c (# of minutes / 60)

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

= C_c (Q_{std}) (60 min/hr)

C_c = $C_{c:m}$ (62.43 x 10^{-9} lb-m^3/mg-ft^3)

$C_{c:m}$ = mg/dsm^3 - mass concentration of TGNMO emissions

= PPM_c (M_c / K_4)

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

= (PPM_{meas}) (K) = PPM_v

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - K=1, propane - K=3, isobutylene - K=4, hexane - K=6

K_4 = 24.07 $dsm^3/10^6$ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dcsf - mass concentration of TGNMO emissions sa carbon, dry basis, at standard temperature and pressure

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
4/12/2021	10:00	41.8	39.2	0.020	0.031	6.48	0.022	566.9	7.65
	10:30	43.7	32.3	0.018	0.029	8.68	0.022	570.3	10.21
	11:00	49.4	37.3	0.029	0.044	9.77	0.022	580.6	11.10
	11:30	42.0	39.9	0.021	0.032	8.87	0.022	567.3	10.45
	12:00	37.3	30.8	0.012	0.019	6.95	0.022	558.8	8.42
	12:30	35.2	38.7	0.014	0.022	7.72	0.022	555.0	9.39
	13:00	38.4	35.5	0.015	0.024	7.87	0.022	560.8	9.46
	13:30	33.3	33.7	0.011	0.017	8.35	0.022	551.6	10.28
	14:00	34.3	40.0	0.014	0.021	9.03	0.022	553.4	11.03
	14:30	31.8	41.1	0.012	0.019	9.02	0.022	548.9	11.13
	15:00	38.2	42.3	0.018	0.028	8.52	0.022	560.4	10.20
	15:30	41.8	28.5	0.015	0.023	10.03	0.022	566.9	11.94
	16:00	43.1	26.5	0.014	0.023	9.68	0.022	569.3	11.48
	16:30	44.6	31.2	0.019	0.029	10.18	0.022	572.0	11.94
	17:00	42.7	30.1	0.016	0.025	9.88	0.022	568.5	11.70
	17:30	43.3	33.4	0.019	0.029	10.00	0.022	569.6	11.77
	18:00	43.8	46.5	0.027	0.041	9.57	0.022	570.5	11.10
	19:00	50.1	33.6	0.027	0.041	9.88	0.022	581.9	11.25
	20:00	41.3	28.7	0.014	0.022	8.17	0.022	566.0	9.74
	21:00	43.2	31.3	0.017	0.027	10.08	0.022	569.4	11.90
	22:00	49.1	39.4	0.030	0.046	9.95	0.022	580.1	11.30
	23:00	44.7	30.3	0.018	0.028	9.58	0.022	572.1	11.24
4/13/2021	0:00	40.5	27.5	0.013	0.021	7.97	0.022	564.6	9.55
	8:00	30.9	55.4	0.016	0.024	5.77	0.022	547.3	7.10
	9:00	38.8	50.1	0.022	0.034	10.58	0.022	561.5	12.57
	10:00	36.2	38.3	0.014	0.023	9.85	0.022	556.8	11.94
	12:00	35.4	37.2	0.013	0.021	7.62	0.022	555.4	9.27
	14:00	42.7	72.8	0.041	0.061	13.85	0.022	568.5	15.80
	16:00	49.3	30.3	0.023	0.036	14.10	0.022	580.4	16.18
	18:00	59.6	29.4	0.038	0.057	15.98	0.022	599.0	17.37
	20:00	47.9	35.3	0.025	0.039	15.70	0.022	577.9	18.04
	22:00	52.0	50.5	0.046	0.068	11.88	0.022	585.3	13.07

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B_{wsw}	B_{ws}	V	A	T_s	Q_{std}
		(°C)	(%)	(%)	(%)	(ft/sec)	(ft^2)	(°R)	(dscfm)
4/14/2021	0:00	53.1	39.5	0.037	0.056	11.12	0.022	587.3	12.34
	8:00	49.2	41.5	0.032	0.049	13.83	0.022	580.2	15.66
	10:00	50.1	42.3	0.034	0.052	16.63	0.022	581.9	18.72
	12:00	58.7	29.2	0.036	0.054	15.95	0.022	597.3	17.44
	14:00	87.3	29.4	0.149	0.193	15.27	0.022	648.8	13.11
	16:00	57.7	28.9	0.034	0.051	17.77	0.022	595.5	19.54
	18:00	53.2	26.7	0.025	0.038	16.03	0.022	587.4	18.13
	20:00	59.3	28.7	0.036	0.055	16.45	0.022	598.4	17.94
	22:00	53.7	25.3	0.024	0.037	16.12	0.022	588.3	18.22
4/15/2021	0:00	51.5	43.1	0.037	0.057	14.65	0.022	584.4	16.33
	8:00	47.1	32.4	0.022	0.034	21.32	0.022	576.5	24.67
	10:00	53.4	24.4	0.023	0.035	20.37	0.022	587.8	23.09
	12:00	55.8	21.9	0.023	0.036	17.55	0.022	592.1	19.74
	14:00	54.9	23.7	0.024	0.037	18.68	0.022	590.5	21.05
	16:00	54.3	25.9	0.025	0.039	18.85	0.022	589.4	21.22
	18:00	51.7	23.9	0.020	0.032	18.20	0.022	584.7	20.81
	20:00	48.5	24.5	0.018	0.028	19.55	0.022	579.0	22.67
	22:00	53.7	25.1	0.024	0.037	20.52	0.022	588.3	23.20
4/16/2021	0:00	54.6	23.8	0.024	0.036	18.75	0.022	590.0	21.15
	8:00	46.9	24.0	0.016	0.025	21.87	0.022	576.1	25.56
	10:00	45.1	25.2	0.015	0.024	18.72	0.022	572.9	22.02

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
4/12/2021	10:00	0	7.65	460	460	230	- - -	- - -	0.00
	10:30	30	10.21	601	601	300	0.00002	0.01	0.01
	11:00	30	11.10	662	662	330	0.00002	0.01	0.01
	11:30	30	10.45	572	572	285	0.00002	0.01	0.01
	12:00	30	8.42	728	728	363	0.00002	0.01	0.01
	12:30	30	9.39	781	781	390	0.00002	0.01	0.01
	13:00	30	9.46	716	716	357	0.00002	0.01	0.01
	13:30	30	10.28	681	681	340	0.00002	0.01	0.01
	14:00	30	11.03	701	701	350	0.00002	0.01	0.01
	14:30	30	11.13	711	711	355	0.00002	0.01	0.01
	15:00	30	10.20	689	689	344	0.00002	0.01	0.01
	15:30	30	11.94	681	681	340	0.00002	0.02	0.01
	16:00	30	11.48	673	673	336	0.00002	0.01	0.01
	16:30	30	11.94	651	651	325	0.00002	0.01	0.01
	17:00	30	11.70	637	637	318	0.00002	0.01	0.01
	17:30	30	11.77	667	667	333	0.00002	0.01	0.01
	18:00	30	11.10	681	681	340	0.00002	0.01	0.01
	19:00	60	11.25	581	581	290	0.00002	0.01	0.01
	20:00	60	9.74	616	616	307	0.00002	0.01	0.01
	21:00	60	11.90	595	595	297	0.00002	0.01	0.01
	22:00	60	11.30	675	675	337	0.00002	0.01	0.01
	23:00	60	11.24	669	669	334	0.00002	0.01	0.01
4/13/2021	0:00	60	9.55	715	715	357	0.00002	0.01	0.01
	8:00	480	7.10	588	588	293	0.00002	0.01	0.06
	9:00	60	12.57	754	754	376	0.00002	0.02	0.02
	10:00	60	11.94	748	748	373	0.00002	0.02	0.02
	12:00	120	9.27	727	727	363	0.00002	0.01	0.03
	14:00	120	15.80	639	639	319	0.00002	0.02	0.04
	16:00	120	16.18	613	613	306	0.00002	0.02	0.04
	18:00	120	17.37	575	575	287	0.00002	0.02	0.04
	20:00	120	18.04	654	654	326	0.00002	0.02	0.04
	22:00	120	13.07	701	701	350	0.00002	0.02	0.03

Site: Former Crown SC-015 - Event 2 of 2
UST Permit # 07680

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time	Q_{std}	PPM_{meas}	PPM_c	$C_{c:m}$	C_c	PMRc	PMR
		(min)	(dscfm)	(ppm)	(ppm)	(mg/dsm^3)	(lb/dscf)	(lb/hr)	(lb)
4/14/2021	0:00	120	12.34	745	745	372	0.00002	0.02	0.03
	8:00	480	15.66	529	529	264	0.00002	0.02	0.12
	10:00	120	18.72	689	689	344	0.00002	0.02	0.05
	12:00	120	17.44	666	666	332	0.00002	0.02	0.04
	14:00	120	13.11	586	586	292	0.00002	0.01	0.03
	16:00	120	19.54	589	589	294	0.00002	0.02	0.04
	18:00	120	18.13	563	563	281	0.00002	0.02	0.04
	20:00	120	17.94	561	561	280	0.00002	0.02	0.04
	22:00	120	18.22	497	497	248	0.00002	0.02	0.03
4/15/2021	0:00	120	16.33	545	545	272	0.00002	0.02	0.03
	8:00	480	24.67	492	492	245	0.00002	0.02	0.18
	10:00	120	23.09	475	475	237	0.00001	0.02	0.04
	12:00	120	19.74	398	398	199	0.00001	0.01	0.03
	14:00	120	21.05	387	387	193	0.00001	0.02	0.03
	16:00	120	21.22	397	397	198	0.00001	0.02	0.03
	18:00	120	20.81	403	403	201	0.00001	0.02	0.03
	20:00	120	21.22	384	384	192	0.00001	0.02	0.03
	22:00	120	20.81	472	472	236	0.00001	0.02	0.04
4/16/2021	0:00	120	21.15	365	365	182	0.00001	0.01	0.03
	8:00	480	20.81	325	325	162	0.00001	0.01	0.10
	10:00	120	21.15	341	341	170	0.00001	0.01	0.03

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-5R, RW-2, & RW-3 1.53

APPENDIX C

Disposal Manifest(s)

NON-HAZARDOUS WASTE MANIFEST

25-3011.3-21

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3114

2. Page 1 of

3. Generator's Name and Mailing Address FORMER CROWN SC-015
3800 DEVINE ST
COLUMBIA SC

4. Generator's Phone ( )

5. Transporter 1 Company Name: ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK SERVICES
425 BOULEVARD RD
SUMTER SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	921	GAL
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date: Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date: Month 4 Day Year 2021

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson | Signature: Jasmine Anderson | Date: Month 4 Day 28 Year 21

NON-HAZARDOUS WASTE

27331547

TICKET NUMBER

CAT SCALE®

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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**
(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:

STEER AXLE

DRIVE AXLE

SCALE:

LOCATION:

TRAILER AXLE

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.

Total ~~3000~~ gallons
3920 gallons

Manifest	Gallons
3114	921
3115	1026
3116	1585

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

COMPANY MR-1 TRACTOR # 32 TRAILER #

FEE WEIGHMASTER OR WEIGHER SIGNATURE ME-3 TICKET # OF FULL $ WEIGH (IF REWEIGH) 389

DRIVER IN TRUCK UNLESS CHECKED HERE: ___

WEIGH NUMBER 1547

COPY

© CAT Scale® Reg 3074 8/20

25-3011, 3-21

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 3115

2. Page 1 of

3. Generator's Name and Mailing Address
Former Crown SC-015
3800 DEVINE ST
Columbia SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
ARM

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK SERVICES
425 BUCKSHOALS RD
SUMTER SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLUEM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLUEM CONTAMINATED WATER	1	TT	1026	GAL
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date (Month / Day / Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Date (Month / Day / Year): 4 / 28 / 21

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month / Day / Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.

Printed/Typed Name: Jasmine Anderson | Signature: Jasmine Anderson | Date (Month / Day / Year): 4 / 28 / 21

27331547

TICKET NUMBER

CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(877) 228-7225
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 FASTER WITH OUR APP. FIND OUT MORE AT 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**
(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:

SCALE:

LOCATION:

STEER AXLE

DRIVE AXLE

TRAILER AXLE

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.

Total 39000 gallons

Manifest Gallons
3114 921
3115 1026
3116 1585
MR-1 32
ME-3 389

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: ____

© CAT Scale® Reg 3074 8/20

COPY

dhec
Healthy People. Healthy Communities.



MAY 18 2021

CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT STREET
FLOOR 25
BALTIMORE MD 21202

Re: **Site Specific Work Plan Request for Groundwater Sampling**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
AFVR Report received May 17, 2021
Richland County

Dear Ms. Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the above referenced report submitted by your contractor.The report documents petroleum chemicals in the soil and groundwater above Risk-Based Screening Levels (RBSLs).

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section II.B.2. of the SUPERB Site Rehabilitation and Fund Access Regulations, implementation of up to 2 groundwater sampling events is necessary. The groundwater sampling must be conducted at 6-month intervals in accordance with your contractor's Annual Contractor's Quality Assurance Plan (ACQAP), the current revision of the UST QAPP, and in compliance with all applicable regulations. A copy of the UST Quality Assurance Program Plan (QAPP) is available for reference at scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessment-clean/quality-assurance. **Please note that if it is determined, upon review of any report, that data acquisition and site conditions meet the requirements established in Section A6.XVIII of the QAPP, you and your contractor will be notified that a no further action or conditional no further action decision will be issued and that all further work under this cost agreement will be terminated.**

Groundwater samples should be collected from all monitoring wells associated with the above referenced release, and water supply wells, and surface waters within a 1,000 ft radius of the site and analyzed for BTEX, Naphthalene, MtBE, 1,2-DCA, 8 oxygenates, and EDB.

Your contractor must complete a SSWP and Cost Proposal. The Cost Proposal must include adequate quantities of all items necessary to complete the prescribed number of sampling events. Please note that due to the repetitive nature of the work to be performed, only one SSWP will be required. The SSWP and Cost Proposal must be submitted 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.**

On all correspondence regarding this site, please reference the above UST Permit number. Should you have any questions regarding this correspondence, please feel free to contact me by phone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,

Brad Baldwin, GIT, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Annie-Smith Jones, 2112 Loblolly Lane, Johns Island, SC 29455
QES, Inc., 2112 Loblolly Lane, Johns Island, SC 29455
Technical file

Quality Environmental Solutions, Inc.
2112 Loblolly Lane
Johns Island, SC 29455

UST
Brad
JUN 10 2021
DIVISION

Letter of Transmittal

UST
1137
DOCKETING

To: **Brad Baldwin, GIT, Hydrogeologist**
SCDHEC
Bureau of Land and Waste Management
UST Program
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201

From: **Donald Jones**
Quality Environmental Solutions, Inc.

Date: **6/1/2021**

Re: **Former Crown SC-015**
UST Permit # 07680
Groundwater Sampling Event

Pages: **6**

Cc: **Crown Central, LLC**

☐ Urgent ☒ For review ☐ Please comment ☐ Please reply ☐ Please recycle

---

Please see the attached Site-Specific Work Plan for the completion of up to two groundwater sampling events at former Crown SC-015 located at 3800 Devine Street in Columbia, South Carolina (UST Permit # 07680). Please contact Don Jones by email djones@qualityenvironmental.net or by phone 410.841.5552 if you have any questions.

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

To: Brad Baldwin (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: 2112 Loblolly Lane, Johns Island, SC 29455
Property Owner (if different): Niggel Family Partnership, LLC
Property Owner Address: 1219 Sanford Drive Columbia, SC 29206
Current Use of Property: Drug 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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	2+2=4 Field Blank
28+28=56 Monitoring Wells	_____ Surface Water	2+2=4 Duplicate	2+2=4 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: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Comments, if warranted:

_____

_____

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 15 Field Work Completion: 30

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: _____ Tons Purge Water: 25+25=50 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.

SSWP for up to two (2) sampling events six (6) months apart.

Low-flow purge 1st event

Grab sample 21 of the 28 MWs 2nd event

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification Number: _____

Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments

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	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

3. Assessment Component Cost Agreement, SCDHEC Form D-3664



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map



FIGURE 2B: SITE MAP

Former Crown SC-015

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

dhec
Healthy People. Healthy Communities.

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
January 1, 2020

Facility Name: **Former Crown SC-015**

UST Permit #: 07680 **Cost Agreement #:** _____

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. **Plan Preparation**					
1. Site-Specific Work Plan	1	each	$160.05		$160.05
2. Tax Map		each	$74.69		$0.00
3. Tier II or Comp. Plan /QAPP Appendix B		each	$250.00		$0.00
B. **Receptor Survey ***		each	$587.92		$0.00
C. **Survey (500 ft x 500 ft)**					
1. Comprehensive Survey Subsurface Geophysical Survey		each	$1,109.68		$0.00
2. < 10 meters below grade		each	$1,387.10		$0.00
3. > 10 meters below grade		each	$2,464.77		$0.00
4. Geophysical UST or Drum Survey		each	$970.97		$0.00
D. **Mob/Demob**					
1. Equipment		each	$1,088.34		$0.00
2. Personnel	4	each	$451.34		$1,805.36
3. Adverse Terrain Vehicle		each	$533.50		$0.00
E.. **Soil Borings (hand auger)***		foot	$5.34		$0.00
F. **Soil Borings (requiring equipment, push technology, etc) or Field Screening (including water ssample, soil sample, soil gas sample, etc.)***					
1. Standard		per foot	$16.01		$0.00
2. Fractured Rock		per foot	$21.55		$0.00
G. **Soil Leachability Model**		each	$64.02		$0.00
H. **Abandonment (per foot)***					
1. 2" diameter or less		per foot	$3.31		$0.00
2. Greater than 2" to 6" diameter		per foot	$4.80		$0.00
3. Dug/Bored well (up to 6 feet diameter)		per foot	$16.00		$0.00
I. **Well Installation (per foot)***					
1. Water Table (hand augered)		per foot	$11.31		$0.00
2. Water Table (drill rig) 2" Diameter		per foot	$40.55		$0.00
3. Telescoping		per foot	$53.35		$0.00
4. Rock Drilling		per foot	$61.89		$0.00
5. 2" Rock Coring		per foot	$32.97		$0.00
6. Rock Multi-sampling ports/screens		per foot	$35.64		$0.00
7. Recovery Well (4" diameter)		per foot	$48.02		$0.00
8. Pushed Pre-packed screen (1.25" dia)		per foot	$16.01		$0.00
9. Rotosonic (2" diameter)		per foot	$46.95		$0.00
10. Re-develop Existing Well		per foot	$11.74		$0.00

J. **Groundwater Sample Collection / Gauge Depth to Water or Product ***					
1. Groundwater Purge		per well	$64.02		$0.00
2. Air or Vapors		sample	$12.80		$0.00
3. Water Supply Sample or Duplicate		sample	$23.47		$0.00
4. Groundwater No Purge or Duplicate or Grab	25	sample	$29.88		$747.00
5. Gauge Well only		sample	$7.47		$0.00
6. Sample Below Product		sample	$12.80		$0.00
7. Passive Diffusion Bag		sample	$27.74		$0.00
8. Field Blank	4	sample	$26.25		$105.00
9. Groundwater (low flow purge) - 28 (1st) +7 (2nd)	35	sample	$97.10		$3,398.50
10. Equipment Blank		sample	$26.25		$0.00
K. Laboratory Analyses-Groundwater					
1. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	68	per sample	$130.17		$8,851.56
2. Lead, Filtered		per sample	$14.72		$0.00
3. Rush EPA Method 8260B		per sample	$163.89		$0.00
4. Trimethal, Butyl, and Isopropyl Benzenes		per sample	$29.88		$0.00
5. PAH's		per sample	$64.66		$0.00
6. Lead		per sample	$17.07		$0.00
7. EDB by EPA 8011	64	per sample	$48.23		$3,086.72
8. EDB by EPA Method 8011 Rush		per sample	$72.77		$0.00
9. 8 RCRA Metals		per sample	$67.65		$0.00
10. TPH (9070)		per sample	$43.75		$0.00
11. PH		per sample	$5.55		$0.00
12. BOD		per sample	$21.34		$0.00
13. Ethanol		per sample	$15.79		$0.00
K. Analyses-Drinking Water					
14. BTEXNM+1,2 DCA (524.2)		per sample	$132.36		$0.00
15. 7-OXYGENATES & ETHANOL (8260B)		per sample	$97.90		$0.00
16. EDB (504.1)		per sample	$84.83		$0.00
17. RCRA METALS (200.8)		per sample	$106.70		$0.00
K. **Analyses-Soil**					
18. BTEX + Naphth.		per sample	$68.29		$0.00
19. PAH's		per sample	$68.33		$0.00
20. 8 RCRA Metals		per sample	$60.18		$0.00
21. TPH-DRO (3550C/8015C)		per sample	$42.68		$0.00
22. TPH- GRO (5035B/8015C)		per sample	$38.37		$0.00
23. Grain size/hydrometer		per sample	$110.97		$0.00
24. Total Organic Carbon		per sample	$32.65		$0.00
K. **Analyses-Air**					
25. BTEX + Naphthalene		per sample	$230.47		$0.00
K. **Analyses-Free Phase Product**					
26. Hydrocarbon Fuel Identification		per sample	$380.92		$0.00
L. **Aquifer Characterization***					
1. Pumping Test		per hour	$24.54		$0.00
2. Slug Test		per test	$203.80		$0.00
3. Fractured Rock		per test	$106.70		$0.00
M. **Free Product Recovery Rate Test***		each	$40.55		$0.00

N. **Fate/Transport Modeling**					
1. Mathematical Model		each	$106.70		$0.00
2. Computer Model		each	$106.70		$0.00
O. **Risk Evaluation**					
1. Tier I Risk Evaluation		each	$320.10		$0.00
2. Tier II Risk Evaluation		each	$106.70		$0.00
P. **Subsequent Survey***		each	$260.00		$0.00
Q. **Disposal (gallons or tons)***					
1. Wastewater	50	gallon	$0.60		$30.00
2. Free Product		gallon	$0.53		$0.00
3. Soil Treatment/Disposal		ton	$64.02		$0.00
4. Drilling fluids		gallon	$0.45		$0.00
R. **Miscellaneous (attach receipts)**					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. **Tier I Assessment (Use DHEC 3665 form)**					
1. Southeast Region		standard	$11,026.00		$0.00
2. All Other Counties		standard	$12,093.00		$0.00
U. IGWA (Use DHEC 3666 form)					
1. Southeast Region		standard	$3,803.00		$0.00
2. All Other Counties		standard	$4,123.00		$0.00
22. **Corrective Action (Use DHEC 3667 form)**		PFP Bid			$0.00
W. **Aggressive Fluid & Vapor Recovery (AFVR)**					
1. 8-hour Event*		per event	$1,467.13		$0.00
2. 24-hour Event*		per event	$4,081.28		$0.00
3. 48-hour Event*		per event	$6,706.10		$0.00
4. 96-hour Event*		per event	$13,409.52		$0.00
5. Off-gas Treatment 8 hour		per event	$130.71		$0.00
6. Off-gas Treatment 24 hour		per event	$257.68		$0.00
7. Off-gas Treatment 48 hour		per event	$348.91		$0.00
8. Off-gas Treatment 96 hour		per event	$832.26		$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$430.00		$0.00
10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$500.00		$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,000.00		$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,000.00		$0.00
13. AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.50		$0.00
14. AFVR Site Reconnaissance		each	$216.87		$0.00
15. Additional Hook-ups		each	$27.48		$0.00
16. AFVR Effluent Disposal		gallon	$0.47		$0.00
17. AFVR Mobilization/Demobilization		each	$417.73		$0.00

X. **Granulated Activated Carbon (GAC) filter system installation & service:**					
1. New GAC System Installation*		each	$2,027.30		$0.00
2. Refurbished GAC Sys. Install*		each	$960.30		$0.00
3. Filter replacement/removal*		each	$373.45		$0.00
4. GAC System removal, cleaning, & refurbishment*		each	$293.43		$0.00
5. GAC System housing*		each	$266.75		$0.00
6. In-line particulate filter		each	$160.05		$0.00
7. Additional piping & fittings		foot	$1.60		$0.00
Y. **Well Repair**					
1. Additional Copies of the Report Delivered	2	each	$53.35		$106.70
2. Repair 2x2 MW pad*		each	$53.35		$0.00
3. Repair 4x4 MW pad*		each	$93.90		$0.00
4. Replace well vault*		each	$125.91		$0.00
5. Replace well cover bolts		each	$2.77		$0.00
6. Replace locking well cap & lock		each	$16.00		$0.00
7. Replace/Repair stick-up*		each	$142.98		$0.00
8. Convert Flush-mount to Stick-up*		each	$160.05		$0.00
9. Convert Stick-up to Flush-mount*		each	$138.71		$0.00
10. Replace missing/illegible well ID plate		each	$12.80		$0.00
S. Report Prep & Project Management	12%	percent	$18,290.89		$2,194.91
TOTAL					$20,485.80

DHEC D-4074 (1-2020) *The appropriate mobilization cost can be added to complete these tasks, as necessary

dhec
Healthy People. Healthy Communities.

NOV 03 2021



CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT STREET
FLOOR 25
BALTIMORE MD 21202

Re: **Site Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA #63938
Release reported August 15, 1989
Site-Specific Work Plan received June 10, 2021
Richland County

Dear Ms. Boemmel:

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

The Cost Agreement Number above has been approved for the amount shown on the enclosed Approved Cost Agreement.

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 Monitoring Report, contractor checklist (QAPP Appendix K), and invoice for the first event should be submitted to the UST Division within sixty (60) days from the date of this letter. Subsequent reports should be submitted on the previously requested schedule. All reports submitted for these activities should include the required information outlined in the UST QAPP.

Your contractor can submit an invoice for each completed report for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. If the first invoice is not submitted within 120 days from the date of this letter, monies allocated for this cost agreement will be uncommitted. This means that invoices will not be processed for payment until all other committed funds are paid or monies become available. Please note that Section 44-2-130 of the SUPERB Statute states that no costs will be allowed unless prior approval is obtained from DHEC. If for any reason

additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the UST Division for the cost to be paid. The UST 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 UST Division reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

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

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

If it is determined, upon review of any report, that data acquisition and site conditions meet the requirements established in Section A6.XVIII of the QAPP, you and your contractor will be notified that a no further action or conditional no further action decision will be issued and that all further work under this cost agreement will be terminated.

On all correspondence concerning this site, please reference the above UST Permit number. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at baldwiba@dhec.sc.gov.

Sincerely,

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

enc: Approved Cost Agreement

cc: Annie Smith Jones, 2112 Loblolly Lane, Johns Island, SC 29455 (w/enc)
QES, Inc., 2112 Loblolly Lane, Johns Island, SC 29455 (w/enc)
Technical file (w/enc)

Approved Cost Agreement 63938

Facility: 07680 SC015
WYKELJM
PO Number: 89777

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
A PLAN PREPARATION						
		1	SITE SPECIFIC WORK PLAN	1.0000	$160.050	160.05
D MOB/DEMOB						
		2	PERSONNEL	4.0000	$451.340	1,805.36
J SAMPLE COLLECTION						
		4	GROUNDWATER NO-PURGE/DUPL/GRAB	25.0000	$29.880	747.00
		8	FIELD BLANK	4.0000	$26.250	105.00
		9	GROUNDWATER (LOW FLOW PURGE)	35.0000	$97.100	3,398.50
K ANALYSES						
	GW GROUNDWATER	1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	68.0000	$130.170	8,851.56
		7	EDB BY EPA 8011	64.0000	$48.230	3,086.72
Q DISPOSAL						
		1	WASTEWATER	50.0000	$0.600	30.00
S REPORT PROJECT MANAGEMENT						
		S	REPORT PREP & PROJ. MANAGEMENT	0.1200	$18,290.890	2,194.91
Y WELL REPAIR						
		1	ADDITIONAL COPIES OF REPORT	2.0000	$53.350	106.70
				Total Amount		20,485.80

CD's Information

Date Received: 12/21/21

Permit Number: 07680

Project Manager: Matt Wykel

Contractor: QES

Description: GWA Rpt

Docket Number: 115T **Initials:** _____

Scanned by: _____

Verified by: _____

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

December 15, 2021

Matt Wykel, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2021 Groundwater Assessment Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2021 Groundwater Assessment Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently operated as a Long's Drugstore (now closed); the underground storage tanks associated with the former Crown service station were removed in July 1991.

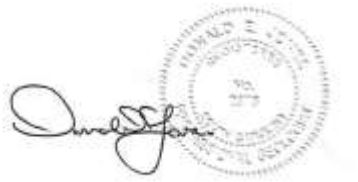
A groundwater sampling notice to proceed for two sampling events six months apart was issued by SCDHEC on November 3, 2021. The monitoring wells and three recovery wells were gauged and sampled November 15 and 16, 2021. Samples were not collected from monitoring wells MW-13 (purged dry with no recovery) and MW-1A (dry).

SCDHEC modeled the site and developed site-specific target levels (SSTLs) for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2021 analytical results were below the SSTLs except for the toluene concentrations in MW-5R (37,100 µg/L), MW-21 (28,500 µg/L), RW-1 (33,100 µg/L) and RW-3 (43,600 µg/L) as compared to the SSTL of 26,540 µg/L. The monitoring wells and recovery wells with the highest dissolved hydrocarbon concentrations are located adjacent to or directly beneath the two former dispenser islands.

The second groundwater sampling event will occur in early June 2022 with a report due date of July 3, 2021.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2021 Groundwater Assessment Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File 201-189-SC-015

2021 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Matt Wykel, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Environmental
PO Box 44
Bridgewater, VT 05034

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
PO Box 44
Bridgewater, VT 05034
Contractor Certification Number 461
410-841-5552

December 15, 2021

2021 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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Table 2: Summary of Monitoring Well Gauging Data
Table 3: Summary of Groundwater Analytical Data

Appendices

Appendix B: Sampling Logs, Laboratory Data Sheets and Chain-of-Custody
Appendix G: Disposal Manifest
Appendix K: Data Verification Checklist

2021 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2021 Groundwater Assessment Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the completion of the monitoring well gauging and sampling event from November 15-16, 2021.

Groundwater monitoring and reporting activities at the Site have been conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #3* (QES 2021), and the November 3, 2021 SCDHEC *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed* and *Approved Cost Agreement No. 63938* (SCDHEC 2021).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugstore) Former UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803-782-6274
Current Property Use	Long's Drugstore (now vacant)

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen aggressive fluid-vapor recovery (AFVR) events have been completed at the Site between April 2010 and July 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater contamination.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the most recent sampling event.
- Site-Specific Target Levels (SSTLs) were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The toluene SSTL was exceeded in MW-5R, MW-21, RW-1 and RW-3 during the 2021 sampling event.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

A directive for an additional full round of groundwater sampling was issued by SCDHEC on November 3, 2021. Groundwater levels were measured in the monitoring and recovery wells on November 15 and 16, 2021 using a Solinst 122 Interface Meter. LNAPL was not detected in the monitoring wells and recovery wells. A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Form is included in **Appendix B**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the southwest in the shallow perched zone and to the east-southeast in the deeper intermediate zone (**Figure 5 and Figure 5A**). A potentiometric surface map based on the deeper monitoring wells is not included as there are only three data points, however historical groundwater flow in the deeper portion of the shallow aquifer is to the east.

The following monitoring wells were not sampled:

- MW-1A was dry with a depth of 9.2 feet. The well has been dry since 2003 and since the original well depth was 45 feet, this well is no longer viable. Monitoring well MW-1AR was installed as a replacement well in 2018.
- There was insufficient groundwater in MW-13 following low flow purging to collect a sample.

Groundwater samples were collected from the monitoring and recovery wells on November 15 and 16, 2021. The shallow monitoring wells were low-flow purged with a peristaltic pump and the deeper wells with a submersible pump prior to sample collection.

Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. The 24.75 gallons of purge water generated during the sampling event were stored in a 55-gallon drum for eventual transport to and disposal by a licensed contractor. A copy of the waste disposal manifest will be forwarded upon receipt for inclusion as **Appendix G**.

Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential and turbidity were measured with the In-Situ Aqua TROLL® 600 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The samples were placed on ice in coolers and delivered via courier along with the chain-of-custody to Pace Analytical in Huntersville, North Carolina. The groundwater samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

Field duplicate samples were collected from monitoring wells MW-5DD and MW-5R. Field blank samples were collected each monitoring well sample day using laboratory supplied deionized water. One trip blank sample was supplied by Pace. The quality assurance/quality control samples were analyzed for the above parameters, excluding EDB analysis of the trip blank sample. There were no discrepancies noted in the analyses of the field duplicates, field blanks or trip blank.

3.0 GROUNDWATER ASSESSMENT RESULTS

Groundwater sampling of 25 Site monitoring wells and the three recovery wells was completed on November15 and 16, 2021. **Table 3** lists the 2021 and historical analytical results. Monitoring wells MW-5R and MW-21 and recovery wells RW-1 and RW-3 exhibited toluene concentrations above the SSTL of 26,540 µg/L. The results included:

- MW-5R toluene concentration of 37,100 µg/L.
- MW-21 toluene concentration of 28,500 µg/L.
- RW-1 toluene concentration of 33,100 µg/L.
- RW-3 toluene concentration of 43,600 µg/L.

The primary area of Site impact is the area of the two former dispenser islands with residual impacted soil present above and within an approximate five feet thick smear zone.

The monitoring well analytical results are summarized in **Table 3**. The complete laboratory report is included in **Appendix B** and the Data Verification Checklist is included in **Appendix K**. **Figure 4** depicts the analytical results for the monitoring wells.

4.0 CONCLUSIONS AND RECOMMENDATION

The first of two groundwater gauging and sampling events was completed at the Site from November 15-16, 2021. SCDHEC modeled the site and developed SSTLs for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2021 analytical results are below the SSTLs except for the toluene concentrations in MW-5R, MW-21, RW-1 and RW-3. The monitoring wells and recovery wells with the highest dissolved hydrocarbon concentrations are all located adjacent to or directly beneath the two former dispenser islands. The second sampling event will occur in early June 2022 with a report due date of July 3, 2022.

REFERENCES

Quality Environmental Solutions, Inc. (QES), 2017. *2017 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. December 29, 2017.

QES 2018. *2018 Recovery Well Installation and AFVR Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680*. August 2, 2018.

QES 2020. *2020 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680*. June 3, 2020.

QES 2021a. *2021 AFVR Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit #07680*. May 12, 2021.

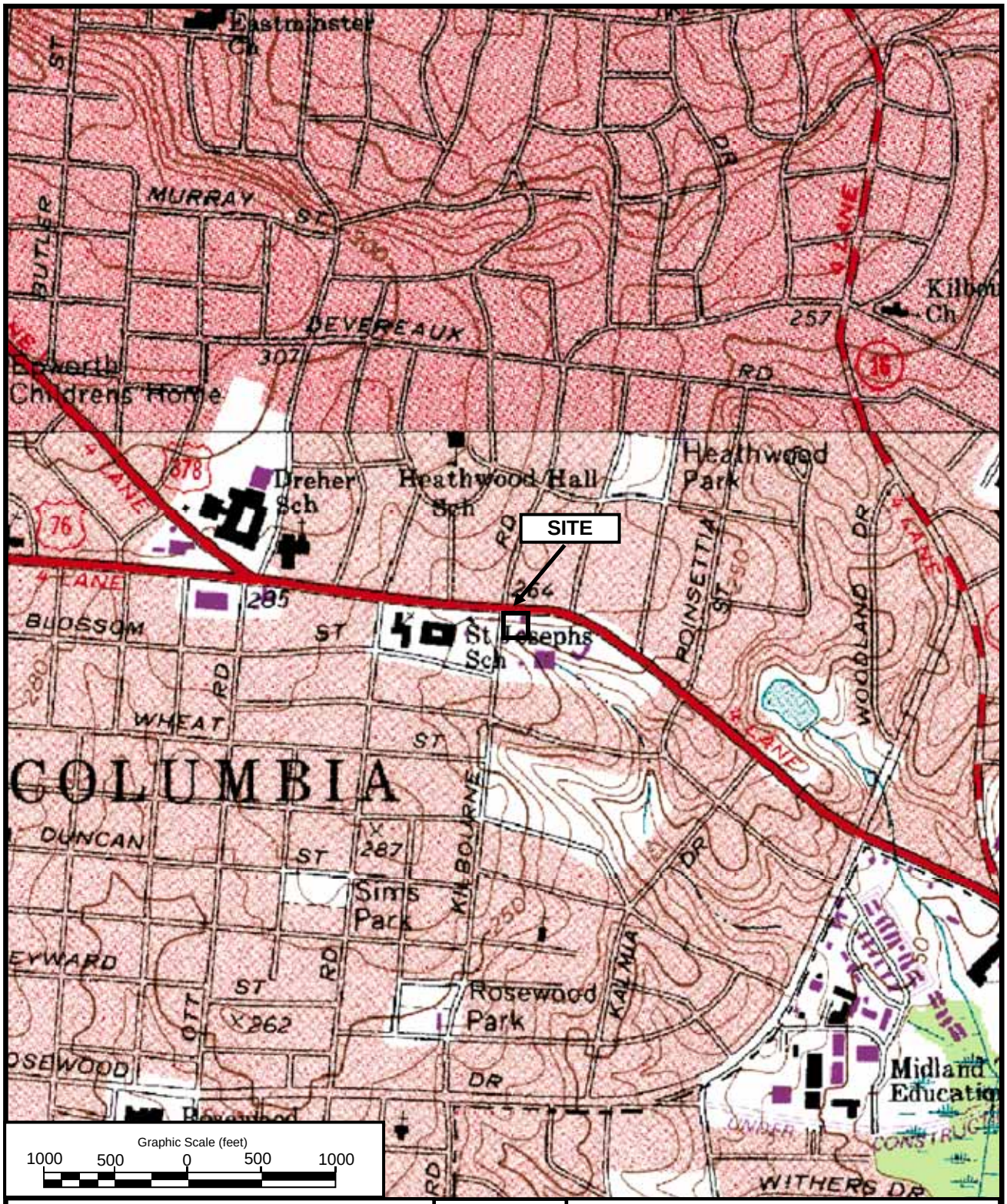
QES 2021b. *Annual Contractor Quality Assurance Plan (ACQAP), Revision #3.* August 30, 2021.

South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management, 2020. *Quality Assurance Program Plan for the Underground Storage Tank Management Division (Programmatic QAPP); Revision 4.* July 2020.

SCDHEC 2021. *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed, SC-015, 3800 Devine Street, Columbia, SC, UST Permit #07680; CA#63938, Release #1 reported August 15, 1989, Site-Specific Work Plan received June 10, 2021, Richland County.* November 3, 2021.

Terracon Consultants, Inc. (Terracon), 2015. *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680*. June 17, 2015.

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

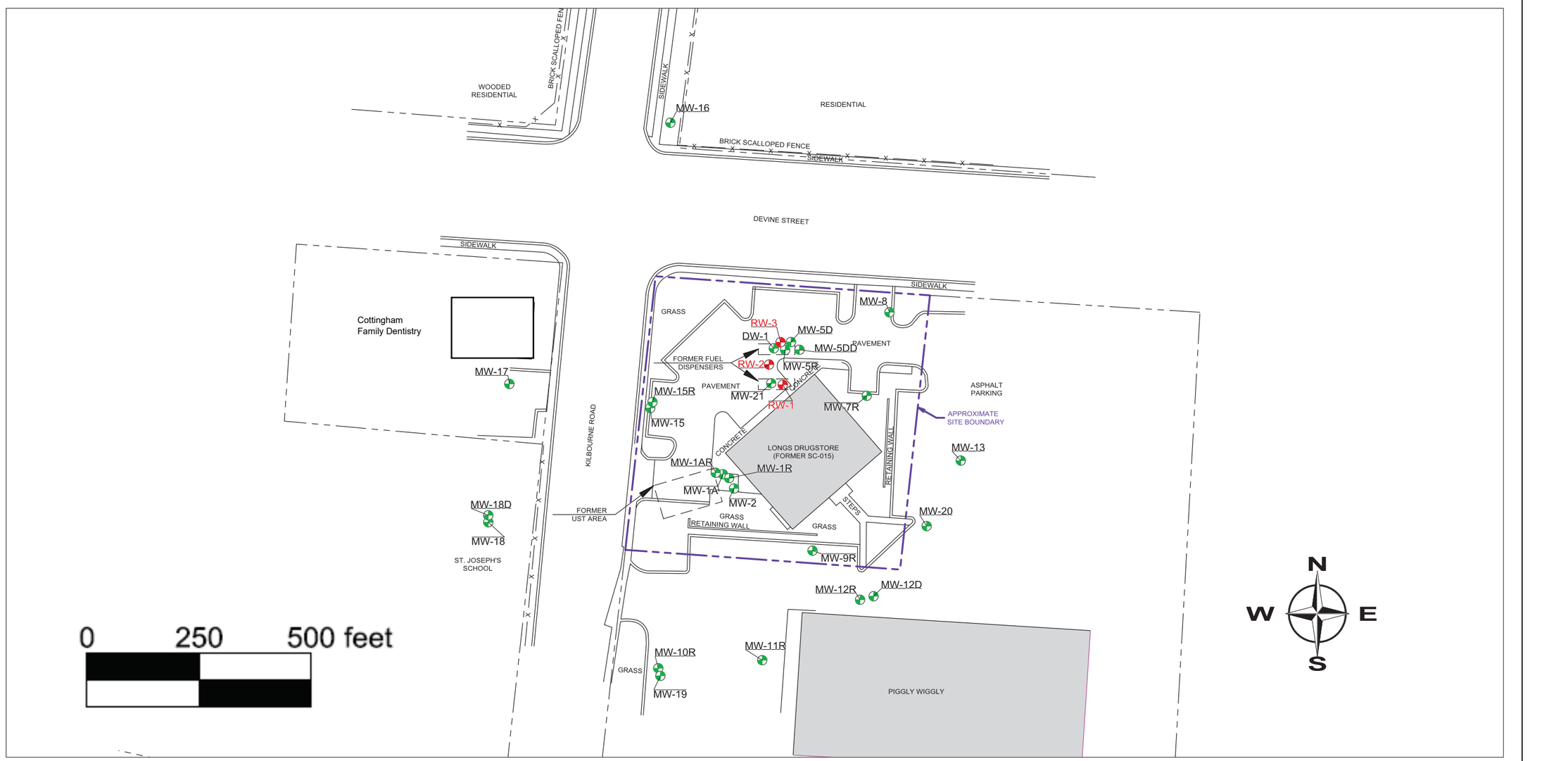
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

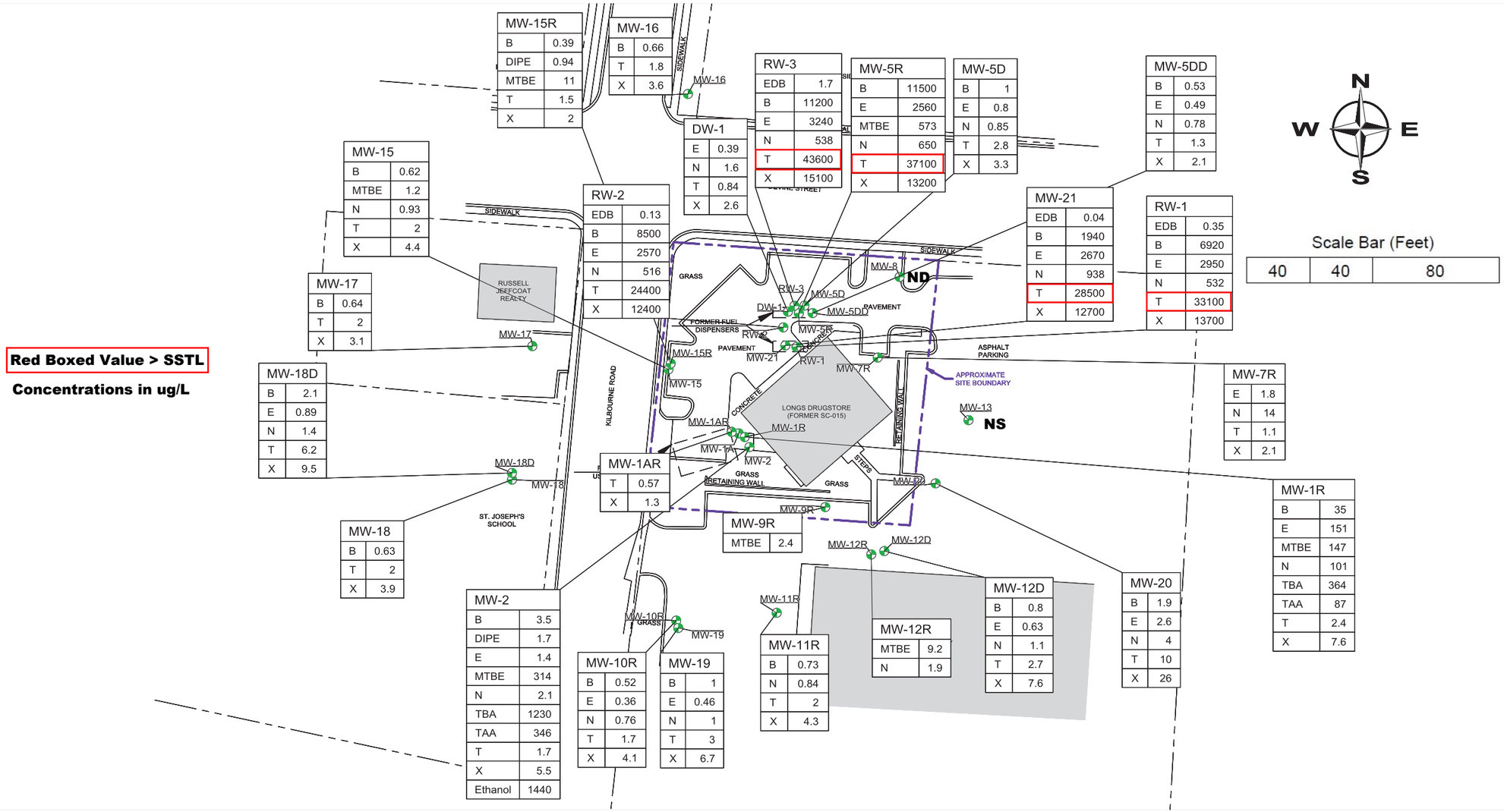




Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES



Red Boxed Value > SSTL

Concentrations in ug/L

Figure 4: COC Concentrataion Map

Former Crown SC-015
Sample Date: November 15-16, 2021

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

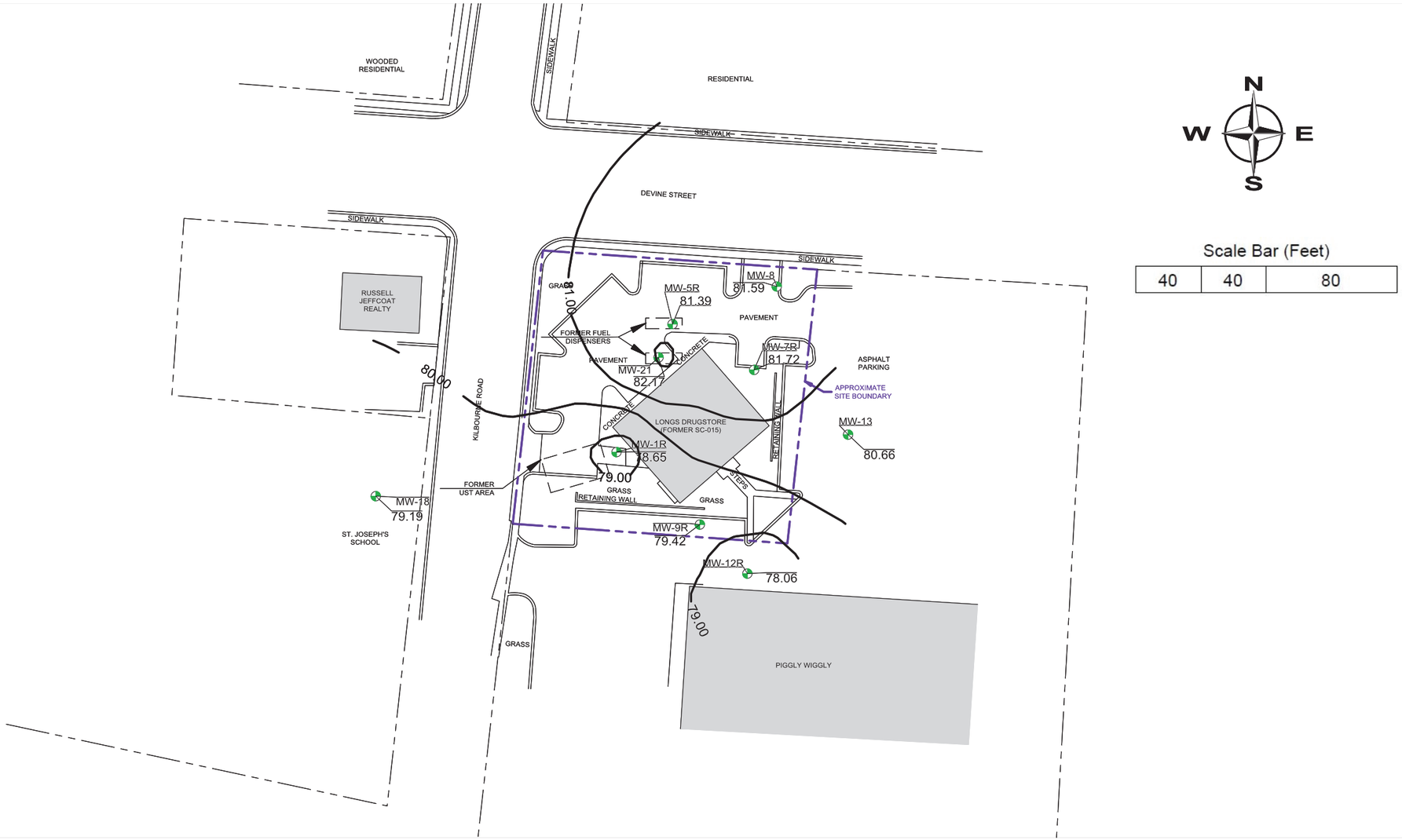


Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: November 15-16, 2021

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

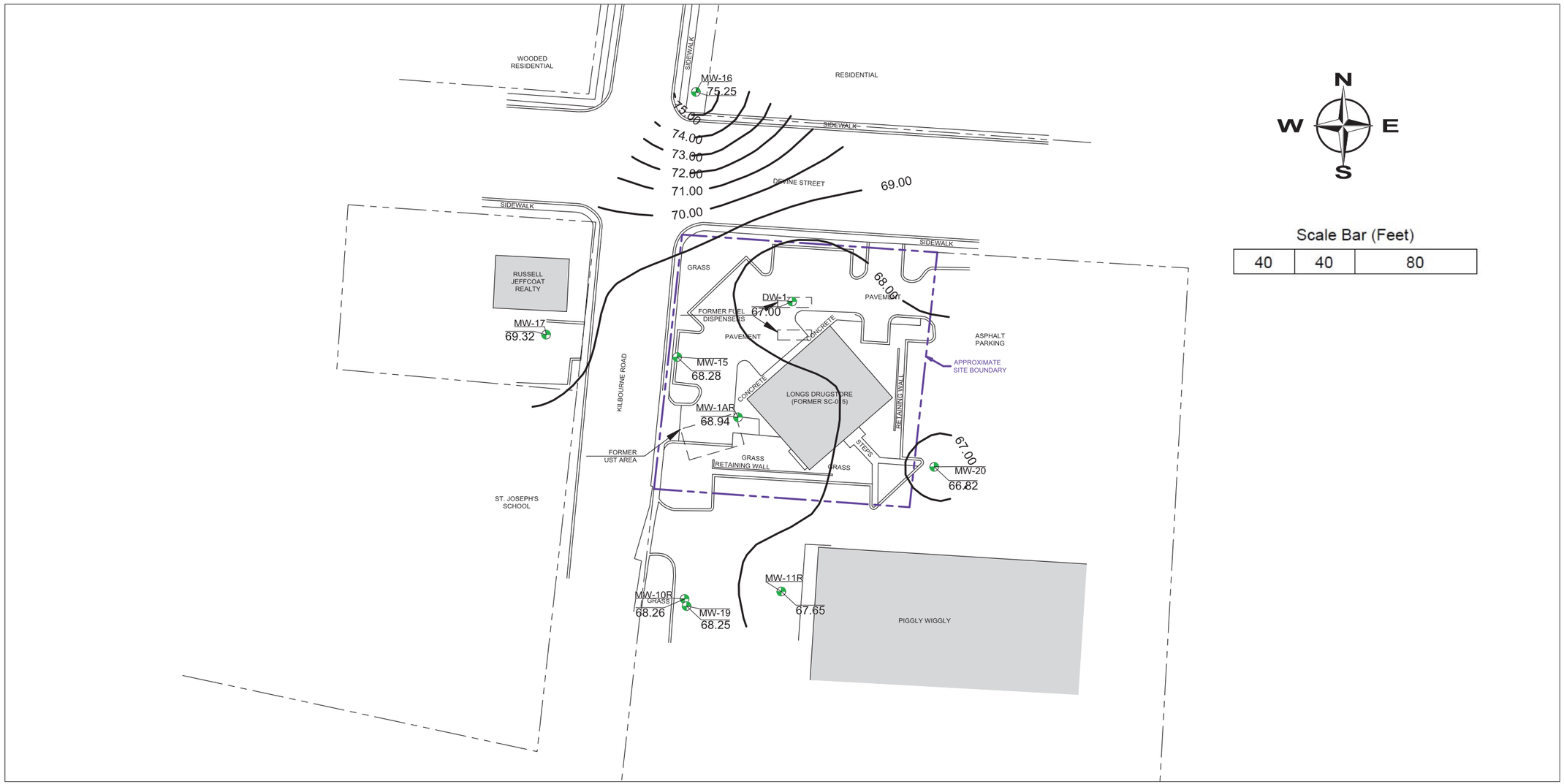


Figure 5A: Potentiometric Surface Map - Intermediate Screened Wells

Former Crown SC-015
Sample Date: November 15-16, 2021

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'						
Screen						
40-45'						
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen						
5-25'						
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen						
5-25'						
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen						
5-25'						

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
MW-1AR	*SSTLs*	*39,162*	*26,540*	*3,700*	*21,680*	*6,849*	*6,700*	*283*									
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-2	*SSTLs*	*23,279*	*26,540*	*3,700*	*21,680*	*5,114*	*6,700*	*171*									
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
MW-5R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**9,070**	**33,500**	**2,560**	**12,500**	**315**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
Duplicate	11/16/21	**11,500**	**37,100**	**2,540**	**13,200**	**573**	**483**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.45 J	1.8	<0.42	0.67 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
Duplicate	11/16/21	0.36 J	0.87 J	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-8	*SSTLs*	*13,274*	*26,540*	*3,700*	*21,680*	*3,727*	*6,059*	*100*									
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	7/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	4/8/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-15R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*16,338*	*6,700*	*1,262*									
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
MW-21	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	**28,500**	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
RW-1	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	05/10/20	**6,300**	**33,000**	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	**33,100**	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
RW-2	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*27,166*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
RW-3	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	**43,600**	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
Field Blank	11/15/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
Trip Blank	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

APPENDIX B

SAMPLING LOGS, LABORATORY DATA SHEETS AND CHAINS-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date: 11/15 - 11/16	QES Associate(s): A. Smith-Jones
Project Number: SC-015, UST #07680	Others Present:
Project Name: *Former Crown SC-015*	QES Associate Signature:

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-1A		dry	@ 9.	20						
MW-1R	—	19.70	—	28.45	1219	✓	✓	0/2	new cap ✓	—
MW-1AR	—	30.40	—	41.40	1153	✓	✓	2/2	✓	✓
MW-2	—	27.28	—	30.20	1215	✓	✓	0/2	✓	✓
MW-5R	—	16.90	—		1418	✓	✓	1/2	✓	✓
MW-5D	—	40.70	—	85.10	1344	✓	✓	0/2	✓	✓
MW-5DD	—	50.44	—	119.40	1316	✓	✓	0/2	✓	✓
MW-7R	—	17.13	—	24.50	1124	✓	✓	0/2	✓	✓
MW-8	—	17.89	—	22.55	1049	✓	✓	0/2	✓	✓
MW-9R	—	13.90	—	19.60	1324	✓	✓	2/2	✓	✓
MW-10R	—	27.45	—	30.30	1358	✓	✓	0/2	✓	✓
MW-11R	—	24.61	—	30.15	14219	✓	✓	0/2	✓	✓
MW-12R	—	14.37	—	20.00	1217	✓	✓	0/2	new cap ✓	✓
MW-12D	—	35.97	—	75.20	1230	✓	✓	0/2	new cap ✓	✓
MW-13	—	13.60	—	16.10	1137	✓	✓	2/2	✓	✓
MW-15	—	31.42	—	34.45	800	✓	✓	2/2	✓	✓
MW-15R	—	31.38	—	39.25	816	✓	✓	2/2	✓	✓
MW-16	—	27.60	—	34.90	1601	✓	✓	2/2	✓	✓
MW-17	—	31.52	—	39.40	1522	✓	✓	0/2	✓	✓
MW-18	—	24.27	—	29.70	938	✓	✓	1/2	✓	✓
MW-18D	—	38.58	—	49.30	930	✓	✓	1/2	✓	✓
MW-19	—	27.49	—	34.80	1418	✓	✓	1/2	✓	✓
MW-20	—	26.11	—	33.90	11:00	✓	✓	0/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

21 gal in drum @ start

figure - dentist next to school - not realty

DW-2 next to MW 17-D

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	11/15 - 11/16	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-21	—	16.72	—	20.20	1350	✓	✓	0/2	✓	✓
RW-1	—	17.21	—	25.50	~~14~~ 1414	✓	✓	0/2	✓	✓
RW-2	—	17.15	—		~~14~~ 1416	✓	✓	1/2	✓	✓
RW-3	—	17.42	—		~~14~~ 1445	✓	✓	1/2	✓	✓
DW-1	—	30.48	—	38.90	1347	✓	✓	2/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1240	350	Start Purge (0)							
1245	↓	1.75	21.00	6.01	0.33	0.36	-10	24	
1250		3.50	21.30	6.00	0.30	0.35	-7	25	
1255		5.25	21.64	5.99	0.28	0.35	-4	24	

Gauging Time:	1219	**Sample Time:**	1256
Depth to Water (ft.):	19.70		
Well Depth (ft.):	28.45	**# of Containers:**	5

Well Number: MW 1R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
~~1200~~ 1207	350	Start Purge (0)							
~~1205~~ 1212	↓	1.75	21.11	5.90	7.37	0.10	118	49	
~~1210~~ 1217		3.5	21.39	5.55	7.28	0.09	161	50	
~~1215~~ 1222		5.25	21.47	5.47	7.32	0.09	170	51	
~~1220~~ 1227		7.0	21.50	5.39	7.34	0.09	183	51	
1230		8.05	21.50	5.39	7.38	0.09	189	50	

Gauging Time:	1153	**Sample Time:**	1231
Depth to Water (ft.):	30.40		
Well Depth (ft.):	41.46	**# of Containers:**	5

Well Number: MW-1AR

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 2.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1234		Start Purge (0)							
		dry	@	1236					
		grab	@	1250					

Gauging Time:	1215	**Sample Time:**	1250
Depth to Water (ft.):	27.28		
Well Depth (ft.):	30.20	**# of Containers:**	5

Well Number: MW2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

0.25 g-1

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) / Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B)) / EDB (8011) / Ethanol (8015C)	**Purge Type:**	(Low Flow) / 3 Purge Volumes / No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1547	250	Start Purge (0)							
1552	↓	1.25	24.49	6.47	0.57	0.15	-41	61	
1557		2.5	24.41	6.52	0.28	0.15	-49	61	
1602		3.75	~~24.38~~	6.56	0.21	0.15	-56	60	
1607		5.0	24.32	6.60	0.13	0.15	-63	60	
			24.19						

Gauging Time:	1418	**Sample Time:**	1608
Depth to Water (ft.):	16.90		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW5R DRUM Dup2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1407	350	Start Purge (0)							
1412	↓	1.75	24.63	6.35	3.96	0.08	163	4045	
1417	↓	3.5	24.76	6.35	3.41	0.08	120	2103	
1422	↓	5.25	24.35	6.37	3.55	0.08	103	2150	
1427	↓	7.0	24.45	6.35	3.50	0.08	110	2137	
1430	↓	8.05							

Gauging Time:	1344	**Sample Time:**	1431
Depth to Water (ft.):	40.70		
Well Depth (ft.):	85.10	**# of Containers:**	5

Well Number: MW 5D

DRUM 2.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1328	350	Start Purge (0)							
1333	↓	1.75	26.71	5.26	6.16	0.05	181	18	
1338		3.5	26.50	5.24	6.27	0.05	192	67	
1343		5.25	26.43	5.28	6.49	0.05	203	68	
1348		7.0	26.22	5.27	6.71	0.05	216	66	
1351		8.05	26.11	5.26	6.74	0.05	222	66	
1354	↓	9.1	26.01	5.25	6.78	0.05	228	65	

Gauging Time:	1316	**Sample Time:**	1355
Depth to Water (ft.):	50.44		
Well Depth (ft.):	119.40	**# of Containers:**	5

Well Number: MW 5DD

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

Dup1

2.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1128	250	Start Purge (0)							
1133	↓	1.25	21.99	6.79	0.71	0.50	-32	18	
1138		2.5	22.05	6.83	0.82	0.50	-51	17	
1143		3.75	22.04	6.83	0.84	0.50	-51	17	

Gauging Time:	1124	**Sample Time:**	1144
Depth to Water (ft.):	17.13		
Well Depth (ft.):	~~NM~~	**# of Containers:**	5

Well Number: MW7R

Stabilization = 3 successive readings of: Gross

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) ~~Ethanol (8015C)~~	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1058	250	Start Purge (0)							
1103	↓	1.25	20.47	4.80	4.01	0.10	269	44	
1108		2.5	22.34	4.82	1.80	0.10	273	42	
1113		3.75	22.91	4.80	1.85	0.10	277	42	
1118	↓	5.0	23.14	4.77	1.73	0.10	283	43	

Gauging Time:	1049	**Sample Time:**	1119
Depth to Water (ft.):	17.89		
Well Depth (ft.):	22.55	**# of Containers:**	5

Well Number: MW8

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1330	250	Start Purge (0)							
1335	↓	1.25	22.53	5.99	0.39	0.18	7.7	45	
1340		2.5	22.64	6.08	0.19	0.19	-27	47	
1345		3.75	22.80	6.14	0.15	0.19	-45	47	
1350		5.0	22.86	6.17	0.13	0.20	-54	45	

Gauging Time:	1324	**Sample Time:**	1351
Depth to Water (ft.):	13.90		
Well Depth (ft.):	19.60	**# of Containers:**	5

Well Number: MW9R

Grass

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1404	350	Start Purge (0)							
1409	↓	1.75	21.46	5.02	7.06	0.07	86	54	
1414		3.5	21.77	4.98	7.12	0.07	124	56	
1419		5.25	21.97	4.92	7.11	0.07	143	55	
1424		7.0	21.95	4.91	7.11	0.07	156	55	

Gauging Time:	1358	**Sample Time:**	1425
Depth to Water (ft.):	27.45		
Well Depth (ft.):	30.30	**# of Containers:**	5

Well Number: MW10R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) ~~Ethanol (8015C)~~	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1457	250	Start Purge (0)							
1458	1	1.75	22.63	4.92	7.38	0.06	176	31	
1503	1	3.5	22.71	4.92	7.34	0.06	183	32	
1508	1	5.25	22.92	4.88	7.30	0.06	176	31	

Gauging Time:	1449	**Sample Time:**	1509
Depth to Water (ft.):	24.61		
Well Depth (ft.):	30.15	**# of Containers:**	5

Well Number: MW11R

Stabilization = 3 successive readings of: DRUM 1.5 gal

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1223	250	Start Purge (0)							
1228	〃	1.25	21.25	6.23	0.19	0.39	-63	228	
1233	〃	2.5	21.25	6.26	0.13	0.38	-84	226	
1238	〃	3.75	21.32	6.25	0.11	0.38	-94	225	

Gauging Time:	1217	**Sample Time:**	1239
Depth to Water (ft.):	14.37		
Well Depth (ft.):	20.00	**# of Containers:**	5

Well Number: MW12R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1244	350	Start Purge (0)							
1249		1.75	20.14	6.11	6.41	0.14	-27	48	
1254		3.5	19.91	6.03	6.82	0.14	-9.8	33	
1259		5.25	20.16	5.80	6.98	0.12	23	27	
1304		7.0	20.15	5.59	7.04	0.11	50	50	
1307		8.05	20.21	5.50	6.99	0.11	65	54	
1310		9.1	20.43	5.41	7.04	0.11	89	56	
1313		10.15	20.52	5.31	7.01	0.08	101	57	
1316		11.2	20.52	5.36	6.99	0.08	98	57	
1319		12.25	20.53	5.26	7.00	0.08	107	56	
1322		13.3							

Gauging Time:	1230	**Sample Time:**	1320
Depth to Water (ft.):	~~35.00~~ 35.97		
Well Depth (ft.):	75.20	**# of Containers:**	5

Well Number: MW12D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

3.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) / Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) / EDB (8011) / Ethanol (8015C))	**Purge Type:**	(Low Flow) / 3 Purge Volumes / No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1151	250	Start Purge (0)							
1156	↓	1.25	22.46	5.00	0.23	0.28	199	5190	
1201	↓	2.50	21.83	5.04	0.18	0.29	190	5154	
1206	↓		dry	@ 1203					
			attempted to grab			@	1220		- insufficient water

Gauging Time:	1137	**Sample Time:**	X
Depth to Water (ft.):	13.60		
Well Depth (ft.):	16.10	**# of Containers:**	5

Well Number: MW13 Grass

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
808	350	Start Purge (0)							
813	|	1.75	19.11	5.38	3.92	0.15	303	98	
818	|	3.5	20.99	5.11	3.46	0.13	315	63	
823	|	5.25	21.34	5.04	3.40	0.13	324	62	
828	|	7.0	21.65	4.94	3.29	0.12	339	63	
831	|	8.05	21.66	4.91	3.26	0.12	347	62	
834	|	9.10	21.72	4.88	3.22	0.12	359	62	

Gauging Time:	800	**Sample Time:**	835
Depth to Water (ft.):	31.42		
Well Depth (ft.):	34.45	**# of Containers:**	5

Well Number: MW15

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
840	350	Start Purge (0)							
845		1.75	21.71	5.54	2.58	0.23	161	84	
850		3.5	21.70	5.66	2.74	0.25	123	20	
855		5.25	22.10	5.77	2.75	0.26	91	45	
900		7.0	22.24	5.81	2.92	0.25	82	48	
903		8.05	22.36	5.82	2.98	0.25	80	47	
906		9.10	22.54	5.83	3.00	0.25	80	48	

Gauging Time:	816	**Sample Time:**	907
Depth to Water (ft.):	31.38		
Well Depth (ft.):	39.25	**# of Containers:**	5

Well Number: MW15R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1604	350	Start Purge (0)							
1609		1.75	21.23	4.75	5.28	0.18	201	118	
1614		3.50	21.94	4.53	5.31	0.19	222	28	
1619		5.25	21.78	4.40	5.29	0.18	237	18	
1624		7.0	21.74	4.30	5.33	0.19	255	17	
1627		8.05	21.67	4.26	5.34	0.19	267	18	
1630		9.10	21.71	4.26	5.35	0.19	275	17	

Gauging Time:	1601	**Sample Time:**	1631
Depth to Water (ft.):	27.60		
Well Depth (ft.):	34.90	**# of Containers:**	5

Well Number: MW16

Grab

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1527	350	Start Purge (0)							
1532	|	1.75	22.40	5.70	4.94	0.15	52	973	
1537	|	3.50	22.09	5.22	5.28	0.13	106	323	
1542	|	5.25	23.21	4.93	5.39	0.13	140	76	
1547	|	7.00	23.15	4.89	5.45	0.13	161	79	
1550	|	8.05	23.16	4.87	5.45	0.13	166	75	

Gauging Time:	1522	**Sample Time:**	1551
Depth to Water (ft.):	31.52		
Well Depth (ft.):	39.40	**# of Containers:**	5

Well Number: MW17

DRUM 2.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	~~10~~ 11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1013	350	Start Purge (0)							
1018	↓	1.75	18.91	4.54	1.83	0.04	278	128	
1023		3.5	18.72	4.52	RMS 2.29	0.04	282	101	
1028		5.25	18.65	4.46	2.14	0.04	288	100	
1033		7.0	18.81	4.46	2.08	0.04	290	98	

Gauging Time:	938	**Sample Time:**	1034
Depth to Water (ft.):	~~BTOC~~ 24.27		
Well Depth (ft.):	~~BTOC~~ 29.70	**# of Containers:**	5

Well Number: MW 18 Grass

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
935	350	Start Purge (0)							
940		1.75	20.12	5.29	4.52	0.02	167	290	
945		3.50	18.54	5.47	5.26	0.02	173	172	
950		5.25	20.10	5.18	~~5.34~~ 5.17	0.02	205	150	
955		7.0	20.78	4.98	5.75	0.02	223	148	
958		8.05	20.98	4.65	5.65	0.02	252	147	
1001		9.10	20.63	4.60	5.28	0.02	257	147	
1004		10.15	20.22	4.55	4.80	0.02	265	147	
			dry @		1005				
			grab @		1020				

Gauging Time:	930	**Sample Time:**	1020
Depth to Water (ft.):	38.58		
Well Depth (ft.):	49.30	**# of Containers:**	5

Well Number: 18D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1428	350	Start Purge (0)							
1433	↓	1.75	21.26	5.01	7.11	0.07	173	25	
1438		3.5	21.60	5.00	7.17	0.07	181	26	
1443		5.25	21.66	5.03	7.12	0.07	185	25	

Gauging Time:	1418	**Sample Time:**	1444
Depth to Water (ft.):	27.49		
Well Depth (ft.):	34.80	**# of Containers:**	5

Well Number: MW19 19

Grass

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/15/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1110	350	Start Purge (0)							
1115		1.75	20.94	4.60	6.85	0.16	190	111	
1120		3.5	21.91	4.67	6.69	0.15	198	108	
1125		5.25	22.01	4.70	6.66	0.16	203	107	
1130		7.0	22.19	4.72	6.56	0.15	206	108	

Gauging Time:	1100	**Sample Time:**	1131
Depth to Water (ft.):	26.11		
Well Depth (ft.):	33.90	**# of Containers:**	5

Well Number: MW-20

Grass

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ ~~No Purge (Grab)~~

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1438	250	Start Purge (0)							
1443	"	1.25	26.40	5.60	0.33	0.38	43	55	
1448	"	2.5	26.13	5.60	0.25	0.38	45	53	
1453	"	3.75	25.87	5.64	0.21	0.38	40	53	

Gauging Time:	1350	**Sample Time:**	1454
Depth to Water (ft.):	16.72		
Well Depth (ft.):	20.20	**# of Containers:**	5

Well Number: MW 21

DRUM 1 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1500	350	Start Purge (0)							
1505	↓	1.75	25.89	5.87	0.53	0.40	46	67	
1510		3.50	25.66	5.54	0.08	0.40	76	11	
1515		5.25	25.55	5.34	0.06	0.40	91	20	
1520		7.0	25.42	5.30	0.07	0.40	94	21	
1523	↓	8.05	25.36	5.31	0.08	0.40	94	20	

Gauging Time:	1347	**Sample Time:**	1524
Depth to Water (ft.):	30.48		
Well Depth (ft.):	38.90	**# of Containers:**	5

Well Number: DW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 2.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1527	250	Start Purge (0)							
1532	"	1.25	24.96	5.19	0.23	0.13	88	60	
1537	"	2.5	24.69	5.21	0.14	0.13	87	61	
1542	"	3.75	24.49	5.22	0.13	0.13	86	60	

Gauging Time:	1614	**Sample Time:**	1543
Depth to Water (ft.):	17.21		
Well Depth (ft.):	25.50	**# of Containers:**	5

Well Number: RW-1

DRUM 1 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) / ~~Submersible Pump (deep wells)~~
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) / EDB (8011) / Ethanol (8015C))	**Purge Type:**	(Low Flow) / 3 Purge Volumes / No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1615	250	Start Purge (0)							
1620	|	1.25	23.42	6.53	0.22	0.08	-48	58	
1625	|	2.5	23.39	6.53	0.18	0.08	-46	60	
1630		3.75	23.38	6.52	0.17	0.08	-46	58	

Gauging Time:	1616	**Sample Time:**	1631
Depth to Water (ft.):	17.15		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW2

DRUM 1 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/16/21	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1634	250	Start Purge (0)							
1639	"	1.25	23.41	6.18	0.17	0.10	-23	16	
1644	"	2.5	23.42	6.20	0.18	0.10	-28	17	
1649	"	3.75	22.70	6.18	0.27	0.10	-36	17	

Gauging Time:	1445	**Sample Time:**	1650
Depth to Water (ft.):	17.42		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW-3

DRUM (gal)

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

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

December 02, 2021

Don Jones
Quality Environmental Solutions
2112 Loblolly Lane
Johns Island, SC 29455

RE: Project: SC-015 UST #07680
Pace Project No.: 92574352

Dear Don Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on November 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Nicole D'Oleo

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Austin Smith-Jones, Quality Environmental Solutions

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

CERTIFICATIONS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

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

SAMPLE SUMMARY

Project: SC-015 UST #07680
Pace Project No.: 92574352

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92574352001	MW-1R	Water	11/16/21 12:56	11/22/21 15:40
92574352002	MW-1AR	Water	11/16/21 12:31	11/22/21 15:40
92574352003	MW-2	Water	11/16/21 12:50	11/22/21 15:40
92574352004	MW-5R	Water	11/16/21 16:08	11/22/21 15:40
92574352005	MW-5D	Water	11/16/21 14:31	11/22/21 15:40
92574352006	MW-5DD	Water	11/16/21 13:55	11/22/21 15:40
92574352007	MW-7R	Water	11/16/21 11:44	11/22/21 15:40
92574352008	MW-8	Water	11/16/21 11:19	11/22/21 15:40
92574352009	MW-9R	Water	11/15/21 13:51	11/22/21 15:40
92574352010	MW-10R	Water	11/15/21 14:25	11/22/21 15:40
92574352011	MW-11R	Water	11/15/21 15:09	11/22/21 15:40
92574352012	MW-12R	Water	11/15/21 13:39	11/22/21 15:40
92574352013	MW-12D	Water	11/15/21 13:20	11/22/21 15:40
92574352014	MW-15	Water	11/16/21 08:35	11/22/21 15:40
92574352015	MW-15R	Water	11/16/21 09:07	11/22/21 15:40
92574352016	MW-16	Water	11/15/21 16:31	11/22/21 15:40
92574352017	MW-17	Water	11/15/21 15:51	11/22/21 15:40
92574352018	MW-18	Water	11/16/21 10:34	11/22/21 15:40
92574352019	MW-18D	Water	11/16/21 10:20	11/22/21 15:40
92574352020	MW-19	Water	11/15/21 14:44	11/22/21 15:40
92574352021	MW-20	Water	11/15/21 11:31	11/22/21 15:40
92574352022	MW-21	Water	11/16/21 14:54	11/22/21 15:40
92574352023	DW-1	Water	11/16/21 15:24	11/22/21 15:40
92574352024	RW-1	Water	11/16/21 15:43	11/22/21 15:40
92574352025	RW-2	Water	11/16/21 16:31	11/22/21 15:40
92574352026	RW-3	Water	11/16/21 16:50	11/22/21 15:40
92574352027	DUP-1	Water	11/15/21 12:00	11/22/21 15:40
92574352028	DUP-2	Water	11/16/21 12:00	11/22/21 15:40
92574352029	FB-1	Water	11/15/21 12:00	11/22/21 15:40
92574352030	FB-2	Water	11/16/21 12:00	11/22/21 15:40
92574352031	TB	Water	11/16/21 00:00	11/22/21 15:40

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SAMPLE ANALYTE COUNT

Project: SC-015 UST #07680
Pace Project No.: 92574352

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92574352001	MW-1R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352002	MW-1AR	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352003	MW-2	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352004	MW-5R	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92574352005	MW-5D	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352006	MW-5DD	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352007	MW-7R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352008	MW-8	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352009	MW-9R	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92574352010	MW-10R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352011	MW-11R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352012	MW-12R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352013	MW-12D	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92574352014	MW-15	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92574352015	MW-15R	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352016	MW-16	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352017	MW-17	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352018	MW-18	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352019	MW-18D	EPA 8011	HH	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: SC-015 UST #07680
Pace Project No.: 92574352

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260D	NSCQ	18	PASI-C
92574352020	**MW-19**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352021	**MW-20**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352022	**MW-21**	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92574352023	**DW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352024	**RW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352025	**RW-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352026	**RW-3**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92574352027	**DUP-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352028	**DUP-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352029	**FB-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352030	**FB-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92574352031	**TB**	EPA 8260D	SAS	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-1R **Lab ID: 92574352001** Collected: 11/16/21 12:56 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0070	1	11/29/21 16:49	11/30/21 06:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	11/29/21 16:49	11/30/21 06:55	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**87.2J**	ug/L	100	36.4	1		11/25/21 04:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 04:50	994-05-8	
Benzene	**35.2**	ug/L	1.0	0.34	1		11/25/21 04:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 04:50	624-95-3	
tert-Butyl Alcohol	**364**	ug/L	100	26.8	1		11/25/21 04:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 04:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 04:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 04:50	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 04:50	64-17-5	
Ethylbenzene	**151**	ug/L	1.0	0.30	1		11/25/21 04:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 04:50	637-92-3	
Methyl-tert-butyl ether	**147**	ug/L	1.0	0.42	1		11/25/21 04:50	1634-04-4	
Naphthalene	**101**	ug/L	1.0	0.64	1		11/25/21 04:50	91-20-3	
Toluene	**2.4**	ug/L	1.0	0.48	1		11/25/21 04:50	108-88-3	
Xylene (Total)	**7.6**	ug/L	1.0	0.34	1		11/25/21 04:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		11/25/21 04:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		11/25/21 04:50	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		11/25/21 04:50	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-1AR **Lab ID: 92574352002** Collected: 11/16/21 12:31 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0068	1	11/29/21 16:49	11/30/21 07:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	11/29/21 16:49	11/30/21 07:05	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 04:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 04:33	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 04:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 04:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 04:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 04:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 04:33	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 04:33	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 04:33	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 04:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 04:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 04:33	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 04:33	91-20-3	
Toluene	**0.57J**	ug/L	1.0	0.48	1		11/25/21 04:33	108-88-3	
Xylene (Total)	**1.3**	ug/L	1.0	0.34	1		11/25/21 04:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		11/25/21 04:33	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130		1		11/25/21 04:33	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/25/21 04:33	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-2 **Lab ID: 92574352003** Collected: 11/16/21 12:50 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/30/21 07:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	11/29/21 16:49	11/30/21 07:16	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**346**	ug/L	200	72.8	2		11/29/21 21:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	5.3	2		11/29/21 21:23	994-05-8	
Benzene	**3.5**	ug/L	2.0	0.69	2		11/29/21 21:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	104	2		11/29/21 21:23	624-95-3	v1
tert-Butyl Alcohol	**1230**	ug/L	200	53.6	2		11/29/21 21:23	75-65-0	
tert-Butyl Formate	ND	ug/L	100	58.8	2		11/29/21 21:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	2.0	0.64	2		11/29/21 21:23	107-06-2	
Diisopropyl ether	**1.7J**	ug/L	2.0	0.62	2		11/29/21 21:23	108-20-3	
Ethanol	**1440**	ug/L	400	144	2		11/29/21 21:23	64-17-5	v1
Ethylbenzene	**1.4J**	ug/L	2.0	0.61	2		11/29/21 21:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	6.5	2		11/29/21 21:23	637-92-3	
Methyl-tert-butyl ether	**314**	ug/L	2.0	0.84	2		11/29/21 21:23	1634-04-4	
Naphthalene	**2.1**	ug/L	2.0	1.3	2		11/29/21 21:23	91-20-3	
Toluene	**1.7J**	ug/L	2.0	0.97	2		11/29/21 21:23	108-88-3	
Xylene (Total)	**5.5**	ug/L	2.0	0.68	2		11/29/21 21:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		2		11/29/21 21:23	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		2		11/29/21 21:23	17060-07-0	
Toluene-d8 (S)	85	%	70-130		2		11/29/21 21:23	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-5R **Lab ID: 92574352004** Collected: 11/16/21 16:08 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/30/21 07:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	81	%	60-140		1	11/29/21 16:49	11/30/21 07:26	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		11/30/21 18:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		11/30/21 18:49	994-05-8	
Benzene	**9070**	ug/L	250	86.2	250		11/30/21 18:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		11/30/21 18:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		11/30/21 18:49	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		11/30/21 18:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		11/30/21 18:49	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		11/30/21 18:49	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		11/30/21 18:49	64-17-5	
Ethylbenzene	**2560**	ug/L	250	76.0	250		11/30/21 18:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		11/30/21 18:49	637-92-3	
Methyl-tert-butyl ether	**315**	ug/L	250	106	250		11/30/21 18:49	1634-04-4	
Naphthalene	**650**	ug/L	250	161	250		11/30/21 18:49	91-20-3	
Toluene	**33500**	ug/L	250	121	250		11/30/21 18:49	108-88-3	
Xylene (Total)	**12500**	ug/L	250	84.5	250		11/30/21 18:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		250		11/30/21 18:49	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		250		11/30/21 18:49	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		11/30/21 18:49	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-5D **Lab ID: 92574352005** Collected: 11/16/21 14:31 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/30/21 07:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	11/29/21 16:49	11/30/21 07:37	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 20:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 20:48	994-05-8	
Benzene	**1.0**	ug/L	1.0	0.34	1		11/29/21 20:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 20:48	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 20:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 20:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 20:48	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 20:48	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 20:48	64-17-5	v1
Ethylbenzene	**0.80J**	ug/L	1.0	0.30	1		11/29/21 20:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 20:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/29/21 20:48	1634-04-4	
Naphthalene	**0.85J**	ug/L	1.0	0.64	1		11/29/21 20:48	91-20-3	
Toluene	**2.8**	ug/L	1.0	0.48	1		11/29/21 20:48	108-88-3	
Xylene (Total)	**3.3**	ug/L	1.0	0.34	1		11/29/21 20:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		11/29/21 20:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/29/21 20:48	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		11/29/21 20:48	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-5DD **Lab ID: 92574352006** Collected: 11/16/21 13:55 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/30/21 07:48	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	71	%	60-140		1	11/29/21 16:49	11/30/21 07:48	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 20:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 20:31	994-05-8	
Benzene	**0.53J**	ug/L	1.0	0.34	1		11/29/21 20:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 20:31	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 20:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 20:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 20:31	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 20:31	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 20:31	64-17-5	v1
Ethylbenzene	**0.45J**	ug/L	1.0	0.30	1		11/29/21 20:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 20:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/29/21 20:31	1634-04-4	
Naphthalene	**0.67J**	ug/L	1.0	0.64	1		11/29/21 20:31	91-20-3	
Toluene	**1.3**	ug/L	1.0	0.48	1		11/29/21 20:31	108-88-3	
Xylene (Total)	**1.8**	ug/L	1.0	0.34	1		11/29/21 20:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		1		11/29/21 20:31	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		11/29/21 20:31	17060-07-0	
Toluene-d8 (S)	113	%	70-130		1		11/29/21 20:31	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-7R **Lab ID: 92574352007** Collected: 11/16/21 11:44 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
	Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0068	1	11/29/21 16:49	11/30/21 07:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	11/29/21 16:49	11/30/21 07:58	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D								
	Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 08:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 08:56	994-05-8	v1
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 08:56	71-43-2	v1
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 08:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 08:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 08:56	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 08:56	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 08:56	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 08:56	64-17-5	
Ethylbenzene	**1.8**	ug/L	1.0	0.30	1		11/25/21 08:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 08:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 08:56	1634-04-4	
Naphthalene	**13.8**	ug/L	1.0	0.64	1		11/25/21 08:56	91-20-3	R1
Toluene	**1.1**	ug/L	1.0	0.48	1		11/25/21 08:56	108-88-3	M1,R1
Xylene (Total)	**2.1**	ug/L	1.0	0.34	1		11/25/21 08:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/25/21 08:56	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		11/25/21 08:56	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/25/21 08:56	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-8 **Lab ID: 92574352008** Collected: 11/16/21 11:19 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0070	1	11/29/21 16:49	11/30/21 08:09	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	11/29/21 16:49	11/30/21 08:09	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 05:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 05:25	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 05:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 05:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 05:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 05:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 05:25	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 05:25	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 05:25	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 05:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 05:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 05:25	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 05:25	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/25/21 05:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/25/21 05:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		11/25/21 05:25	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/25/21 05:25	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/25/21 05:25	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-9R **Lab ID: 92574352009** Collected: 11/15/21 13:51 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 19:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	11/29/21 16:49	11/29/21 19:15	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 19:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 19:02	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/29/21 19:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 19:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 19:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 19:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 19:02	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 19:02	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 19:02	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/29/21 19:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 19:02	637-92-3	
Methyl-tert-butyl ether	**2.4**	ug/L	1.0	0.42	1		11/29/21 19:02	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/29/21 19:02	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/29/21 19:02	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/29/21 19:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/29/21 19:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		11/29/21 19:02	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/29/21 19:02	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-10R **Lab ID: 92574352010** Collected: 11/15/21 14:25 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0068	1	11/29/21 16:49	11/29/21 19:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	11/29/21 16:49	11/29/21 19:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 05:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 05:43	994-05-8	
Benzene	**0.52J**	ug/L	1.0	0.34	1		11/25/21 05:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 05:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 05:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 05:43	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 05:43	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 05:43	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 05:43	64-17-5	
Ethylbenzene	**0.36J**	ug/L	1.0	0.30	1		11/25/21 05:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 05:43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 05:43	1634-04-4	
Naphthalene	**0.76J**	ug/L	1.0	0.64	1		11/25/21 05:43	91-20-3	
Toluene	**1.7**	ug/L	1.0	0.48	1		11/25/21 05:43	108-88-3	
Xylene (Total)	**4.1**	ug/L	1.0	0.34	1		11/25/21 05:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/25/21 05:43	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		11/25/21 05:43	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/25/21 05:43	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-11R **Lab ID: 92574352011** Collected: 11/15/21 15:09 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 20:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	11/29/21 16:49	11/29/21 20:08	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 06:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 06:00	994-05-8	
Benzene	**0.73J**	ug/L	1.0	0.34	1		11/25/21 06:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 06:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 06:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 06:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 06:00	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 06:00	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 06:00	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 06:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 06:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 06:00	1634-04-4	
Naphthalene	**0.84J**	ug/L	1.0	0.64	1		11/25/21 06:00	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.48	1		11/25/21 06:00	108-88-3	
Xylene (Total)	**4.3**	ug/L	1.0	0.34	1		11/25/21 06:00	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/25/21 06:00	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		11/25/21 06:00	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		11/25/21 06:00	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-12R **Lab ID: 92574352012** Collected: 11/15/21 13:39 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
	Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 20:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	11/29/21 16:49	11/29/21 20:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D								
	Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 21:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 21:06	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/29/21 21:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 21:06	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 21:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 21:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 21:06	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 21:06	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 21:06	64-17-5	v1
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/29/21 21:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 21:06	637-92-3	
Methyl-tert-butyl ether	**9.2**	ug/L	1.0	0.42	1		11/29/21 21:06	1634-04-4	
Naphthalene	**1.9**	ug/L	1.0	0.64	1		11/29/21 21:06	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/29/21 21:06	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/29/21 21:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		11/29/21 21:06	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/29/21 21:06	17060-07-0	
Toluene-d8 (S)	111	%	70-130		1		11/29/21 21:06	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-12D **Lab ID: 92574352013** Collected: 11/15/21 13:20 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 20:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	11/29/21 16:49	11/29/21 20:29	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 19:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 19:19	994-05-8	
Benzene	**0.80J**	ug/L	1.0	0.34	1		11/29/21 19:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 19:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 19:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 19:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 19:19	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 19:19	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 19:19	64-17-5	
Ethylbenzene	**0.63J**	ug/L	1.0	0.30	1		11/29/21 19:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 19:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/29/21 19:19	1634-04-4	
Naphthalene	**1.1**	ug/L	1.0	0.64	1		11/29/21 19:19	91-20-3	
Toluene	**2.7**	ug/L	1.0	0.48	1		11/29/21 19:19	108-88-3	
Xylene (Total)	**7.6**	ug/L	1.0	0.34	1		11/29/21 19:19	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/29/21 19:19	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/29/21 19:19	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/29/21 19:19	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-15 **Lab ID: 92574352014** Collected: 11/16/21 08:35 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0070	1	11/29/21 16:49	11/30/21 08:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	11/29/21 16:49	11/30/21 08:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/30/21 13:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/30/21 13:39	994-05-8	
Benzene	**0.62J**	ug/L	1.0	0.34	1		11/30/21 13:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/30/21 13:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/30/21 13:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/30/21 13:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/30/21 13:39	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/30/21 13:39	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/30/21 13:39	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/30/21 13:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/30/21 13:39	637-92-3	
Methyl-tert-butyl ether	**1.2**	ug/L	1.0	0.42	1		11/30/21 13:39	1634-04-4	
Naphthalene	**0.93J**	ug/L	1.0	0.64	1		11/30/21 13:39	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.48	1		11/30/21 13:39	108-88-3	
Xylene (Total)	**4.4**	ug/L	1.0	0.34	1		11/30/21 13:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		11/30/21 13:39	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/30/21 13:39	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		11/30/21 13:39	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-15R **Lab ID: 92574352015** Collected: 11/16/21 09:07 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0068	1	11/29/21 16:49	11/30/21 08:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	11/29/21 16:49	11/30/21 08:30	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 07:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 07:28	994-05-8	
Benzene	**0.39J**	ug/L	1.0	0.34	1		11/25/21 07:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 07:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 07:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 07:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 07:28	107-06-2	
Diisopropyl ether	**0.94J**	ug/L	1.0	0.31	1		11/25/21 07:28	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 07:28	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 07:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 07:28	637-92-3	
Methyl-tert-butyl ether	**11.1**	ug/L	1.0	0.42	1		11/25/21 07:28	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 07:28	91-20-3	
Toluene	**1.5**	ug/L	1.0	0.48	1		11/25/21 07:28	108-88-3	
Xylene (Total)	**2.0**	ug/L	1.0	0.34	1		11/25/21 07:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/25/21 07:28	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/25/21 07:28	17060-07-0	
Toluene-d8 (S)	128	%	70-130		1		11/25/21 07:28	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-16 **Lab ID: 92574352016** Collected: 11/15/21 16:31 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 20:40	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	11/29/21 16:49	11/29/21 20:40	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 07:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 07:11	994-05-8	
Benzene	**0.66J**	ug/L	1.0	0.34	1		11/25/21 07:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 07:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 07:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 07:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 07:11	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 07:11	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 07:11	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 07:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 07:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 07:11	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 07:11	91-20-3	
Toluene	**1.8**	ug/L	1.0	0.48	1		11/25/21 07:11	108-88-3	
Xylene (Total)	**3.6**	ug/L	1.0	0.34	1		11/25/21 07:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/25/21 07:11	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130		1		11/25/21 07:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/25/21 07:11	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-17 **Lab ID: 92574352017** Collected: 11/15/21 15:51 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0071	1	11/29/21 16:49	11/29/21 20:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	11/29/21 16:49	11/29/21 20:51	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 20:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 20:13	994-05-8	
Benzene	**0.64J**	ug/L	1.0	0.34	1		11/29/21 20:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 20:13	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 20:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 20:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 20:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 20:13	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 20:13	64-17-5	v1
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/29/21 20:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 20:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/29/21 20:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/29/21 20:13	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.48	1		11/29/21 20:13	108-88-3	
Xylene (Total)	**3.1**	ug/L	1.0	0.34	1		11/29/21 20:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		11/29/21 20:13	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		11/29/21 20:13	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/29/21 20:13	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-18 **Lab ID: 92574352018** Collected: 11/16/21 10:34 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0071	1	11/30/21 12:00	12/01/21 05:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	11/30/21 12:00	12/01/21 05:05	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 06:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 06:53	994-05-8	
Benzene	**0.63J**	ug/L	1.0	0.34	1		11/25/21 06:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 06:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 06:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 06:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 06:53	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 06:53	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 06:53	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 06:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 06:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 06:53	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 06:53	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.48	1		11/25/21 06:53	108-88-3	
Xylene (Total)	**3.9**	ug/L	1.0	0.34	1		11/25/21 06:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/25/21 06:53	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/25/21 06:53	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		11/25/21 06:53	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-18D **Lab ID: 92574352019** Collected: 11/16/21 10:20 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0071	1	11/30/21 12:00	12/01/21 05:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	11/30/21 12:00	12/01/21 05:16	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 06:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 06:36	994-05-8	
Benzene	**2.1**	ug/L	1.0	0.34	1		11/25/21 06:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 06:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 06:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 06:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 06:36	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 06:36	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 06:36	64-17-5	
Ethylbenzene	**0.89J**	ug/L	1.0	0.30	1		11/25/21 06:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 06:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 06:36	1634-04-4	
Naphthalene	**1.4**	ug/L	1.0	0.64	1		11/25/21 06:36	91-20-3	
Toluene	**6.2**	ug/L	1.0	0.48	1		11/25/21 06:36	108-88-3	
Xylene (Total)	**9.5**	ug/L	1.0	0.34	1		11/25/21 06:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/25/21 06:36	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		11/25/21 06:36	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/25/21 06:36	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-19 **Lab ID: 92574352020** Collected: 11/15/21 14:44 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0068	1	11/29/21 16:49	11/29/21 21:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	11/29/21 16:49	11/29/21 21:01	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 06:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 06:18	994-05-8	
Benzene	**1.0**	ug/L	1.0	0.34	1		11/25/21 06:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 06:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 06:18	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 06:18	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 06:18	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 06:18	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 06:18	64-17-5	
Ethylbenzene	**0.46J**	ug/L	1.0	0.30	1		11/25/21 06:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 06:18	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 06:18	1634-04-4	
Naphthalene	**1.0**	ug/L	1.0	0.64	1		11/25/21 06:18	91-20-3	
Toluene	**3.0**	ug/L	1.0	0.48	1		11/25/21 06:18	108-88-3	
Xylene (Total)	**6.7**	ug/L	1.0	0.34	1		11/25/21 06:18	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		11/25/21 06:18	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/25/21 06:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/25/21 06:18	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-20 **Lab ID: 92574352021** Collected: 11/15/21 11:31 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/29/21 16:49	11/29/21 21:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/29/21 16:49	11/29/21 21:12	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 08:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 08:21	994-05-8	
Benzene	**1.9**	ug/L	1.0	0.34	1		11/25/21 08:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 08:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 08:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 08:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 08:21	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 08:21	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 08:21	64-17-5	
Ethylbenzene	**2.6**	ug/L	1.0	0.30	1		11/25/21 08:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 08:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 08:21	1634-04-4	
Naphthalene	**4.0**	ug/L	1.0	0.64	1		11/25/21 08:21	91-20-3	
Toluene	**10.2**	ug/L	1.0	0.48	1		11/25/21 08:21	108-88-3	
Xylene (Total)	**25.8**	ug/L	1.0	0.34	1		11/25/21 08:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/25/21 08:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/25/21 08:21	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/25/21 08:21	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: MW-21 **Lab ID: 92574352022** Collected: 11/16/21 14:54 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.040**	ug/L	0.020	0.0070	1	11/30/21 12:00	12/01/21 13:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	11/30/21 12:00	12/01/21 13:17	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	20000	7280	200		11/30/21 09:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	532	200		11/30/21 09:17	994-05-8	
Benzene	**1940**	ug/L	200	69.0	200		11/30/21 09:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	10400	200		11/30/21 09:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5360	200		11/30/21 09:17	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	5880	200		11/30/21 09:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	64.4	200		11/30/21 09:17	107-06-2	
Diisopropyl ether	ND	ug/L	200	61.6	200		11/30/21 09:17	108-20-3	
Ethanol	ND	ug/L	40000	14400	200		11/30/21 09:17	64-17-5	
Ethylbenzene	**2670**	ug/L	200	60.8	200		11/30/21 09:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	648	200		11/30/21 09:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	84.4	200		11/30/21 09:17	1634-04-4	
Naphthalene	**938**	ug/L	200	129	200		11/30/21 09:17	91-20-3	
Toluene	**28500**	ug/L	200	97.0	200		11/30/21 09:17	108-88-3	
Xylene (Total)	**12700**	ug/L	200	67.6	200		11/30/21 09:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		200		11/30/21 09:17	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		200		11/30/21 09:17	17060-07-0	
Toluene-d8 (S)	101	%	70-130		200		11/30/21 09:17	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: DW-1 **Lab ID: 92574352023** Collected: 11/16/21 15:24 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/30/21 12:00	12/01/21 05:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	11/30/21 12:00	12/01/21 05:37	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 08:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 08:04	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 08:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 08:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 08:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 08:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 08:04	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 08:04	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 08:04	64-17-5	
Ethylbenzene	**0.39J**	ug/L	1.0	0.30	1		11/25/21 08:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 08:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 08:04	1634-04-4	
Naphthalene	**1.6**	ug/L	1.0	0.64	1		11/25/21 08:04	91-20-3	
Toluene	**0.84J**	ug/L	1.0	0.48	1		11/25/21 08:04	108-88-3	
Xylene (Total)	**2.6**	ug/L	1.0	0.34	1		11/25/21 08:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		11/25/21 08:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/25/21 08:04	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		11/25/21 08:04	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: RW-1 **Lab ID: 92574352024** Collected: 11/16/21 15:43 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.35**	ug/L	0.020	0.0069	1	11/30/21 12:00	12/01/21 13:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	11/30/21 12:00	12/01/21 13:28	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		11/29/21 22:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		11/29/21 22:51	994-05-8	
Benzene	**6920**	ug/L	250	86.2	250		11/29/21 22:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		11/29/21 22:51	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		11/29/21 22:51	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		11/29/21 22:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		11/29/21 22:51	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		11/29/21 22:51	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		11/29/21 22:51	64-17-5	v1
Ethylbenzene	**2950**	ug/L	250	76.0	250		11/29/21 22:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		11/29/21 22:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		11/29/21 22:51	1634-04-4	
Naphthalene	**532**	ug/L	250	161	250		11/29/21 22:51	91-20-3	
Toluene	**33100**	ug/L	250	121	250		11/29/21 22:51	108-88-3	M1
Xylene (Total)	**13700**	ug/L	250	84.5	250		11/29/21 22:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		250		11/29/21 22:51	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		250		11/29/21 22:51	17060-07-0	
Toluene-d8 (S)	95	%	70-130		250		11/29/21 22:51	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: RW-2 **Lab ID: 92574352025** Collected: 11/16/21 16:31 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.13**	ug/L	0.020	0.0070	1	11/30/21 12:00	12/01/21 13:38	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	11/30/21 12:00	12/01/21 13:38	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		11/29/21 22:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		11/29/21 22:16	994-05-8	
Benzene	**8500**	ug/L	250	86.2	250		11/29/21 22:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		11/29/21 22:16	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		11/29/21 22:16	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		11/29/21 22:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		11/29/21 22:16	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		11/29/21 22:16	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		11/29/21 22:16	64-17-5	v1
Ethylbenzene	**2570**	ug/L	250	76.0	250		11/29/21 22:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		11/29/21 22:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		11/29/21 22:16	1634-04-4	
Naphthalene	**516**	ug/L	250	161	250		11/29/21 22:16	91-20-3	
Toluene	**24400**	ug/L	250	121	250		11/29/21 22:16	108-88-3	
Xylene (Total)	**12400**	ug/L	250	84.5	250		11/29/21 22:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		250		11/29/21 22:16	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		250		11/29/21 22:16	17060-07-0	
Toluene-d8 (S)	76	%	70-130		250		11/29/21 22:16	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: RW-3 **Lab ID: 92574352026** Collected: 11/16/21 16:50 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**1.7**	ug/L	0.077	0.027	4	11/30/21 12:00	12/01/21 13:49	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	68	%	60-140		4	11/30/21 12:00	12/01/21 13:49	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		11/30/21 19:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		11/30/21 19:07	994-05-8	
Benzene	**11200**	ug/L	250	86.2	250		11/30/21 19:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		11/30/21 19:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		11/30/21 19:07	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		11/30/21 19:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		11/30/21 19:07	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		11/30/21 19:07	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		11/30/21 19:07	64-17-5	
Ethylbenzene	**3240**	ug/L	250	76.0	250		11/30/21 19:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		11/30/21 19:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		11/30/21 19:07	1634-04-4	
Naphthalene	**538**	ug/L	250	161	250		11/30/21 19:07	91-20-3	
Toluene	**43600**	ug/L	250	121	250		11/30/21 19:07	108-88-3	
Xylene (Total)	**15100**	ug/L	250	84.5	250		11/30/21 19:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		250		11/30/21 19:07	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130		250		11/30/21 19:07	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		11/30/21 19:07	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: DUP-1 **Lab ID: 92574352027** Collected: 11/15/21 12:00 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0068	1	11/29/21 16:49	11/29/21 21:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	74	%	60-140		1	11/29/21 16:49	11/29/21 21:23	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 07:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 07:46	994-05-8	
Benzene	**0.36J**	ug/L	1.0	0.34	1		11/25/21 07:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 07:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 07:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 07:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 07:46	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 07:46	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 07:46	64-17-5	
Ethylbenzene	**0.49J**	ug/L	1.0	0.30	1		11/25/21 07:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 07:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 07:46	1634-04-4	
Naphthalene	**0.78J**	ug/L	1.0	0.64	1		11/25/21 07:46	91-20-3	
Toluene	**0.87J**	ug/L	1.0	0.48	1		11/25/21 07:46	108-88-3	
Xylene (Total)	**2.1**	ug/L	1.0	0.34	1		11/25/21 07:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		11/25/21 07:46	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		11/25/21 07:46	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		11/25/21 07:46	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: DUP-2 **Lab ID: 92574352028** Collected: 11/16/21 12:00 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0069	1	11/30/21 12:00	12/01/21 06:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	11/30/21 12:00	12/01/21 06:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		11/29/21 21:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		11/29/21 21:41	994-05-8	
Benzene	**11500**	ug/L	250	86.2	250		11/29/21 21:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		11/29/21 21:41	624-95-3	v1
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		11/29/21 21:41	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		11/29/21 21:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		11/29/21 21:41	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		11/29/21 21:41	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		11/29/21 21:41	64-17-5	v1
Ethylbenzene	**2540**	ug/L	250	76.0	250		11/29/21 21:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		11/29/21 21:41	637-92-3	
Methyl-tert-butyl ether	**573**	ug/L	250	106	250		11/29/21 21:41	1634-04-4	
Naphthalene	**483**	ug/L	250	161	250		11/29/21 21:41	91-20-3	
Toluene	**37100**	ug/L	250	121	250		11/29/21 21:41	108-88-3	
Xylene (Total)	**13200**	ug/L	250	84.5	250		11/29/21 21:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		250		11/29/21 21:41	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		250		11/29/21 21:41	17060-07-0	
Toluene-d8 (S)	122	%	70-130		250		11/29/21 21:41	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: FB-1 **Lab ID: 92574352029** Collected: 11/15/21 12:00 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0068	1	11/29/21 16:49	11/29/21 21:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/29/21 16:49	11/29/21 21:33	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 04:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 04:15	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 04:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 04:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 04:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 04:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 04:15	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 04:15	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 04:15	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 04:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 04:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 04:15	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 04:15	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/25/21 04:15	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/25/21 04:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/25/21 04:15	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		11/25/21 04:15	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/25/21 04:15	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: FB-2 **Lab ID: 92574352030** Collected: 11/16/21 12:00 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0070	1	11/30/21 12:00	12/01/21 06:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	11/30/21 12:00	12/01/21 06:30	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/25/21 03:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/25/21 03:58	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/25/21 03:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/25/21 03:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/25/21 03:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/25/21 03:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/25/21 03:58	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/25/21 03:58	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/25/21 03:58	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/21 03:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/25/21 03:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/25/21 03:58	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/25/21 03:58	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/25/21 03:58	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/25/21 03:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/25/21 03:58	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/25/21 03:58	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		11/25/21 03:58	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST #07680
Pace Project No.: 92574352

Sample: TB **Lab ID: 92574352031** Collected: 11/16/21 00:00 Received: 11/22/21 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		11/29/21 13:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		11/29/21 13:07	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		11/29/21 13:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		11/29/21 13:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		11/29/21 13:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		11/29/21 13:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		11/29/21 13:07	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		11/29/21 13:07	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		11/29/21 13:07	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/29/21 13:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		11/29/21 13:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		11/29/21 13:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		11/29/21 13:07	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		11/29/21 13:07	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		11/29/21 13:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/29/21 13:07	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		11/29/21 13:07	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		11/29/21 13:07	2037-26-5	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 661955
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92574352022

METHOD BLANK: 3468394 Matrix: Water
Associated Lab Samples: 92574352022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	11/30/21 04:08	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	11/30/21 04:08	
Benzene	ug/L	ND	1.0	0.34	11/30/21 04:08	
Diisopropyl ether	ug/L	ND	1.0	0.31	11/30/21 04:08	
Ethanol	ug/L	ND	200	72.2	11/30/21 04:08	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	11/30/21 04:08	
Ethylbenzene	ug/L	ND	1.0	0.30	11/30/21 04:08	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	11/30/21 04:08	
Naphthalene	ug/L	ND	1.0	0.64	11/30/21 04:08	
tert-Amyl Alcohol	ug/L	ND	100	36.4	11/30/21 04:08	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	11/30/21 04:08	
tert-Butyl Alcohol	ug/L	ND	100	26.8	11/30/21 04:08	
tert-Butyl Formate	ug/L	ND	50.0	29.4	11/30/21 04:08	
Toluene	ug/L	ND	1.0	0.48	11/30/21 04:08	
Xylene (Total)	ug/L	ND	1.0	0.34	11/30/21 04:08	
1,2-Dichloroethane-d4 (S)	%	98	70-130		11/30/21 04:08	
4-Bromofluorobenzene (S)	%	97	70-130		11/30/21 04:08	
Toluene-d8 (S)	%	101	70-130		11/30/21 04:08	

LABORATORY CONTROL SAMPLE: 3468395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.3	103	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1060	106	70-130	
Benzene	ug/L	50	49.9	100	70-130	
Diisopropyl ether	ug/L	50	47.8	96	70-130	
Ethanol	ug/L	2000	2200	110	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.3	99	70-130	
Ethylbenzene	ug/L	50	52.0	104	70-130	
Methyl-tert-butyl ether	ug/L	50	49.1	98	70-130	
Naphthalene	ug/L	50	53.0	106	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	506	101	70-130	
tert-Butyl Formate	ug/L	400	399	100	70-130	
Toluene	ug/L	50	50.1	100	70-130	
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

LABORATORY CONTROL SAMPLE: 3468395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3468396 3468397

Parameter	Units	92573868016 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	20	20	21.5	22.4	107	112	70-137	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	409	422	102	106	39-157	3	30	
Benzene	ug/L	0.49J	20	20	22.1	22.5	108	110	70-151	2	30	
Diisopropyl ether	ug/L	ND	20	20	19.9	21.1	100	106	63-144	6	30	
Ethanol	ug/L	ND	800	800	850	893	106	112	39-176	5	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	40.8	43.4	102	108	66-137	6	30	
Ethylbenzene	ug/L	ND	20	20	22.6	23.3	113	116	66-153	3	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	19.5	20.9	98	105	54-156	7	30	
Naphthalene	ug/L	ND	20	20	20.7	22.1	103	110	61-148	7	30	
tert-Amyl Alcohol	ug/L	ND	400	400	424	438	106	110	54-153	3	30	
tert-Amylmethyl ether	ug/L	ND	40	40	41.1	43.2	103	108	69-139	5	30	
tert-Butyl Alcohol	ug/L	ND	200	200	215	241	107	120	43-188	11	30	
tert-Butyl Formate	ug/L	ND	160	160	139	129	87	81	10-170	8	30	
Toluene	ug/L	ND	20	20	21.4	22.4	107	112	59-148	5	30	
Xylene (Total)	ug/L	ND	60	60	67.1	68.9	112	115	63-158	3	30	
1,2-Dichloroethane-d4 (S)	%						94	97	70-130			
4-Bromofluorobenzene (S)	%						102	101	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662299
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352001, 92574352002, 92574352007, 92574352008, 92574352010, 92574352011, 92574352015, 92574352016, 92574352018, 92574352019, 92574352020, 92574352021, 92574352023, 92574352027, 92574352029, 92574352030

METHOD BLANK: 3470176
Matrix: Water
Associated Lab Samples: 92574352001, 92574352002, 92574352007, 92574352008, 92574352010, 92574352011, 92574352015, 92574352016, 92574352018, 92574352019, 92574352020, 92574352021, 92574352023, 92574352027, 92574352029, 92574352030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	11/25/21 03:40	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	11/25/21 03:40	
Benzene	ug/L	ND	1.0	0.34	11/25/21 03:40	
Diisopropyl ether	ug/L	ND	1.0	0.31	11/25/21 03:40	
Ethanol	ug/L	ND	200	72.2	11/25/21 03:40	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	11/25/21 03:40	
Ethylbenzene	ug/L	ND	1.0	0.30	11/25/21 03:40	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	11/25/21 03:40	
Naphthalene	ug/L	ND	1.0	0.64	11/25/21 03:40	
tert-Amyl Alcohol	ug/L	ND	100	36.4	11/25/21 03:40	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	11/25/21 03:40	
tert-Butyl Alcohol	ug/L	ND	100	26.8	11/25/21 03:40	
tert-Butyl Formate	ug/L	ND	50.0	29.4	11/25/21 03:40	
Toluene	ug/L	ND	1.0	0.48	11/25/21 03:40	
Xylene (Total)	ug/L	ND	1.0	0.34	11/25/21 03:40	
1,2-Dichloroethane-d4 (S)	%	91	70-130		11/25/21 03:40	
4-Bromofluorobenzene (S)	%	102	70-130		11/25/21 03:40	
Toluene-d8 (S)	%	104	70-130		11/25/21 03:40	

LABORATORY CONTROL SAMPLE: 3470177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.8	84	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1150	115	70-130	
Benzene	ug/L	50	46.5	93	70-130	
Diisopropyl ether	ug/L	50	49.0	98	70-130	
Ethanol	ug/L	2000	2310	116	70-130	
Ethyl-tert-butyl ether	ug/L	100	101	101	70-130	
Ethylbenzene	ug/L	50	47.7	95	70-130	
Methyl-tert-butyl ether	ug/L	50	49.8	100	70-130	
Naphthalene	ug/L	50	53.5	107	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	
tert-Amylmethyl ether	ug/L	100	97.0	97	70-130	
tert-Butyl Alcohol	ug/L	500	558	112	70-130	
tert-Butyl Formate	ug/L	400	407	102	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

LABORATORY CONTROL SAMPLE: 3470177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	47.2	94	70-130	
Xylene (Total)	ug/L	150	133	89	70-130	
1,2-Dichloroethane-d4 (S)	%			81	70-130	
4-Bromofluorobenzene (S)	%			90	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3470178 3470179

Parameter	Units	92574352007 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	20	20	18.3	17.4	91	87	70-137	5	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	461	439	115	110	39-157	5	30	
Benzene	ug/L	ND	20	20	22.9	24.6	115	123	70-151	7	30	v1
Diisopropyl ether	ug/L	ND	20	20	22.2	24.2	111	121	63-144	8	30	
Ethanol	ug/L	ND	800	800	945	938	118	117	39-176	1	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	44.1	45.5	110	114	66-137	3	30	
Ethylbenzene	ug/L	1.8	20	20	24.3	23.4	112	108	66-153	4	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	22.7	26.2	113	131	54-156	15	30	
Naphthalene	ug/L	13.8	20	20	41.5	29.8	139	80	61-148	33	30	R1
tert-Amyl Alcohol	ug/L	ND	400	400	452	415	111	102	54-153	9	30	
tert-Amylmethyl ether	ug/L	ND	40	40	43.8	52.0	109	130	69-139	17	30	v1
tert-Butyl Alcohol	ug/L	ND	200	200	302	327	151	164	43-188	8	30	
tert-Butyl Formate	ug/L	ND	160	160	ND	ND	0	0	10-170		30	M1
Toluene	ug/L	1.1	20	20	21.8	31.4	104	151	59-148	36	30	M1,R1
Xylene (Total)	ug/L	2.1	60	60	67.5	66.9	109	108	63-158	1	30	
1,2-Dichloroethane-d4 (S)	%						87	95	70-130			
4-Bromofluorobenzene (S)	%						99	114	70-130			
Toluene-d8 (S)	%						95	118	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662300
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352003, 92574352005, 92574352006, 92574352012, 92574352017, 92574352024, 92574352025, 92574352028

METHOD BLANK: 3470182 Matrix: Water
Associated Lab Samples: 92574352003, 92574352005, 92574352006, 92574352012, 92574352017, 92574352024, 92574352025, 92574352028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	11/29/21 14:05	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	11/29/21 14:05	v1
Benzene	ug/L	ND	1.0	0.34	11/29/21 14:05	
Diisopropyl ether	ug/L	ND	1.0	0.31	11/29/21 14:05	
Ethanol	ug/L	ND	200	72.2	11/29/21 14:05	v1
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	11/29/21 14:05	
Ethylbenzene	ug/L	ND	1.0	0.30	11/29/21 14:05	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	11/29/21 14:05	
Naphthalene	ug/L	ND	1.0	0.64	11/29/21 14:05	
tert-Amyl Alcohol	ug/L	ND	100	36.4	11/29/21 14:05	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	11/29/21 14:05	
tert-Butyl Alcohol	ug/L	ND	100	26.8	11/29/21 14:05	
tert-Butyl Formate	ug/L	ND	50.0	29.4	11/29/21 14:05	
Toluene	ug/L	ND	1.0	0.48	11/29/21 14:05	
Xylene (Total)	ug/L	ND	1.0	0.34	11/29/21 14:05	
1,2-Dichloroethane-d4 (S)	%	92	70-130		11/29/21 14:05	
4-Bromofluorobenzene (S)	%	108	70-130		11/29/21 14:05	
Toluene-d8 (S)	%	98	70-130		11/29/21 14:05	

LABORATORY CONTROL SAMPLE: 3470183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1220	122	70-130	v1
Benzene	ug/L	50	49.8	100	70-130	
Diisopropyl ether	ug/L	50	55.8	112	70-130	
Ethanol	ug/L	2000	2590	130	70-130	v1
Ethyl-tert-butyl ether	ug/L	100	112	112	70-130	
Ethylbenzene	ug/L	50	52.6	105	70-130	
Methyl-tert-butyl ether	ug/L	50	58.0	116	70-130	
Naphthalene	ug/L	50	56.2	112	70-130	
tert-Amyl Alcohol	ug/L	1000	1170	117	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	557	111	70-130	
tert-Butyl Formate	ug/L	400	474	119	70-130	
Toluene	ug/L	50	50.2	100	70-130	
Xylene (Total)	ug/L	150	154	102	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

LABORATORY CONTROL SAMPLE: 3470183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			90	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3471494 3471499

Parameter	Units	92574352024 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	5000	5000	4640	4750	93	95	70-137	2	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100000	100000	107000	98500	107	98	39-157	8	30	
Benzene	ug/L	6920	5000	5000	10700	11200	76	85	70-151	4	30	v1
Diisopropyl ether	ug/L	ND	5000	5000	6770	5600	135	112	63-144	19	30	
Ethanol	ug/L	ND	200000	200000	267000	207000	134	103	39-176	26	30	
Ethyl-tert-butyl ether	ug/L	ND	10000	10000	13600	10900	136	109	66-137	22	30	
Ethylbenzene	ug/L	2950	5000	5000	8120	8150	103	104	66-153	0	30	
Methyl-tert-butyl ether	ug/L	ND	5000	5000	7050	5620	141	112	54-156	23	30	
Naphthalene	ug/L	532	5000	5000	4800	5040	85	90	61-148	5	30	
tert-Amyl Alcohol	ug/L	ND	100000	100000	102000	100000	102	100	54-153	1	30	
tert-Amylmethyl ether	ug/L	ND	10000	10000	10900	10600	109	106	69-139	3	30	v1
tert-Butyl Alcohol	ug/L	ND	50000	50000	65200	48500	130	97	43-188	29	30	
tert-Butyl Formate	ug/L	ND	40000	40000	39800	36300	99	91	10-170	9	30	
Toluene	ug/L	33100	5000	5000	41300	36400	166	67	59-148	13	30	M1
Xylene (Total)	ug/L	13700	15000	15000	29300	27300	104	90	63-158	7	30	
1,2-Dichloroethane-d4 (S)	%						91	90	70-130			
4-Bromofluorobenzene (S)	%						123	65	70-130			S0
Toluene-d8 (S)	%						111	96	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662460
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352009, 92574352013, 92574352031

METHOD BLANK: 3470640 Matrix: Water
Associated Lab Samples: 92574352009, 92574352013, 92574352031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	11/29/21 12:50	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	11/29/21 12:50	
Benzene	ug/L	ND	1.0	0.34	11/29/21 12:50	
Diisopropyl ether	ug/L	ND	1.0	0.31	11/29/21 12:50	
Ethanol	ug/L	ND	200	72.2	11/29/21 12:50	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	11/29/21 12:50	
Ethylbenzene	ug/L	ND	1.0	0.30	11/29/21 12:50	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	11/29/21 12:50	
Naphthalene	ug/L	ND	1.0	0.64	11/29/21 12:50	
tert-Amyl Alcohol	ug/L	ND	100	36.4	11/29/21 12:50	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	11/29/21 12:50	
tert-Butyl Alcohol	ug/L	ND	100	26.8	11/29/21 12:50	
tert-Butyl Formate	ug/L	ND	50.0	29.4	11/29/21 12:50	
Toluene	ug/L	ND	1.0	0.48	11/29/21 12:50	
Xylene (Total)	ug/L	ND	1.0	0.34	11/29/21 12:50	
1,2-Dichloroethane-d4 (S)	%	87	70-130		11/29/21 12:50	
4-Bromofluorobenzene (S)	%	101	70-130		11/29/21 12:50	
Toluene-d8 (S)	%	99	70-130		11/29/21 12:50	

LABORATORY CONTROL SAMPLE: 3470641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.3	85	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	980	98	70-130	
Benzene	ug/L	50	47.0	94	70-130	
Diisopropyl ether	ug/L	50	43.0	86	70-130	
Ethanol	ug/L	2000	1670	83	70-130	
Ethyl-tert-butyl ether	ug/L	100	89.5	89	70-130	
Ethylbenzene	ug/L	50	48.6	97	70-130	
Methyl-tert-butyl ether	ug/L	50	42.8	86	70-130	
Naphthalene	ug/L	50	46.4	93	70-130	
tert-Amyl Alcohol	ug/L	1000	978	98	70-130	
tert-Amylmethyl ether	ug/L	100	97.3	97	70-130	
tert-Butyl Alcohol	ug/L	500	422	84	70-130	
tert-Butyl Formate	ug/L	400	352	88	70-130	
Toluene	ug/L	50	48.1	96	70-130	
Xylene (Total)	ug/L	150	146	97	70-130	
1,2-Dichloroethane-d4 (S)	%			85	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

LABORATORY CONTROL SAMPLE: 3470641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3470642 3470643

Parameter	Units	92573870015 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	20	20	18.9	19.6	94	98	70-137	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	376	352	94	88	39-157	6	30	
Benzene	ug/L	ND	20	20	19.9	20.3	99	101	70-151	2	30	
Diisopropyl ether	ug/L	ND	20	20	18.2	18.6	91	93	63-144	2	30	
Ethanol	ug/L	ND	800	800	773	742	97	93	39-176	4	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	37.6	38.7	94	97	66-137	3	30	
Ethylbenzene	ug/L	ND	20	20	19.4	19.7	97	99	66-153	1	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.3	18.4	91	92	54-156	0	30	
Naphthalene	ug/L	ND	20	20	18.5	18.0	92	90	61-148	3	30	
tert-Amyl Alcohol	ug/L	ND	400	400	388	354	97	88	54-153	9	30	
tert-Amylmethyl ether	ug/L	ND	40	40	38.2	38.2	95	96	69-139	0	30	
tert-Butyl Alcohol	ug/L	ND	200	200	269	260	134	130	43-188	3	30	
tert-Butyl Formate	ug/L	ND	160	160	ND	ND	1	0	10-170		30	P5
Toluene	ug/L	ND	20	20	20.0	20.1	100	100	59-148	1	30	
Xylene (Total)	ug/L	ND	60	60	58.6	59.0	98	98	63-158	1	30	
1,2-Dichloroethane-d4 (S)	%						93	95	70-130			
4-Bromofluorobenzene (S)	%						100	100	70-130			
Toluene-d8 (S)	%						101	101	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662565
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352004, 92574352014, 92574352026

METHOD BLANK: 3471268 Matrix: Water
Associated Lab Samples: 92574352004, 92574352014, 92574352026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	11/30/21 13:21	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	11/30/21 13:21	
Benzene	ug/L	ND	1.0	0.34	11/30/21 13:21	
Diisopropyl ether	ug/L	ND	1.0	0.31	11/30/21 13:21	
Ethanol	ug/L	ND	200	72.2	11/30/21 13:21	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	11/30/21 13:21	
Ethylbenzene	ug/L	ND	1.0	0.30	11/30/21 13:21	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	11/30/21 13:21	
Naphthalene	ug/L	ND	1.0	0.64	11/30/21 13:21	
tert-Amyl Alcohol	ug/L	ND	100	36.4	11/30/21 13:21	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	11/30/21 13:21	
tert-Butyl Alcohol	ug/L	ND	100	26.8	11/30/21 13:21	
tert-Butyl Formate	ug/L	ND	50.0	29.4	11/30/21 13:21	
Toluene	ug/L	ND	1.0	0.48	11/30/21 13:21	
Xylene (Total)	ug/L	ND	1.0	0.34	11/30/21 13:21	
1,2-Dichloroethane-d4 (S)	%	96	70-130		11/30/21 13:21	
4-Bromofluorobenzene (S)	%	96	70-130		11/30/21 13:21	
Toluene-d8 (S)	%	106	70-130		11/30/21 13:21	

LABORATORY CONTROL SAMPLE: 3471269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.9	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	885	88	70-130	
Benzene	ug/L	50	51.9	104	70-130	
Diisopropyl ether	ug/L	50	51.9	104	70-130	
Ethanol	ug/L	2000	1980	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	106	106	70-130	
Ethylbenzene	ug/L	50	49.1	98	70-130	
Methyl-tert-butyl ether	ug/L	50	52.2	104	70-130	
Naphthalene	ug/L	50	46.7	93	70-130	
tert-Amyl Alcohol	ug/L	1000	992	99	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	476	95	70-130	
tert-Butyl Formate	ug/L	400	398	100	70-130	
Toluene	ug/L	50	48.9	98	70-130	
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

LABORATORY CONTROL SAMPLE: 3471269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3471270 3471271

Parameter	Units	92574365027 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	4000	4000	3950	4010	99	100	70-137	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	80000	80000	66200	80000	83	100	39-157	19	30	
Benzene	ug/L	876	4000	4000	5170	5320	107	111	70-151	3	30	
Diisopropyl ether	ug/L	107J	4000	4000	4070	4230	99	103	63-144	4	30	
Ethanol	ug/L	ND	160000	160000	164000	172000	102	108	39-176	5	30	
Ethyl-tert-butyl ether	ug/L	ND	8000	8000	8140	8300	102	104	66-137	2	30	
Ethylbenzene	ug/L	ND	4000	4000	4300	4420	108	110	66-153	3	30	
Methyl-tert-butyl ether	ug/L	30700	4000	4000	35800	36100	126	135	54-156	1	30	
Naphthalene	ug/L	ND	4000	4000	3800	4200	95	105	61-148	10	30	
tert-Amyl Alcohol	ug/L	ND	80000	80000	71900	84500	90	106	54-153	16	30	
tert-Amylmethyl ether	ug/L	ND	8000	8000	8190	8570	99	104	69-139	5	30	
tert-Butyl Alcohol	ug/L	10000J	40000	40000	50500	58400	101	121	43-188	14	30	
tert-Butyl Formate	ug/L	ND	32000	32000	26500	27300	83	85	10-170	3	30	
Toluene	ug/L	ND	4000	4000	4180	4210	104	105	59-148	1	30	
Xylene (Total)	ug/L	ND	12000	12000	13000	13000	108	108	63-158	0	30	
1,2-Dichloroethane-d4 (S)	%						100	99	70-130			
4-Bromofluorobenzene (S)	%						97	97	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662567
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352009, 92574352010, 92574352011, 92574352012, 92574352013, 92574352016, 92574352017, 92574352020, 92574352021, 92574352027, 92574352029

METHOD BLANK: 3471278 Matrix: Water
Associated Lab Samples: 92574352009, 92574352010, 92574352011, 92574352012, 92574352013, 92574352016, 92574352017, 92574352020, 92574352021, 92574352027, 92574352029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0071	11/29/21 18:33	
1-Chloro-2-bromopropane (S)	%	120	60-140		11/29/21 18:33	

LABORATORY CONTROL SAMPLE & LCSD: 3471279 3471280

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.24	0.28	0.30	114	122	60-140	9	20	
1-Chloro-2-bromopropane (S)	%				99	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3471281 3471282

Parameter	Units	92574352009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.24	0.24	0.29	0.27	119	111	60-140	7	20	
1-Chloro-2-bromopropane (S)	%						98	94	60-140			

SAMPLE DUPLICATE: 3471283

Parameter	Units	92574352010 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	97	97			

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QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662569
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352001, 92574352002, 92574352003, 92574352004, 92574352005, 92574352006, 92574352007, 92574352008, 92574352014, 92574352015

METHOD BLANK: 3471293 Matrix: Water
Associated Lab Samples: 92574352001, 92574352002, 92574352003, 92574352004, 92574352005, 92574352006, 92574352007, 92574352008, 92574352014, 92574352015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0070	11/30/21 04:05	
1-Chloro-2-bromopropane (S)	%	102	60-140		11/30/21 04:05	

LABORATORY CONTROL SAMPLE & LCSD: 3471294 3471295

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.24	0.26	0.25	108	102	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				96	90	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3471296 3471297

Parameter	Units	92572987044 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.24	0.24	0.17	0.19	70	79	60-140	13	20	
1-Chloro-2-bromopropane (S)	%						71	78	60-140			

SAMPLE DUPLICATE: 3471298

Parameter	Units	92572987045 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	77	83			

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

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: SC-015 UST #07680
Pace Project No.: 92574352

QC Batch: 662713
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92574352018, 92574352019, 92574352022, 92574352023, 92574352024, 92574352025, 92574352026, 92574352028, 92574352030

METHOD BLANK: 3471753 Matrix: Water
Associated Lab Samples: 92574352018, 92574352019, 92574352022, 92574352023, 92574352024, 92574352025, 92574352026, 92574352028, 92574352030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0069	12/01/21 03:19	
1-Chloro-2-bromopropane (S)	%	106	60-140		12/01/21 03:19	

LABORATORY CONTROL SAMPLE & LCSD: 3471754 3471755

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.27	0.27	109	108	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				106	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3471757 3471758

Parameter	Units	92573252013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.24	0.24	0.26	0.28	111	117	60-140	6	20	
1-Chloro-2-bromopropane (S)	%						110	116	60-140			

SAMPLE DUPLICATE: 3471756

Parameter	Units	92574360006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	116	112			

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SC-015 UST #07680
Pace Project No.: 92574352

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

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.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST #07680
Pace Project No.: 92574352

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92574352001	MW-1R	EPA 8011	662569	EPA 8011	662611
92574352002	MW-1AR	EPA 8011	662569	EPA 8011	662611
92574352003	MW-2	EPA 8011	662569	EPA 8011	662611
92574352004	MW-5R	EPA 8011	662569	EPA 8011	662611
92574352005	MW-5D	EPA 8011	662569	EPA 8011	662611
92574352006	MW-5DD	EPA 8011	662569	EPA 8011	662611
92574352007	MW-7R	EPA 8011	662569	EPA 8011	662611
92574352008	MW-8	EPA 8011	662569	EPA 8011	662611
92574352009	MW-9R	EPA 8011	662567	EPA 8011	662610
92574352010	MW-10R	EPA 8011	662567	EPA 8011	662610
92574352011	MW-11R	EPA 8011	662567	EPA 8011	662610
92574352012	MW-12R	EPA 8011	662567	EPA 8011	662610
92574352013	MW-12D	EPA 8011	662567	EPA 8011	662610
92574352014	MW-15	EPA 8011	662569	EPA 8011	662611
92574352015	MW-15R	EPA 8011	662569	EPA 8011	662611
92574352016	MW-16	EPA 8011	662567	EPA 8011	662610
92574352017	MW-17	EPA 8011	662567	EPA 8011	662610
92574352018	MW-18	EPA 8011	662713	EPA 8011	662808
92574352019	MW-18D	EPA 8011	662713	EPA 8011	662808
92574352020	MW-19	EPA 8011	662567	EPA 8011	662610
92574352021	MW-20	EPA 8011	662567	EPA 8011	662610
92574352022	MW-21	EPA 8011	662713	EPA 8011	662808
92574352023	DW-1	EPA 8011	662713	EPA 8011	662808
92574352024	RW-1	EPA 8011	662713	EPA 8011	662808
92574352025	RW-2	EPA 8011	662713	EPA 8011	662808
92574352026	RW-3	EPA 8011	662713	EPA 8011	662808
92574352027	DUP-1	EPA 8011	662567	EPA 8011	662610
92574352028	DUP-2	EPA 8011	662713	EPA 8011	662808
92574352029	FB-1	EPA 8011	662567	EPA 8011	662610
92574352030	FB-2	EPA 8011	662713	EPA 8011	662808
92574352001	MW-1R	EPA 8260D	662299		
92574352002	MW-1AR	EPA 8260D	662299		
92574352003	MW-2	EPA 8260D	662300		
92574352004	MW-5R	EPA 8260D	662565		
92574352005	MW-5D	EPA 8260D	662300		
92574352006	MW-5DD	EPA 8260D	662300		
92574352007	MW-7R	EPA 8260D	662299		
92574352008	MW-8	EPA 8260D	662299		
92574352009	MW-9R	EPA 8260D	662460		
92574352010	MW-10R	EPA 8260D	662299		

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Huntersville, NC 28078
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST #07680
Pace Project No.: 92574352

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92574352011	**MW-11R**	EPA 8260D	662299		
92574352012	**MW-12R**	EPA 8260D	662300		
92574352013	**MW-12D**	EPA 8260D	662460		
92574352014	**MW-15**	EPA 8260D	662565		
92574352015	**MW-15R**	EPA 8260D	662299		
92574352016	**MW-16**	EPA 8260D	662299		
92574352017	**MW-17**	EPA 8260D	662300		
92574352018	**MW-18**	EPA 8260D	662299		
92574352019	**MW-18D**	EPA 8260D	662299		
92574352020	**MW-19**	EPA 8260D	662299		
92574352021	**MW-20**	EPA 8260D	662299		
92574352022	**MW-21**	EPA 8260D	661955		
92574352023	**DW-1**	EPA 8260D	662299		
92574352024	**RW-1**	EPA 8260D	662300		
92574352025	**RW-2**	EPA 8260D	662300		
92574352026	**RW-3**	EPA 8260D	662565		
92574352027	**DUP-1**	EPA 8260D	662299		
92574352028	**DUP-2**	EPA 8260D	662300		
92574352029	**FB-1**	EPA 8260D	662299		
92574352030	**FB-2**	EPA 8260D	662299		
92574352031	**TB**	EPA 8260D	662460		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: November 15, 2021 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.08	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Pace mt Columbia

Project #: WO# : 92574352

92574352

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

Custody Seal Present? ☐ Yes ☐ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: JB 11/24/21

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 92T064 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.9 **Correction Factor:** Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.9

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: W T				
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: _____ **Date:** _____

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

***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 bottles**

Project # WO#: 92574352

PM: NMG Due Date: 12/03/21

CLIENT: 92-QualEnv

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)	BP4B-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 Unpreserved (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (3 vials per kit)-5035 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)
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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.

***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 bottles**

Project # WO#: 92574352

PM: NMG Due Date: 12/03/21

CLIENT: 92-QualEnv

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)	BP4B-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 Unpreserved (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (3 vials per kit)-5035 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)
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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.

WO#: 92574352

PM: NMG Due Date: 12/03/21

CLIENT: 92-QualEnv

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

Project #

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

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

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)	BP4B-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 Unpreserved (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (3 vials per kit)-5035 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)
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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®

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

Number 128086

Client	Report to Contact	Telephone No. / E-mail	Quote No.
QES	Don Jones	410-841-5552	
Address	**Sampler's Signature**	**Analysis (Attach list if more space is needed)**	Page 1 of 4
2112 Loblolly Lane	X		
City / State / Zip Code	**Printed Name**		Lot # Bar Code (lab use only)
Johns Island SC 29455	Austin Smith-Jones		
Project Name			
SC-015 UST#07680			

Project No.	P.O. No.		G=Grab C=Composite	Matrix			No of Containers by Preservative Type							Analysis: BTEX+MN+2DCA+OXY+EtOH	Analysis: EDB 8011							
Sample ID / Description (Containers for each sample may be combined on one line.)	**Collection Date(s)**	**Collection Time (Military)**		Aqueous	Solid	Non-Aqueous	Unpres.	H_2SO_4	HNO_3	HCl	NaOH	5035 Kit	Field Filtered									**Remarks / Cooler I.D.**
MW 1R	11/16	1256	G	X						5				X	X							92574352-001
MW 1AR	11/16	1231	G	X						5				X	X							002
MW 2	11/16	1250	G	X						5				X	X							003
MW-5R	11/16	1608	G	X						5				X	X							004
MW-5D	11/16	1431	G	X						5				X	X							005
MW-5DD	11/16	1355	G	X						5				X	X							006
MW-7R	11/16	1144	G	X						5				X	X							007
MW-8	11/16	1119	G	X						5				X	X							008
1R → MW-9R	11/15	1351	G	X						5				X	X							009
MW 10R	11/15	1425	G	X						5				X	X							010

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

Sample Disposal
☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by	11/19/21	0848	1. Received by	11/19/21	0848
2. Relinquished by	11/19/21	1443	2. Received by	11/19/21	1443
3. Relinquished by	11/22/21	1540	3. Received by PACE CLT SECURE	11.22.21	1540
4. Relinquished by PACE CLT SECURE	11.23.21		4. Laboratory received by KM Pace HWL	11/23/21	1000

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. 4.9 °C
Temp Blank X Y ☐ N

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

Document Number: ME003N2-01

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www.pacelabs.com

Number 128089

Client	Report to Contact	Telephone No. / E-mail	Quote No.
QES	Don Jones	410-841-5552	
Address	**Sampler's Signature**	**Analysis (Attach list if more space is needed)**	Page 2 of 4
2112 Loblolly Lane	X		
City / State / Zip Code	**Printed Name**		Lot # Bar Code (lab use only)
Johns Island / SC / 29455	Austin Smith-Jones		
Project Name			
SC-015 UST#07680			

Project No.	P.O. No.		G=Grab C=Composite	Matrix			No of Containers by Preservative Type								BTEX+MNIZDCA +TOXY+ETH	EDB 8011								Remarks / Cooler I.D.
Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)		Aqueous	Solid	Non-Aqueous	Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered											
MW-11R	11/15	1509	G	X						5					X	X								12574352-c11
MW-12R	11/15	1339	G	X						5					X	X								c12
MW-12D	11/15	1320	G	X						5					X	X								c13
MW-15	11/16	835	G	X						5					X	X								c14
MW-15R	11/16	907	G	X						5					X	X								c15
MW-16	11/15	1631	G	X						5					X	X								c16
MW-17	11/15	1551	G	X						5					X	X								c17
MW-18	11/16	1034	G	X						5					X	X								c18
MW-18D	11/16	1020	G	X						5					X	X								c19
MW-19	11/15	1444	G	X						5					X	X								c20

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

Sample Disposal
☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Relinquished by	Date	Time	Received by	Date	Time
1.		11/19/21	0848		11/19/21	0848
2.		11/19/21	1443		11/19/21	1443
3.		11/22/21	1540	PACE CLT SECURE	11.22.21	1540
4.	PACE CLT SECURE	11.23.21		KH Pace HVL	11/23/21	1600

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. 4.9 °C
Temp Blank X Y ☐ N

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

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Number 127524

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 2112 Loblolly Lane	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 3 of 4
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		Lot # Bar Code (lab use only)
Project Name: SC-015 UST # 07680			
Project No.	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MN12DCA +OXY+Eth	EDB 8011	Remarks / Cooler I.D.
MW-20	11/15	1131	G	X						5				X	X	82574352-021
MW-21	11/16	1454	G	X						5				X	X	022
DW-1	11/16	1524	G	X						5				X	X	023
RW-1	11/16	1543	G	X						5				X	X	024
RW-2	11/16	1631	G	X						5				X	X	025
RW-3	11/16	1650	G	X						5				X	X	026
Dup1	11/15	1200	G	X						5				X	X	027
Dup2	11/16	1200	G	X						5				X	X	028
FB1	11/15	1200	G	X						5				X	X	029
FB2	11/16	1200	G	X						5				X	X	030

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

Sample Disposal: ☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by [signature]	11/19/21	0848	1. Received by [signature]	11/19/21	0848
2. Relinquished by [signature]	11/19/21	1443	2. Received by [signature]	11/19/21	1443
3. Relinquished by [signature]	11/22/21	1540	3. Received by PACE CLT SECURE	11.22.21	1540
4. Relinquished by PACE CLT SECURE	11.23.21		4. Laboratory received by KH Pace HVL	11/23/21	1600

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. 4.9 °C
Temp Blank X Y ☐ N

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

Document Number: ME003N2-01

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Number L15423

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 2112 Loblolly Lane	Sampler's Signature:	Analysis (Attach list if more space is needed)	Page 4 of 4
City: Johns Island / State: SC / Zip Code: 29455	Printed Name: Austin Smith-Jones		Lot # Bar Code (lab use only)
Project Name: SC-015 UST# 07680			

| Project No. | P.O. No. | | | Matrix | | | | No of Containers by Preservative Type | | | |

APPENDIX G

DISPOSAL MANIFEST

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

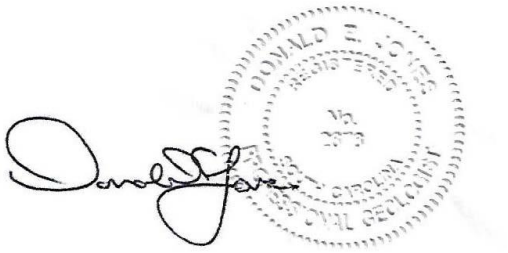
Item #	Item	Yes	No	N/A
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements 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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)		X	
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information?

Disposal manifest to be submitted upon receipt

Project Verifier:



Groundwater Sampling Audit Form
Underground Storage Tank Management Division

RESULTS:
- [x] Satisfactory
- [ ] Issues

Date: 5/16/2022 Project Manager: Matt DHEC Field Staff: M. Vincent

Contractor: QES Contractor Field Staff: Austin Smith-Jones

Site Number: 07680 Site Name: Former SC-015 (Long's Drug Store)

Time Arrived at Site: 1305 Time Leaving Site: 1340 Weather Conditions: sunny, hot Temperature: 90°F

Well allowed to equilibrate before sampling? ..... [x] YES [ ] NO

Water level obtained correctly? ..... [x] YES [ ] NO

New plastic sheeting around each well? ..... [x] YES [ ] NO

New pair of gloves worn for each well? ..... [x] YES [ ] NO

Meter calibration log(s) present? ..... [x] YES [ ] NO



Method of Data Collection ..... [x] Field Data Sheets [ ] Log Book + phone for app

Method of Purging/Sample Collection ..... [x] Bailer [x] Pump [ ] Other: _____

New bailer/string or tubing for each well? ..... [x] YES [ ] NO

Field parameters obtained correctly? ..... [x] YES [ ] NO Information recorded? [x] YES [ ] NO

Meter Information (include type and serial number): AquaTroll 600 for all

pH/Conductance: _____ DO: _____ Turbidity: _____ Temperature: _____

Adequate purge completed? ..... [ ] YES [ ] NO N/A Grab sample

Purge water maintenance? ..... [x] YES [ ] NO Drum

Appropriate sample handling (cooler w/ wet ice, bags, bubble wrap)? ..... [x] YES [ ] NO

Decontamination of all equipment between wells? ..... [x] YES [ ] NO

Signature: _____ Date: 5/16/2022

Notes: 22 out of 28 are Grab samples

- observed samping of MW-13 → Grab sample.
- observed set up of MW-20 → took photo: no cement in borehole PVC pipe free-standing

CD's Information

Date Received: 7/8/22

Permit Number: 07680

Project Manager: Matt Wykel

Contractor: QES

Description: GW Assessment - 2022

Docket Number: 117T **Initials:** _____

Scanned by: _____

Verified by: _____

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

July 1, 2022

Matt Wykel, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2022 Groundwater Assessment Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2022 Groundwater Assessment Report* for the above-listed facility. Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently operated as a Long's Drugstore (now closed); the underground storage tanks associated with the former Crown service station were removed in July 1991.

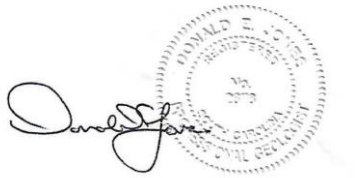
A groundwater sampling notice to proceed for two sampling events six months apart was issued by SCDHEC on November 3, 2021. The first sampling event was completed on November 15 and 16, 2021 with a report submitted to SCDHEC on December 15, 2021. The second sampling event occurred on May 16, 2022. Samples were not collected from monitoring well MW-1A (consistently dry) and recovery wells RW-2 and RW-3 due to the presence of light non-aqueous phase liquid (LNAPL).

SCDHEC modeled the site and developed site-specific target levels (SSTLs) for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2022 analytical results were below the SSTLs except for the toluene concentrations in MW-5R (46,000 µg/L) and RW-1 (42,000 µg/L) along with the presence of LNAPL in RW-2 and RW-3. The monitoring wells and recovery wells with the highest dissolved hydrocarbon concentrations are located adjacent to or directly beneath the two former dispenser islands.

Sixteen AFVR events have been completed at the Site with LNAPL still periodically present in two recovery wells. The residual LNAPL is present in a smear zone beneath the two former dispensers. Since the property is currently vacant, Crown is investigating the possibility of excavating shallow impacted soil at the former dispensers to remove the source material. This will require the proper abandonment of the existing recovery wells and several monitoring wells with replacement monitoring wells to be installed following soil excavation. QES anticipates that post-excavation groundwater concentrations will decease to levels below SSTLs. Should Crown decide to proceed with soil excavation and the property owner also agree, QES will submit a Work Plan and Cost Agreement to SCDHEC for approval with the expectation that the soil excavation costs will be covered by SUPERB reimbursement. Soil excavation is expected to be the lowest cost option for achieving case closure as compared to continued AFVR events or injections.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2022 Groundwater Assessment Report*

Cc: Ms. Annie Smith-Jones – Crown Central, LLC
Ms. June Niggel Derrick – Niggel Family LLC (1219 Sanford Dr., Columbia SC 29206)

QES File 201-189-SC-015

2022 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Matt Wykel, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Environmental
Mailing Address: PO Box 44, Bridgewater, VT 05034

Prepared by:

Mr. Donald E. Jones, SCRPG
Quality Environmental Solutions, Inc.
Mailing Address: PO Box 44, Bridgewater, VT 05034
Contractor Certification Number 461
410-841-5552

July 1, 2022

2022 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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Figure 2A: Site Vicinity Map
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Figure 4: COC Concentration Map
Figure 5: Potentiometric Surface Map – Shallow Screened Wells
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Tables

Table 2: Summary of Monitoring Well Gauging Data
Table 3: Summary of Groundwater Analytical Data

Appendices

Appendix B: Sampling Logs, Laboratory Data Sheets and Chain-of-Custody
Appendix G: Disposal Manifest
Appendix K: Data Verification Checklist

2022 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2022 Groundwater Assessment Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report describes the completion of the second of two monitoring well gauging and sampling events on May 16, 2022.

Groundwater monitoring and reporting activities at the Site have been conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #3* (QES 2021), and the November 3, 2021 SCDHEC *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed* and *Approved Cost Agreement No. 63938* (SCDHEC 2021).

1.1 Site Description

Site Name	Former Crown SC-015 (Long's Drugstore) Former UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Niggel Family Partnership, LLC 1219 Sanford Drive Columbia, SC 29206 803-782-6274
Current Property Use	Long's Drugstore (now vacant)

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen aggressive fluid-vapor recovery (AFVR) events were completed at the Site between April 2010 and July 2018.
- Three recovery wells were installed at the Site in June 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater impacts.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the November 2021 sampling event. LNAPL was detected in RW-2 and RW-3 during the May 2022 sampling event.
- Site-Specific Target Levels (SSTLs) were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The toluene SSTL was exceeded in MW-5R, MW-21, RW-1 and RW-3 during the November 2021 sampling event. The May 2022 analytical results were below the SSTLs except for the toluene concentrations in MW-5R in RW-1 along with the presence of LNAPL in RW-2 and RW-3.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

A Notice to Proceed for two groundwater sampling events six month apart was issued by SCDHEC on November 3, 2021. The first sampling event occurred in November 2021. Groundwater levels were measured in the monitoring and recovery wells on May 16, 2022 using a Solinst 122 Interface Meter. LNAPL was detected in RW-2 (0.30 feet) and RW-3 (0.11 feet). A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Form is included in **Appendix B**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the southwest in the shallow perched zone and to the east-southeast in the deeper intermediate zone (**Figure 5 and Figure 5A**). A potentiometric surface map based on the deeper monitoring wells is not included as there are only three data points, however historical groundwater flow in the deeper portion of the shallow aquifer is to the east.

The following monitoring wells were not sampled:

- MW-1A was dry - the well has been dry since 2003 and since the original well depth was 45 feet, this well is no longer viable. Monitoring well MW-1AR was installed as a replacement well in 2018.
- RW-2 and RW-3 due to the presence of LNAPL.

Grab groundwater samples were collected from the monitoring wells where the water level bracketed the well screen (19 wells). The remaining were low-flow purged prior to sample collection (six wells).

Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. The ten gallons of purge water generated during the sampling event were stored in a 55-gallon drum for eventual transport to and disposal by a licensed contractor. A copy of the waste disposal manifest is included in **Appendix G**.

Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential and turbidity were measured with the In-Situ Aqua TROLL® 600 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The samples were placed on ice in coolers and delivered via courier along with the chain-of-custody to Pace Analytical in West Columbia, South Carolina. The groundwater samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

Field duplicate samples were collected from monitoring wells MW-5D and MW-5DD. A field blank sample was collected using laboratory supplied deionized water. One trip blank sample was supplied by Pace. The quality assurance/quality control samples were analyzed for the above parameters, excluding EDB analysis of the trip blank sample. There were no discrepancies noted in the analyses of the field duplicates, field blanks or trip blank.

3.0 GROUNDWATER ASSESSMENT RESULTS

Table 3 lists the 2022 and historical analytical results. The monitoring well MW-5R toluene concentration of 46,000 µg/L and the recovery well RW-1 toluene concentration of 42,000 µg/L were above the SSTL of 26,540 µg/L. Comparison to SSTLs is not possible for RW-2 and RW-3 as the wells were not sampled due the presence of LNAPL.

The primary area of Site impact is the two former dispenser islands with residual impacted soil present above and within an approximate five feet thick smear zone.

The monitoring well analytical results are summarized in **Table 3**. The complete laboratory report is included in **Appendix B** and the Data Verification Checklist is included in **Appendix K**. **Figure 4** depicts the analytical results for the monitoring wells.

4.0 CONCLUSIONS AND RECOMMENDATION

The second of two groundwater gauging and sampling events was completed at the Site on May 16, 2022. SCDHEC modeled the site and developed SSTLs for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The 2022 analytical results were below the SSTLs except for the toluene concentrations in MW-5R (46,000 µg/L) and RW-1 (42,000 µg/L) along with the presence of LNAPL in RW-2 and RW-3. The monitoring wells and recovery wells with the highest dissolved hydrocarbon concentrations are located adjacent to or directly beneath the two former dispenser islands.

Sixteen AFVR events have been completed at the Site with LNAPL still periodically present in two recovery wells. The residual LNAPL is present in a smear zone beneath the two former dispensers. Since the property is currently vacant, Crown is investigating the possibility of excavating shallow impacted soil at the former dispensers to remove the source material. This will require the proper abandonment of the existing recovery wells and several monitoring wells with replacement monitoring wells to be installed following soil excavation. QES anticipates that post-excavation groundwater concentrations will decease to levels below SSTLs. Should Crown decide to proceed with soil excavation and the property owner also agree, QES will submit a Work Plan and Cost Agreement to SCDHEC for approval with the expectation that the soil excavation costs will be covered by SUPERB reimbursement. Soil excavation is expected to be the lowest cost option for achieving case closure as compared to continued AFVR events or injections.

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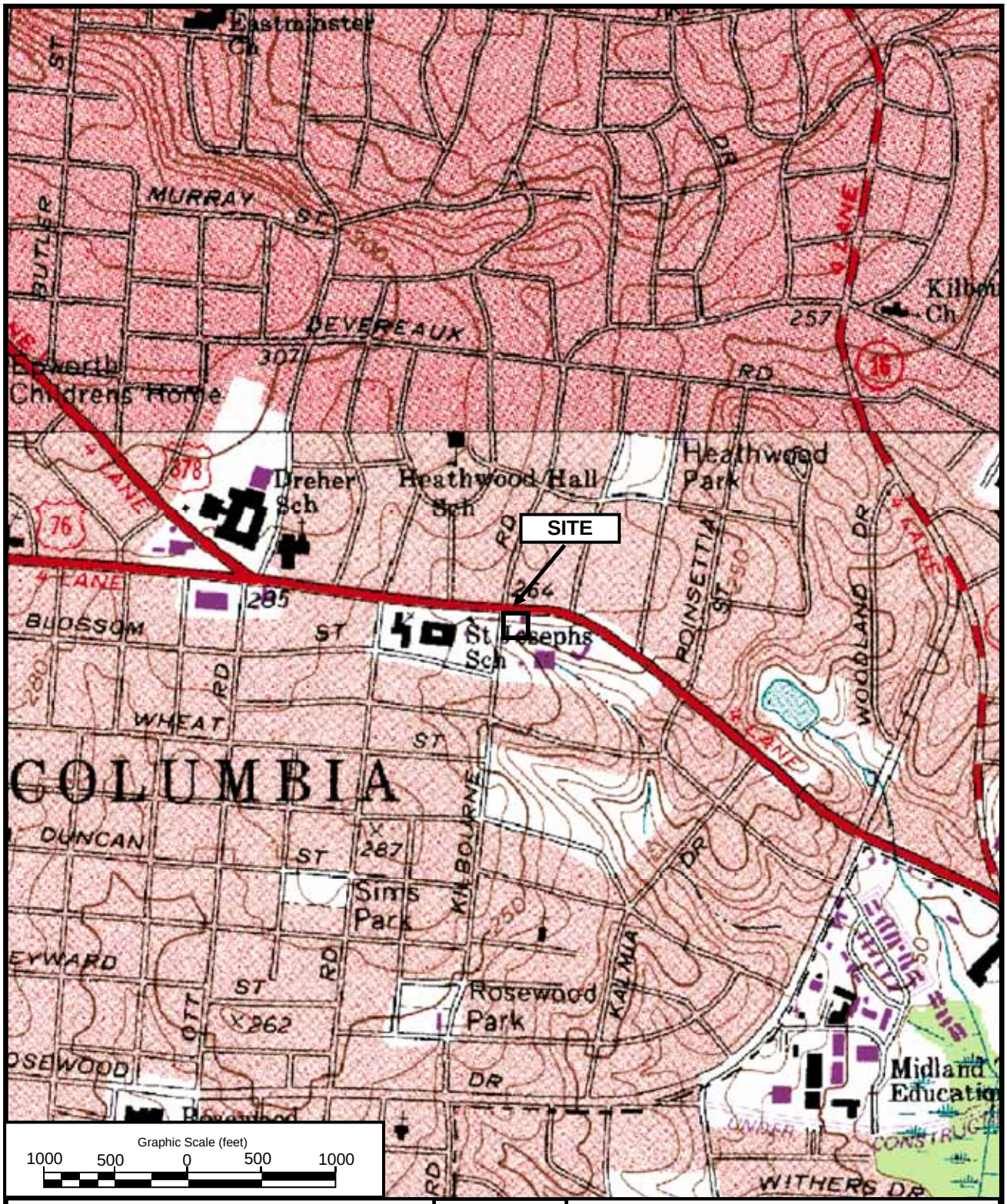
FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

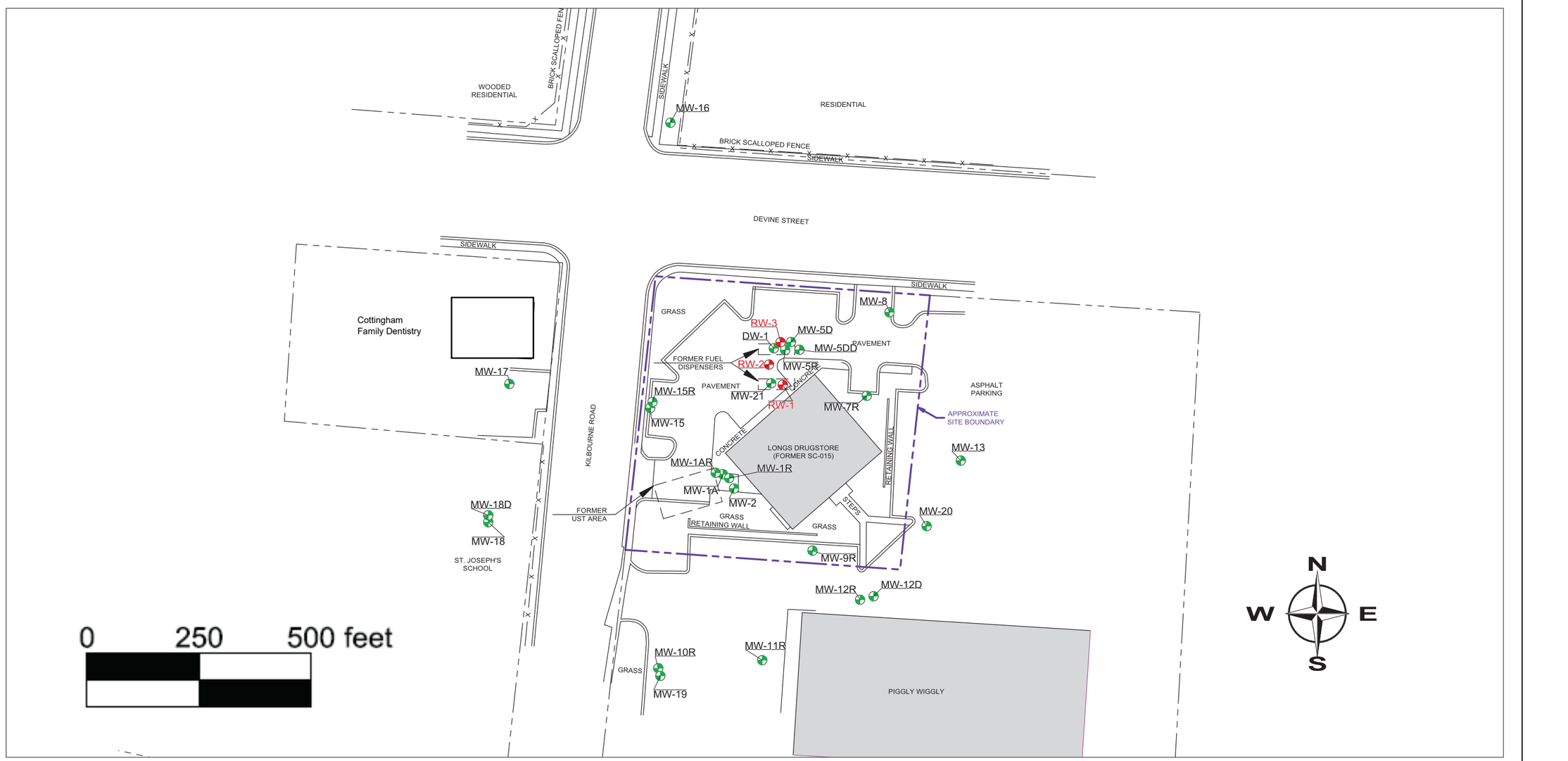
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Detection Limit for all Parameters	
NS	Not Sampled	
* Red Boxed Values > SSTLs		
Concentrations in ug/L		

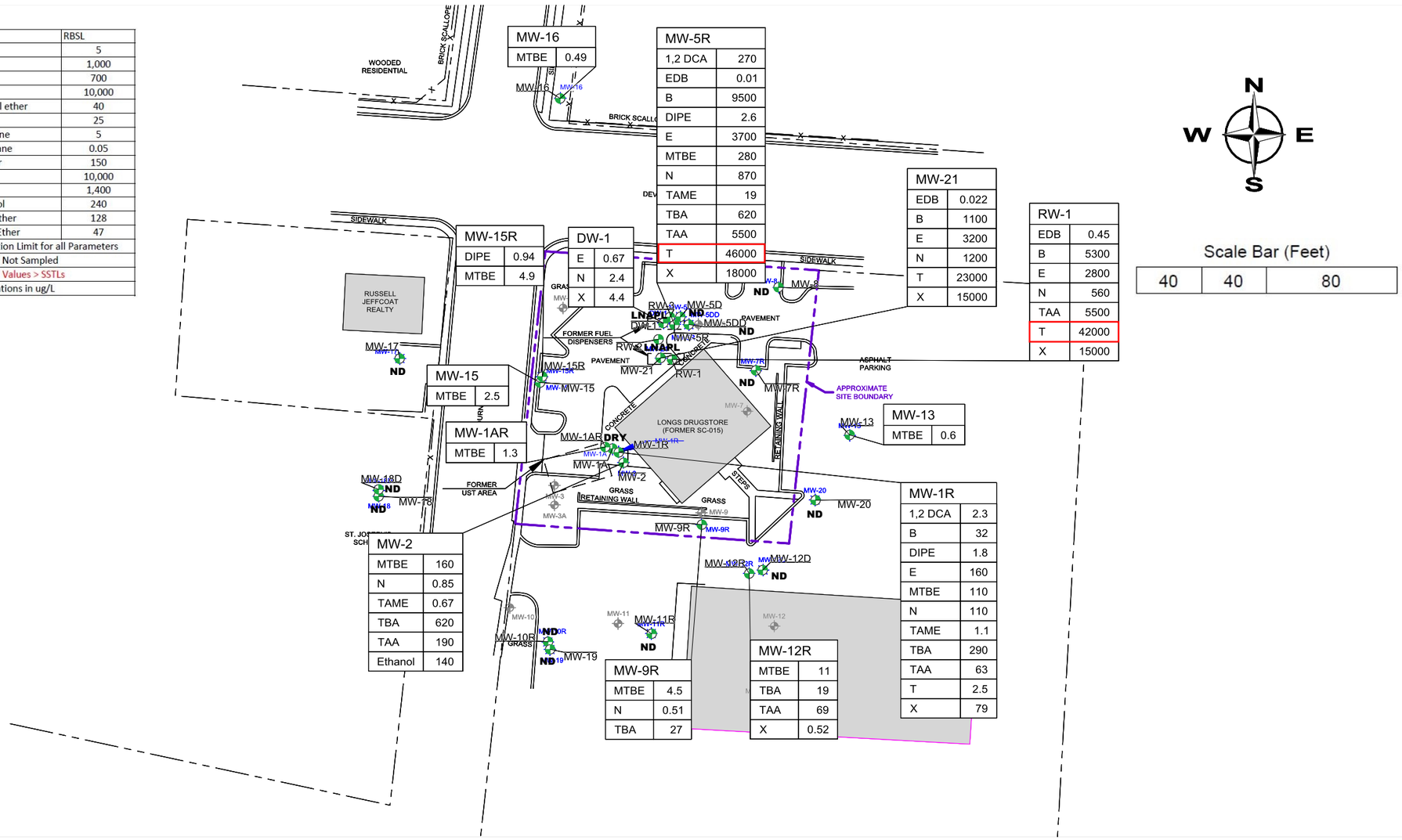


Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680



Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

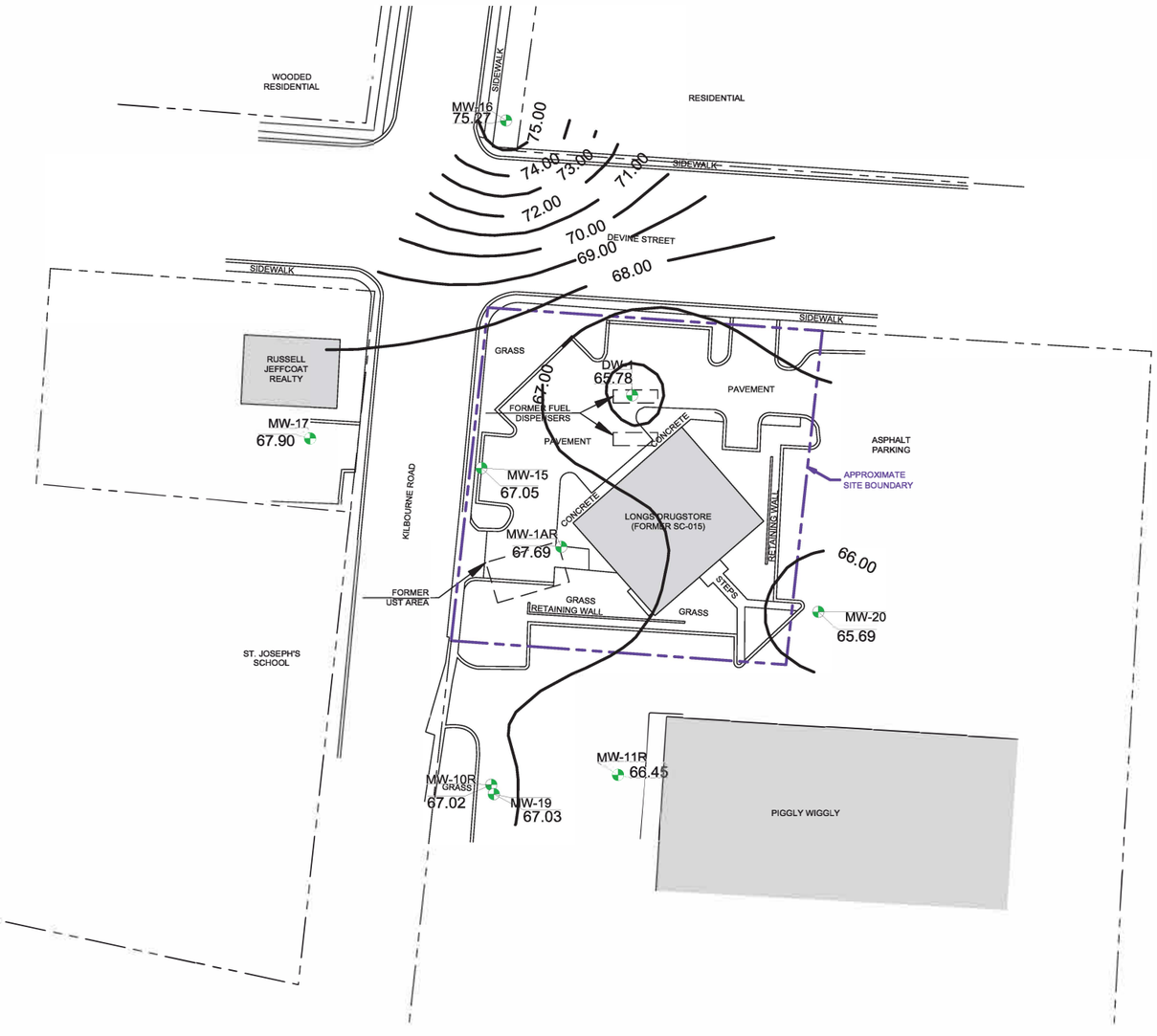


Figure 5A: Potentiometric Surface Map - Intermediate Screened Wells

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
	05/16/22	98.41	Dry			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
	05/16/22	98.35	ND	17.83	ND	80.52
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'	05/16/22	99.34	ND	31.65	ND	67.69
Screen						
40-45'						
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
	05/16/22	98.45	ND	28.05	ND	70.40
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
	05/16/22	98.29	ND	15.94	ND	82.35
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79
	05/16/22	98.49	ND	42.25	ND	56.24

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
	05/16/22	98.83	ND	51.18	ND	47.65
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
	05/16/22	98.85	ND	15.94	ND	82.91
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
	05/16/22	99.48	ND	16.93	ND	82.55
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
	05/16/22	93.32	ND	12.62	ND	80.70
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
	05/16/22	95.71	ND	28.69	ND	67.02
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65
	05/16/22	92.26	ND	25.81	ND	66.45

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
	05/16/22	92.43	ND	13.20	ND	79.23
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
	05/16/22	92.51	ND	37.40	ND	55.11
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
	05/16/22	94.26	ND	12.01	ND	82.25
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
	05/16/22	99.70	ND	32.65	ND	67.05
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
	05/16/22	100.47	ND	32.55	ND	67.92

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25
	05/16/22	102.85	ND	27.58	ND	75.27
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
	05/16/22	100.84	ND	32.94	ND	67.90
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
	05/16/22	103.46	ND	22.65	ND	80.81
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
	05/16/22	103.28	ND	40.49	ND	62.79
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
	05/16/22	95.74	ND	28.71	ND	67.03
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
	05/16/22	92.93	ND	27.24	ND	65.69

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17
	05/16/22	98.89	ND	15.85	ND	83.04
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
	05/16/22	97.48	ND	31.70	ND	65.78
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen	05/16/22	99.25	ND	16.17	ND	83.08
5-25'						
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen	05/16/22	99.11	15.87	16.17	0.30	83.18
5-25'						
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen	05/16/22	99.15	16.39	16.50	0.11	82.74
5-25'						

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
	05/16/22	Dry															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
	05/16/22	**32**	2.5	160	79	**110**	**110**	<0.005	2.3	1.8	<8.0	<0.40	<52	63	1.1 J	290	<2.0
MW-1AR	*SSTLs*	*39,162*	*26,540*	*3,700*	*21,680*	*6,849*	*6,700*	*283*									
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-2	*SSTLs*	*23,279*	*26,540*	*3,700*	*21,680*	*5,114*	*6,700*	*171*									
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
	05/16/22	<0.40	<0.40	<0.40	<0.40	**160**	0.85 J	<0.005	<0.40	<0.40	<8.0	<0.40	140	190	0.67 J	620	<2.0
MW-5R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**11,500**	**37,100**	**2,560**	**13,200**	**573**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**9,500**	**46,000**	**3,700**	**18,000**	**280**	**870**	0.010 J	**270**	2.6	<8.0	<0.40	<52	**5,500**	19	620	<2.0
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Duplicate #2	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Duplicate #1	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-8	*SSTLs*	*13,274*	*26,540*	*3,700*	*21,680*	*3,727*	*6,059*	*100*									
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.5	0.51 J	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	27	<2.0
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	0.52 J	11	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	69	<0.42	19 J	<2.0
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.60 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	2.5	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-15R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*16,338*	*6,700*	*1,262*									
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.9	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.49 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-21	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	**28,500**	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	05/16/22	**1,100**	**23,000**	**3,200**	**15,000**	<80	**1,200**	0.022	<80	<80	<1,600	<80	<10,000	<1,600	<84	<1,600	<400
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	0.67 J	4.4	<0.40	2.4	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
RW-1	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*									
	05/10/20	**6,300**	**33,000**	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	**33,100**	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**5,300**	**42,000**	**2,800**	**15,000**	<80	**560**	**0.450**	<80	<80	<1,600	<80	<10,000	**5,500**	<84	<1,600	<400
RW-2	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*27,166*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
RW-3	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*									
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	**43,600**	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
Field Blank	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Trip Blank	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

APPENDIX B

SAMPLING LOGS, LABORATORY DATA SHEETS AND CHAINS-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

	Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
NS	MW-1A		dry			1610	✓	✓	2/2	✓	✓
G	MW-1R	—	17.83	—		1615	✓	✓	0/2	✓	✓
L	MW-1AR	—	31.65	—		1603	✓	✓	2/2	✓	✓
G	MW-2	—	28.05	—		1640	✓	✓	0/2	✓	✓
G	MW-5R	—	15.94	—		1806	✓	✓	1/2	✓	✓
L	MW-5D	—	42.25	—		1719	✓	✓	0/2	✓	✓
L	MW-5DD	—	51.18	—		1712	✓	✓	0/2	✓	✓
G	MW-7R	—	15.94	—		1254	✓	✓	0/2	✓	✓
G	MW-8	—	16.93	—		1242	✓	✓	0/2	✓	✓
G	MW-9R	—	12.62	—		1501	✓	✓	2/2	✓	✓
G	MW-10R	—	28.69	—		1433	✓	✓	0/2	✓	✓
G	MW-11R	—	25.81	—		1451	✓	✓	0/2	✓	✓
G	MW-12R	—	13.20	—		1414	✓	✓	0/2	✓	✓
L	MW-12D	—	37.40	—		1341	✓	✓	0/2	✓	✓
G	MW-13	—	12.01	—		1309	✓	✓	2/2	✓	✓
G	MW-15	—	32.65	—		1514	✓	✓	2/2	✓	✓
G	MW-15R	—	32.55	—		1522	✓	✓	2/2	✓	✓
G	MW-16	—	27.58	—		1224	✓	✓	2/2	✓	✓
G	MW-17	—	32.94	—		1212	✓	✓	0/2	✓	✓
G	MW-18	—	22.65	—		1145	✓	✓	1/2	✓	✓
L	MW-18D	—	40.49	—		1125	✓	✓	1/2	✓	✓
G	MW-19	—	28.71	—		1440	✓	✓	1/2	✓	✓
G	MW-20	—	27.24	—		1325	✓	✓	0/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

1AR and 1A need to be switched on map

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:		**QES Associate(s):**	
Project Number:	**SC-015, UST #07680**	**Others Present:**	
Project Name:	***Former Crown SC-015***	**QES Associate Signature:**	

	Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
G	MW-21	—	15.85	—		1651	✓	✓	0/2	✓	✓
G	RW-1	—	16.17	—		1659	✓	✓	0/2	✓	✓
G	RW-2	15.87	16.17	0.30	—	1802	✓	✓	1/2	✓	✓
G	RW-3	16.39	16.50	0.11	—	1821	✓	✓	1/2	✓	✓
G	DW-1	—	31.70	—		1757	✓	✓	1/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1638			23.53	5.82	1.18	0.18	-75	4.0	

Gauging Time:	1615	**Sample Time:**	1638
Depth to Water (ft.):	17.83		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 1R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1610	350	Start Purge (0)							
1615	↓	1.75	23.80	5.63	6.82	0.10	77	40	
1620		3.5	24.21	5.60	6.79	0.10	93	39	
1625		5.25	24.53	5.57	6.81	0.10	97	40	

Gauging Time:	1603	**Sample Time:**	1626
Depth to Water (ft.):	31.45		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 1AR

Stabilization = 3 successive readings of: DRUM

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1645			23.20	5.70	7.06	0.14	-100	43	

Gauging Time:	1640	**Sample Time:**	1645
Depth to Water (ft.):	28.05		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/14/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1840			23.65	5.45	1.44	0.60	-204	4.2	

Gauging Time:	1806	**Sample Time:**	1840
Depth to Water (ft.):	15.94		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 5R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1748	350	Start Purge (0)							
1753	"	1.75	23.50	6.22	4.72	0.12	44	1433	
1758	"	3.50	23.93	6.28	4.95	0.12	35	1402	
1803	"	5.25	23.27	6.32	4.97	0.12	28	1398	
1808	"	7.00	23.53	6.33	4.98	0.12	28	1416	

Gauging Time:	1719	**Sample Time:**	1809
Depth to Water (ft.):	42.25		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW5D

DRUM Dup2
2 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1716	350	Start Purge (0)							
1721	↓	1.75	21.46	4.84	7.82	0.04	23	634	
1726		3.50	21.97	4.46	7.65	0.04	76	102	
1731		5.25	21.97	4.39	7.62	0.04	97	87	
1736		7.00	21.82	4.30	7.66	0.04	117	92	
1739		8.05	21.77	4.25	7.67	0.04	126	93	
1742	↓	9.10	21.70	4.24	7.67	0.04	130	90	

Gauging Time:	1712	**Sample Time:**	1743
Depth to Water (ft.):	51.18		
Well Depth (ft.):		**# of Containers:**	5

2.5 gal

Well Number: MW 5DD DRUM Dup 1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1258			23.56	5.12	7.60	0.15	.120	82	

Gauging Time:	1254	**Sample Time:**	1258
Depth to Water (ft.):	15.14		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 7R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1250			24.10	4.53	4.52	0.10	147	97	

Gauging Time:	1242	**Sample Time:**	1250
Depth to Water (ft.):	16.93		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW8

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1509			23.49	5.67	1.05	0.19	13	87	

Gauging Time:	1501	**Sample Time:**	1509
Depth to Water (ft.):	12.62		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW9R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1439			23.11	5.10	6.71	0.06	69	249	

Gauging Time:	1433	**Sample Time:**	1439
Depth to Water (ft.):	28.69		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW10R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1459			23.49	4.84	6.90	0.05	145	282	

Gauging Time:	1451	**Sample Time:**	1459
Depth to Water (ft.):	25.81		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW11R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1428			23.48	6.17	0.43	0.41	-98	65	

Gauging Time:	1414	**Sample Time:**	1428
Depth to Water (ft.):	13.20		
Well Depth (ft.):		**# of Containers:**	VOAs 5

Well Number: MW12R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1350	350	Start Purge (0)							
1355	↓	1.75	23.13	4.75	6.63	0.05	143	113	
1400	↓	3.50	23.03	4.44	6.65	0.05	174	29	
1405	↓	5.25	23.24	4.15	6.64	0.05	205	16	
1410	↓	7.00	23.11	4.06	6.68	0.05	225	14	
1413	↓	8.05	22.85	4.03	6.69	0.05	231	8.7	
1416	↓	9.10	23.32	4.02	6.68	0.05	233	7.0	

Gauging Time:	1341	**Sample Time:**	1417
Depth to Water (ft.):	37.40		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW12D

Stabilization = 3 successive readings of: DRUM 2.5 gal

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1317			24.22	5.36	0.84	0.34	-24	26	

Gauging Time:	1309	**Sample Time:**	1317
Depth to Water (ft.):	12.01		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW13

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
1520		Start Purge (0)							
			23.13	5.64	4.55	0.16	32	26	

Gauging Time:	1514	**Sample Time:**	1520
Depth to Water (ft.):	32.65		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW15

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1527			23.15	5.65	3.54	0.18	33	87	

Gauging Time:	1522	**Sample Time:**	1527
Depth to Water (ft.):	32.55		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 15R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1230			23.77	4.78	5.42	0.12	455	143	

Gauging Time:	1224	**Sample Time:**	1230
Depth to Water (ft.):	27.58		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 16

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1216			23.75	4.79	4.61	0.05	138	131	

Gauging Time:	1212	**Sample Time:**	1216
Depth to Water (ft.):	32.94		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW17

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1145			24.17	5.07	4.92	0.06	101	40.3	

Gauging Time:	1145	**Sample Time:**	1145
Depth to Water (ft.):	22.65		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW18

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1131	350	Start Purge (0)							
1136	↓	1.75	23.43	4.91	5.93	0.02	152	148	
1141		3.50	23.40	5.00	5.70	0.02	150	152	
1146	↓	5.25	dry	(a)	1142	"	"		

Gauging Time:	1125	**Sample Time:**	1152
Depth to Water (ft.):	40.49		
Well Depth (ft.):		**# of Containers:**	4

Well Number: MW 18 D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Grass

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1446			22.98	4.81	7.07	6.07	99	14	

Gauging Time:	1440	**Sample Time:**	1446
Depth to Water (ft.):	28.71		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 19

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1332			24.26	4.81	6.40	0.11	95	1.3	

Gauging Time:	1325	**Sample Time:**	1332
Depth to Water (ft.):	27.24		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW20

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1458			22.19	5.80	1.05	0.27	-226	1.5	

Gauging Time:	1451	**Sample Time:**	1458
Depth to Water (ft.):	15.85		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW21

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) ~~EDB (8011)~~ Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1702			23.65	5.76	2.22	0.20	-180	35	

Gauging Time:	1659	**Sample Time:**	1702
Depth to Water (ft.):	16.17		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	5/16/22	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1815	350	Start Purge (0)							
1820	"	1.75	23.07	5.59	0.20	0.24	-210	129	
1825	"	3.50	23.13	5.51	0.17	0.24	-221	130	
1830	"	5.25	22.95	5.49	0.15	0.24	-228	128	

Gauging Time:	1757	**Sample Time:**	1831
Depth to Water (ft.):	31.70		
Well Depth (ft.):		**# of Containers:**	5

Well Number: DW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

Report of Analysis

Quality Environmental Solutions, Inc.
2112 Loblolly Lane
Johns Island, SC 29455
Attention: Don Jones

Project Name: SC-015 UST #07680

Project Number: SC-015

Lot Number:**XE18087**

Date Completed:06/08/2022

06/08/2022 2:25 PM
Approved and released by:
Project Manager I: **Hannah K. Lucas**

The electronic signature above is the equivalent of a handwritten signature.
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Pace Analytical Services, LLC (*formerly Shealy Environmental Services, Inc.*)
106 Vantage Point Drive West Columbia, SC 29172
Tel: 803-791-9700 Fax: 803-791-9111 www.pacelabs.com

Case Narrative
Quality Environmental Solutions, Inc.
Lot Number: XE18087

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. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18.

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

Volatiles
Sample -004 and -024 had toluene recovered above the instrument's calibration range in the initial analysis. The sample was analyzed at a dilution outside of the holding time and the detections were confirmed. The initial results have been reported.

EDB
The sample results associated with a P qualifier have a relative percent difference (RPD) between the two dissimilar phase GC columns which exceeds 40%.

Sample Summary

Quality Environmental Solutions, Inc.

Lot Number: XE18087

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1R	Aqueous	05/16/2022 1638	05/18/2022
002	MW-1AR	Aqueous	05/16/2022 1626	05/18/2022
003	MW-2	Aqueous	05/16/2022 1645	05/18/2022
004	MW-5R	Aqueous	05/16/2022 1840	05/18/2022
005	MW-5D	Aqueous	05/16/2022 1809	05/18/2022
006	MW-5DD	Aqueous	05/16/2022 1743	05/18/2022
007	MW-7R	Aqueous	05/16/2022 1258	05/18/2022
008	MW-8	Aqueous	05/16/2022 1250	05/18/2022
009	MW-9R	Aqueous	05/16/2022 1509	05/18/2022
010	MW-10R	Aqueous	05/16/2022 1439	05/18/2022
011	MW-11R	Aqueous	05/16/2022 1459	05/18/2022
012	MW-12R	Aqueous	05/16/2022 1428	05/18/2022
013	MW-12D	Aqueous	05/16/2022 1417	05/18/2022
014	MW-13	Aqueous	05/16/2022 1317	05/18/2022
015	MW-15	Aqueous	05/16/2022 1520	05/18/2022
016	MW-15R	Aqueous	05/16/2022 1527	05/18/2022
017	MW-16	Aqueous	05/16/2022 1230	05/18/2022
018	MW-17	Aqueous	05/16/2022 1216	05/18/2022
019	MW-18	Aqueous	05/16/2022 1145	05/18/2022
020	MW-18D	Aqueous	05/16/2022 1152	05/18/2022
021	MW-19	Aqueous	05/16/2022 1446	05/18/2022
022	MW-20	Aqueous	05/16/2022 1332	05/18/2022
023	MW-21	Aqueous	05/16/2022 1458	05/18/2022
024	RW-1	Aqueous	05/16/2022 1702	05/18/2022
025	DW-1	Aqueous	05/16/2022 1831	05/18/2022
026	DUP1	Aqueous	05/16/2022 1200	05/18/2022
027	DUP2	Aqueous	05/16/2022 1200	05/18/2022
028	FB	Aqueous	05/16/2022 1200	05/18/2022
029	TB	Aqueous	05/16/2022	05/18/2022

(29 samples)

Detection Summary

Quality Environmental Solutions, Inc.

Lot Number: XE18087

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1R	Aqueous	tert-Amyl alcohol (TAA)	8260D	63		ug/L	12
001	MW-1R	Aqueous	tert-Amyl methyl ether	8260D	1.1	J	ug/L	12
001	MW-1R	Aqueous	Benzene	8260D	32		ug/L	12
001	MW-1R	Aqueous	1,2-Dichloroethane	8260D	2.3		ug/L	12
001	MW-1R	Aqueous	Diisopropyl ether (IPE)	8260D	1.8		ug/L	12
001	MW-1R	Aqueous	Ethylbenzene	8260D	160		ug/L	12
001	MW-1R	Aqueous	Methyl tertiary butyl ether	8260D	110		ug/L	12
001	MW-1R	Aqueous	Naphthalene	8260D	110		ug/L	12
001	MW-1R	Aqueous	tert-butyl alcohol (TBA)	8260D	290		ug/L	12
001	MW-1R	Aqueous	Toluene	8260D	2.5		ug/L	12
001	MW-1R	Aqueous	Xylenes (total)	8260D	79		ug/L	12
002	MW-1AR	Aqueous	Methyl tertiary butyl ether	8260D	1.3		ug/L	13
003	MW-2	Aqueous	tert-Amyl alcohol (TAA)	8260D	190		ug/L	14
003	MW-2	Aqueous	tert-Amyl methyl ether	8260D	0.67	J	ug/L	14
003	MW-2	Aqueous	Ethanol	8260D	140		ug/L	14
003	MW-2	Aqueous	Methyl tertiary butyl ether	8260D	160		ug/L	14
003	MW-2	Aqueous	Naphthalene	8260D	0.85	J	ug/L	14
003	MW-2	Aqueous	tert-butyl alcohol (TBA)	8260D	620		ug/L	14
004	MW-5R	Aqueous	tert-Amyl alcohol (TAA)	8260D	5500		ug/L	15
004	MW-5R	Aqueous	tert-Amyl methyl ether	8260D	19		ug/L	15
004	MW-5R	Aqueous	Benzene	8260D	9500		ug/L	15
004	MW-5R	Aqueous	1,2-Dichloroethane	8260D	270		ug/L	15
004	MW-5R	Aqueous	Diisopropyl ether (IPE)	8260D	2.6		ug/L	15
004	MW-5R	Aqueous	Ethylbenzene	8260D	3700		ug/L	15
004	MW-5R	Aqueous	Methyl tertiary butyl ether	8260D	280		ug/L	15
004	MW-5R	Aqueous	Naphthalene	8260D	870		ug/L	15
004	MW-5R	Aqueous	tert-butyl alcohol (TBA)	8260D	620		ug/L	15
004	MW-5R	Aqueous	Toluene	8260D	46000	E	ug/L	15
004	MW-5R	Aqueous	Xylenes (total)	8260D	18000		ug/L	15
004	MW-5R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.0098	JP	ug/L	15
009	MW-9R	Aqueous	Methyl tertiary butyl ether	8260D	4.5		ug/L	20
009	MW-9R	Aqueous	Naphthalene	8260D	0.51	J	ug/L	20
009	MW-9R	Aqueous	tert-butyl alcohol (TBA)	8260D	27		ug/L	20
012	MW-12R	Aqueous	tert-Amyl alcohol (TAA)	8260D	69		ug/L	23
012	MW-12R	Aqueous	Methyl tertiary butyl ether	8260D	11		ug/L	23
012	MW-12R	Aqueous	tert-butyl alcohol (TBA)	8260D	19	J	ug/L	23
012	MW-12R	Aqueous	Xylenes (total)	8260D	0.52	J	ug/L	23
014	MW-13	Aqueous	Methyl tertiary butyl ether	8260D	0.60	J	ug/L	25
015	MW-15	Aqueous	Methyl tertiary butyl ether	8260D	2.5		ug/L	26
016	MW-15R	Aqueous	Methyl tertiary butyl ether	8260D	4.9		ug/L	27
017	MW-16	Aqueous	Methyl tertiary butyl ether	8260D	0.49	J	ug/L	28
023	MW-21	Aqueous	Benzene	8260D	1100		ug/L	34
023	MW-21	Aqueous	Ethylbenzene	8260D	3200		ug/L	34
023	MW-21	Aqueous	Naphthalene	8260D	1200		ug/L	34
023	MW-21	Aqueous	Toluene	8260D	23000		ug/L	34

Detection Summary (Continued)

Lot Number: XE18087

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
023	MW-21	Aqueous	Xylenes (total)	8260D	15000		ug/L	34
023	MW-21	Aqueous	1,2-Dibromoethane (EDB)	8011	0.022	P	ug/L	34
024	RW-1	Aqueous	tert-Amyl alcohol (TAA)	8260D	5500		ug/L	35
024	RW-1	Aqueous	Benzene	8260D	5300		ug/L	35
024	RW-1	Aqueous	Ethylbenzene	8260D	2800		ug/L	35
024	RW-1	Aqueous	Naphthalene	8260D	560		ug/L	35
024	RW-1	Aqueous	Toluene	8260D	42000	E	ug/L	35
024	RW-1	Aqueous	Xylenes (total)	8260D	15000		ug/L	35
024	RW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.45		ug/L	35
025	DW-1	Aqueous	Ethylbenzene	8260D	0.67	J	ug/L	36
025	DW-1	Aqueous	Naphthalene	8260D	2.4		ug/L	36
025	DW-1	Aqueous	Xylenes (total)	8260D	4.4		ug/L	36

(57 detections)

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-001
Description: MW-1R | Matrix: Aqueous
Date Sampled: 05/16/2022 1638
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1631	KJH		42690
2	5030B	8260D	5	05/25/2022 0329	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	63		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	1.1	J	10	0.42	ug/L	1
Benzene	71-43-2	8260D	32		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	2.3		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	1.8		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	160		5.0	2.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	110		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	110		5.0	2.0	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	290		20	8.0	ug/L	1
Toluene	108-88-3	8260D	2.5		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	79		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130		114	70-130
Toluene-d8		102	70-130		95	70-130
Bromofluorobenzene		100	70-130		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 0931	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-002
Description: MW-1AR | Matrix: Aqueous
Date Sampled: 05/16/2022 1626
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1653	KJH		42690
2	5030B	8260D	1	05/26/2022 0337	SDC		43024

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	1.3		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130		92	70-130
Toluene-d8		106	70-130		104	70-130
Bromofluorobenzene		97	70-130		90	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 0942	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-003
Description: MW-2 | Matrix: Aqueous
Date Sampled: 05/16/2022 1645
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1716	KJH		42690
2	5030B	8260D	1	05/25/2022 0129	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	190		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	0.67	J	10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	140		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	160		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	0.85	J	1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	620		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130		113	70-130
Toluene-d8		100	70-130		94	70-130
Bromofluorobenzene		95	70-130		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 0953	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-004
Description: MW-5R
Matrix: Aqueous
Date Sampled: 05/16/2022 1840
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1738	KJH		42690
2	5030B	8260D	100	05/25/2022 0553	JMM2		42854
3	5030B	8260D	100	05/26/2022 0443	SDC		43024

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	5500		2000	800	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260D	19		10	0.42	ug/L	1
Benzene	71-43-2	8260D	9500		100	40	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	270		100	40	ug/L	2
Diisopropyl ether (IPE)	108-20-3	8260D	2.6		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	3700		100	40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	280		100	40	ug/L	2
Naphthalene	91-20-3	8260D	870		100	40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	620		20	8.0	ug/L	1
Toluene	108-88-3	8260D	46000	E	100	40	ug/L	3
Xylenes (total)	1330-20-7	8260D	18000		100	40	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits	Q	Run 3 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		80	70-130		111	70-130		89	70-130
Toluene-d8		100	70-130		95	70-130		106	70-130
Bromofluorobenzene		101	70-130		96	70-130		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1003	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.0098	JP	0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		116	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-005
Description: MW-5D | Matrix: Aqueous
Date Sampled: 05/16/2022 1809
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1801	KJH		42690
2	5030B	8260D	1	05/25/2022 0153	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130		114	70-130
Toluene-d8		101	70-130		94	70-130
Bromofluorobenzene		97	70-130		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1014	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		105	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-006
Description: MW-5DD
Matrix: Aqueous
Date Sampled: 05/16/2022 1743
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1824	KJH		42690
2	5030B	8260D	1	05/25/2022 0217	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130		114	70-130
Toluene-d8		101	70-130		94	70-130
Bromofluorobenzene		97	70-130		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1025	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		132	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-007
Description: MW-7R | Matrix: Aqueous
Date Sampled: 05/16/2022 1258
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1846	KJH		42690
2	5030B	8260D	1	05/25/2022 0241	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130		115	70-130
Toluene-d8		102	70-130		95	70-130
Bromofluorobenzene		99	70-130		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1036	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-008
Description: MW-8
Matrix: Aqueous
Date Sampled: 05/16/2022 1250
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1909	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1046	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-009
Description: MW-9R | Matrix: Aqueous
Date Sampled: 05/16/2022 1509
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1932	KJH		42690
2	5030B	8260D	1	05/25/2022 0304	JMM2		42854

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	4.5		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	0.51	J	1.0	0.40	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260D	27		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130		114	70-130
Toluene-d8		101	70-130		96	70-130
Bromofluorobenzene		98	70-130		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1057	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-010
Description: MW-10R
Matrix: Aqueous
Date Sampled: 05/16/2022 1439
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 1954	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/25/2022 0015	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

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Client: Quality Environmental Solutions, Inc.
Description: MW-11R
Date Sampled: 05/16/2022 1459
Date Received: 05/18/2022

Laboratory ID: XE18087-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2017	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/25/2022 0026	CAW	05/23/2022 1507	42683

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-012
Description: MW-12R | Matrix: Aqueous
Date Sampled: 05/16/2022 1428
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2039	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	69		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	11		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	19	J	20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.52	J	1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1211	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		111	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-12D
Date Sampled: 05/16/2022 1417
Date Received: 05/18/2022

Laboratory ID: XE18087-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2101	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		105	70-130
Bromofluorobenzene		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1222	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-014
Description: MW-13 | Matrix: Aqueous
Date Sampled: 05/16/2022 1317
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2124	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	0.60	J	1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1244	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-15
Date Sampled: 05/16/2022 1520
Date Received: 05/18/2022

Laboratory ID: XE18087-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2145	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	2.5		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		104	70-130
Bromofluorobenzene		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1305	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-016
Description: MW-15R | Matrix: Aqueous
Date Sampled: 05/16/2022 1527
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2208	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	4.9		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		106	70-130
Bromofluorobenzene		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1316	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc. | Laboratory ID: XE18087-017
Description: MW-16 | Matrix: Aqueous
Date Sampled: 05/16/2022 1230
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2230	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	0.49	J	1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		102	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1327	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-17
Date Sampled: 05/16/2022 1216
Date Received: 05/18/2022

Laboratory ID: XE18087-018
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2252	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		103	70-130
Bromofluorobenzene		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1338	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-18
Date Sampled: 05/16/2022 1145
Date Received: 05/18/2022

Laboratory ID: XE18087-019
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/23/2022 2314	KJH		42690

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1349	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-020
Description: MW-18D
Matrix: Aqueous
Date Sampled: 05/16/2022 1152
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1308	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		94	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1400	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-19
Date Sampled: 05/16/2022 1446
Date Received: 05/18/2022

Laboratory ID: XE18087-021
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1332	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1411	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: MW-20
Date Sampled: 05/16/2022 1332
Date Received: 05/18/2022

Laboratory ID: XE18087-022
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1356	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1422	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0051	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-023
Description: MW-21
Matrix: Aqueous
Date Sampled: 05/16/2022 1458
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	200	05/24/2022 1756	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		4000	1600	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		2000	84	ug/L	1
Benzene	71-43-2	8260D	1100		200	80	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		1000	400	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		200	80	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		200	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		4000	1600	ug/L	1
Ethanol	64-17-5	8260D	ND		20000	10000	ug/L	1
Ethylbenzene	100-41-4	8260D	3200		200	80	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		200	80	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		200	80	ug/L	1
Naphthalene	91-20-3	8260D	1200		200	80	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		4000	1600	ug/L	1
Toluene	108-88-3	8260D	23000		200	80	ug/L	1
Xylenes (total)	1330-20-7	8260D	15000		200	80	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1433	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.022	P	0.019	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

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Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-024
Description: RW-1
Matrix: Aqueous
Date Sampled: 05/16/2022 1702
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	200	05/24/2022 1825	KJH		42774

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	5500		4000	1600	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		2000	84	ug/L	1
Benzene	71-43-2	8260D	5300		200	80	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		1000	400	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		200	80	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		200	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		4000	1600	ug/L	1
Ethanol	64-17-5	8260D	ND		20000	10000	ug/L	1
Ethylbenzene	100-41-4	8260D	2800		200	80	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		200	80	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		200	80	ug/L	1
Naphthalene	91-20-3	8260D	560		200	80	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		4000	1600	ug/L	1
Toluene	108-88-3	8260D	42000	E	200	80	ug/L	1
Xylenes (total)	1330-20-7	8260D	15000		200	80	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1445	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.45		0.020	0.0050	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		109	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: DW-1
Date Sampled: 05/16/2022 1831
Date Received: 05/18/2022

Laboratory ID: XE18087-025
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1643	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	0.67	J	1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	2.4		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	4.4		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1456	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		102	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: DUP1
Date Sampled: 05/16/2022 1200
Date Received: 05/18/2022

Laboratory ID: XE18087-026
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1420	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1507	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		131	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Description: DUP2
Date Sampled: 05/16/2022 1200
Date Received: 05/18/2022

Laboratory ID: XE18087-027
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1444	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		93	70-130
Bromofluorobenzene		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1518	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0049	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-028
Description: FB
Matrix: Aqueous
Date Sampled: 05/16/2022 1200
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/24/2022 1131	KJH		42770

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/24/2022 1529	CAW	05/23/2022 1514	42684

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0048	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

Client: Quality Environmental Solutions, Inc.
Laboratory ID: XE18087-029
Description: TB
Matrix: Aqueous
Date Sampled: 05/16/2022
Date Received: 05/18/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/25/2022 1234	KJH		42913

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260D	ND		20	8.0	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260D	ND		10	0.42	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260D	ND		1.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260D	ND		20	8.0	ug/L	1
Ethanol	64-17-5	8260D	ND		100	52	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260D	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260D	ND		20	8.0	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		95	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
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure

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QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ42690-001
Batch: 42690
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/23/2022 1546
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/23/2022 1546
Benzene	ND		1	1.0	0.40	ug/L	05/23/2022 1546
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/23/2022 1546
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/23/2022 1546
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/23/2022 1546
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/23/2022 1546
Ethanol	ND		1	100	52	ug/L	05/23/2022 1546
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/23/2022 1546
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/23/2022 1546
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/23/2022 1546
Naphthalene	ND		1	1.0	0.40	ug/L	05/23/2022 1546
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	05/23/2022 1546
Toluene	ND		1	1.0	0.40	ug/L	05/23/2022 1546
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/23/2022 1546

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130
Bromofluorobenzene		94	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ42690-002
Batch: 42690
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	820		1	82	70-130	05/23/2022 1408
tert-Amyl methyl ether (TAME)	50	44		1	89	70-130	05/23/2022 1408
Benzene	50	43		1	86	70-130	05/23/2022 1408
tert-Butyl formate (TBF)	250	230		1	94	70-130	05/23/2022 1408
1,2-Dichloroethane	50	43		1	87	70-130	05/23/2022 1408
Diisopropyl ether (IPE)	50	46		1	91	70-130	05/23/2022 1408
3,3-Dimethyl-1-butanol	1000	770		1	77	70-130	05/23/2022 1408
Ethanol	5000	4900		1	98	70-130	05/23/2022 1408
Ethylbenzene	50	46		1	91	70-130	05/23/2022 1408
Ethyl-tert-butyl ether (ETBE)	50	43		1	87	70-130	05/23/2022 1408
Methyl tertiary butyl ether (MTBE)	50	42		1	84	70-130	05/23/2022 1408

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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 - LCS

Sample ID: XQ42690-002
Batch: 42690
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Naphthalene	50	38		1	76	70-130	05/23/2022 1408
tert-butyl alcohol (TBA)	1000	930		1	93	70-130	05/23/2022 1408
Toluene	50	46		1	93	70-130	05/23/2022 1408
Xylenes (total)	100	93		1	93	70-130	05/23/2022 1408

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		90	70-130
Bromofluorobenzene		88	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ42770-001
Batch: 42770
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/24/2022 1012
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/24/2022 1012
Benzene	ND		1	1.0	0.40	ug/L	05/24/2022 1012
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/24/2022 1012
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/24/2022 1012
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/24/2022 1012
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/24/2022 1012
Ethanol	ND		1	100	52	ug/L	05/24/2022 1012
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/24/2022 1012
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/24/2022 1012
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/24/2022 1012
Naphthalene	ND		1	1.0	0.40	ug/L	05/24/2022 1012
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	05/24/2022 1012
Toluene	ND		1	1.0	0.40	ug/L	05/24/2022 1012
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/24/2022 1012

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		95	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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 - LCS

Sample ID: XQ42770-002
Batch: 42770
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	940		1	94	70-130	05/24/2022 0903
tert-Amyl methyl ether (TAME)	50	52		1	105	70-130	05/24/2022 0903
Benzene	50	49		1	98	70-130	05/24/2022 0903
tert-Butyl formate (TBF)	250	220		1	87	70-130	05/24/2022 0903
1,2-Dichloroethane	50	60		1	121	70-130	05/24/2022 0903
Diisopropyl ether (IPE)	50	49		1	98	70-130	05/24/2022 0903
3,3-Dimethyl-1-butanol	1000	890		1	89	70-130	05/24/2022 0903
Ethanol	5000	4500		1	90	70-130	05/24/2022 0903
Ethylbenzene	50	51		1	101	70-130	05/24/2022 0903
Ethyl-tert-butyl ether (ETBE)	50	48		1	96	70-130	05/24/2022 0903
Methyl tertiary butyl ether (MTBE)	50	45		1	91	70-130	05/24/2022 0903
Naphthalene	50	48		1	97	70-130	05/24/2022 0903
tert-butyl alcohol (TBA)	1000	990		1	99	70-130	05/24/2022 0903
Toluene	50	50		1	100	70-130	05/24/2022 0903
Xylenes (total)	100	100		1	102	70-130	05/24/2022 0903

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		101	70-130
Bromofluorobenzene		104	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ42774-001
Batch: 42774
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/24/2022 0952
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/24/2022 0952
Benzene	ND		1	1.0	0.40	ug/L	05/24/2022 0952
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/24/2022 0952
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/24/2022 0952
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/24/2022 0952
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/24/2022 0952
Ethanol	ND		1	100	52	ug/L	05/24/2022 0952
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/24/2022 0952
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/24/2022 0952
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/24/2022 0952

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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: XQ42774-001
Batch: 42774
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Naphthalene	ND		1	1.0	0.40	ug/L	05/24/2022 0952
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	05/24/2022 0952
Toluene	ND		1	1.0	0.40	ug/L	05/24/2022 0952
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/24/2022 0952

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		103	70-130
Bromofluorobenzene		94	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ42774-002
Batch: 42774
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	860		1	86	70-130	05/24/2022 0828
tert-Amyl methyl ether (TAME)	50	46		1	93	70-130	05/24/2022 0828
Benzene	50	43		1	87	70-130	05/24/2022 0828
tert-Butyl formate (TBF)	250	250		1	100	70-130	05/24/2022 0828
1,2-Dichloroethane	50	45		1	90	70-130	05/24/2022 0828
Diisopropyl ether (IPE)	50	47		1	94	70-130	05/24/2022 0828
3,3-Dimethyl-1-butanol	1000	820		1	82	70-130	05/24/2022 0828
Ethanol	5000	5100		1	101	70-130	05/24/2022 0828
Ethylbenzene	50	47		1	94	70-130	05/24/2022 0828
Ethyl-tert-butyl ether (ETBE)	50	45		1	90	70-130	05/24/2022 0828
Methyl tertiary butyl ether (MTBE)	50	43		1	86	70-130	05/24/2022 0828
Naphthalene	50	41		1	82	70-130	05/24/2022 0828
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	05/24/2022 0828
Toluene	50	48		1	96	70-130	05/24/2022 0828
Xylenes (total)	100	95		1	95	70-130	05/24/2022 0828

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		93	70-130
Bromofluorobenzene		89	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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 - MS

Sample ID: XE18087-024MS
Batch: 42774
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	5500	200000	180000		200	87	70-130	05/24/2022 1848
tert-Amyl methyl ether (TAME)	ND	10000	9600		200	96	70-130	05/24/2022 1848
Benzene	5300	10000	15000		200	99	70-130	05/24/2022 1848
tert-Butyl formate (TBF)	ND	50000	51000		200	102	70-130	05/24/2022 1848
1,2-Dichloroethane	ND	10000	9400		200	94	70-130	05/24/2022 1848
Diisopropyl ether (IPE)	ND	10000	10000		200	102	70-130	05/24/2022 1848
3,3-Dimethyl-1-butanol	ND	200000	160000		200	78	70-130	05/24/2022 1848
Ethanol	ND	1000000	980000		200	98	70-130	05/24/2022 1848
Ethylbenzene	2800	10000	13000		200	104	70-130	05/24/2022 1848
Ethyl-tert-butyl ether (ETBE)	ND	10000	9700		200	97	70-130	05/24/2022 1848
Methyl tertiary butyl ether (MTBE)	ND	10000	9600		200	96	70-130	05/24/2022 1848
Naphthalene	560	10000	8800		200	82	70-130	05/24/2022 1848
tert-butyl alcohol (TBA)	ND	200000	190000		200	96	70-130	05/24/2022 1848
Toluene	42000	10000	49000	E	200	77	70-130	05/24/2022 1848
Xylenes (total)	15000	20000	36000		200	105	70-130	05/24/2022 1848

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		94	70-130

Volatile Organic Compounds by GC/MS - MSD

Sample ID: XE18087-024MD
Batch: 42774
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	5500	200000	180000		200	88	1.1	70-130	20	05/24/2022 1910
tert-Amyl methyl ether (TAME)	ND	10000	9900		200	99	3.2	70-130	20	05/24/2022 1910
Benzene	5300	10000	15000		200	100	0.98	70-130	20	05/24/2022 1910
tert-Butyl formate (TBF)	ND	50000	52000		200	104	1.9	70-130	20	05/24/2022 1910
1,2-Dichloroethane	ND	10000	9700		200	97	3.4	70-130	20	05/24/2022 1910
Diisopropyl ether (IPE)	ND	10000	10000		200	104	1.7	70-130	20	05/24/2022 1910
3,3-Dimethyl-1-butanol	ND	200000	170000		200	86	9.2	70-130	20	05/24/2022 1910
Ethanol	ND	1000000	1000000		200	103	5.3	70-130	20	05/24/2022 1910
Ethylbenzene	2800	10000	13000		200	106	1.3	70-130	20	05/24/2022 1910
Ethyl-tert-butyl ether (ETBE)	ND	10000	10000		200	100	2.9	70-130	20	05/24/2022 1910
Methyl tertiary butyl ether (MTBE)	ND	10000	9700		200	97	0.88	70-130	20	05/24/2022 1910

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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 - MSD

Sample ID: XE18087-024MD
Batch: 42774
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Naphthalene	560	10000	9500		200	90	8.0	70-130	20	05/24/2022 1910
tert-butyl alcohol (TBA)	ND	200000	200000		200	98	2.3	70-130	20	05/24/2022 1910
Toluene	42000	10000	50000	E	200	86	2.0	70-130	20	05/24/2022 1910
Xylenes (total)	15000	20000	36000		200	108	1.9	70-130	20	05/24/2022 1910

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		100	70-130
Bromofluorobenzene		92	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ42854-001
Batch: 42854
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/24/2022 2104
Benzene	ND		1	1.0	0.40	ug/L	05/24/2022 2104
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/24/2022 2104
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/24/2022 2104
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/24/2022 2104
Naphthalene	ND		1	1.0	0.40	ug/L	05/24/2022 2104
Toluene	ND		1	1.0	0.40	ug/L	05/24/2022 2104
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/24/2022 2104

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		93	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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 - LCS

Sample ID: XQ42854-002
Batch: 42854
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	880		1	88	70-130	05/24/2022 1958
Benzene	50	48		1	96	70-130	05/24/2022 1958
1,2-Dichloroethane	50	57		1	114	70-130	05/24/2022 1958
Ethylbenzene	50	49		1	97	70-130	05/24/2022 1958
Methyl tertiary butyl ether (MTBE)	50	45		1	91	70-130	05/24/2022 1958
Naphthalene	50	46		1	93	70-130	05/24/2022 1958
Toluene	50	48		1	96	70-130	05/24/2022 1958
Xylenes (total)	100	97		1	97	70-130	05/24/2022 1958

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		98	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ42913-001
Batch: 42913
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	8.0	ug/L	05/25/2022 1145
tert-Amyl methyl ether (TAME)	ND		1	10	0.42	ug/L	05/25/2022 1145
Benzene	ND		1	1.0	0.40	ug/L	05/25/2022 1145
tert-Butyl formate (TBF)	ND		1	5.0	2.0	ug/L	05/25/2022 1145
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/25/2022 1145
Diisopropyl ether (IPE)	ND		1	1.0	0.40	ug/L	05/25/2022 1145
3,3-Dimethyl-1-butanol	ND		1	20	8.0	ug/L	05/25/2022 1145
Ethanol	ND		1	100	52	ug/L	05/25/2022 1145
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/25/2022 1145
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.40	ug/L	05/25/2022 1145
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/25/2022 1145
Naphthalene	ND		1	1.0	0.40	ug/L	05/25/2022 1145
tert-butyl alcohol (TBA)	ND		1	20	8.0	ug/L	05/25/2022 1145
Toluene	ND		1	1.0	0.40	ug/L	05/25/2022 1145
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/25/2022 1145

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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: XQ42913-001
Batch: 42913
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		95	70-130
Bromofluorobenzene		95	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ42913-002
Batch: 42913
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	850		1	85	70-130	05/25/2022 1029
tert-Amyl methyl ether (TAME)	50	51		1	102	70-130	05/25/2022 1029
Benzene	50	47		1	94	70-130	05/25/2022 1029
tert-Butyl formate (TBF)	250	210		1	83	70-130	05/25/2022 1029
1,2-Dichloroethane	50	60		1	121	70-130	05/25/2022 1029
Diisopropyl ether (IPE)	50	47		1	93	70-130	05/25/2022 1029
3,3-Dimethyl-1-butanol	1000	790		1	79	70-130	05/25/2022 1029
Ethanol	5000	3900		1	78	70-130	05/25/2022 1029
Ethylbenzene	50	48		1	97	70-130	05/25/2022 1029
Ethyl-tert-butyl ether (ETBE)	50	46		1	93	70-130	05/25/2022 1029
Methyl tertiary butyl ether (MTBE)	50	48		1	96	70-130	05/25/2022 1029
Naphthalene	50	45		1	90	70-130	05/25/2022 1029
tert-butyl alcohol (TBA)	1000	910		1	91	70-130	05/25/2022 1029
Toluene	50	47		1	94	70-130	05/25/2022 1029
Xylenes (total)	100	96		1	96	70-130	05/25/2022 1029

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		96	70-130
Bromofluorobenzene		98	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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: XQ43024-001
Batch: 43024
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/25/2022 2205
Naphthalene	ND		1	1.0	0.40	ug/L	05/25/2022 2205
Toluene	ND		1	1.0	0.40	ug/L	05/25/2022 2205

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		104	70-130
Bromofluorobenzene		90	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ43024-002
Batch: 43024
Analytical Method: 8260D
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	50	44		1	89	70-130	05/25/2022 1938
Naphthalene	50	43		1	87	70-130	05/25/2022 1938
Toluene	50	49		1	98	70-130	05/25/2022 1938

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		93	70-130
Bromofluorobenzene		88	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

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

EDB & DBCP by Microextraction - MB

Sample ID: XQ42683-001
Batch: 42683
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1507

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	05/24/2022 0710

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		109	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: XQ42683-002
Batch: 42683
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1507

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.24		1	96	60-140	05/24/2022 0721

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		107	57-137

EDB & DBCP by Microextraction - MB

Sample ID: XQ42684-001
Batch: 42684
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1514

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0050	ug/L	05/24/2022 1149

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		106	57-137

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

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

EDB & DBCP by Microextraction - LCS

Sample ID: XQ42684-002
Batch: 42684
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1514

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	105	60-140	05/24/2022 1200

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		106	57-137

EDB & DBCP by Microextraction - MS

Sample ID: XE18087-013MS
Batch: 42684
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1514

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.28	P	1	114	60-140	05/24/2022 1232

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		98	57-137

EDB & DBCP by Microextraction - Duplicate

Sample ID: XE18087-014DU
Batch: 42684
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/23/2022 1514

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	%RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	ND		1	0.00	20	05/24/2022 1254

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		101	57-137

LOQ = Limit of Quantitation
DL = Detection Limit
ND = Not detected at or above the DL
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = 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

Pace Analytical®

PACE ANALYTICAL SERVICES, LLC
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.pacelabs.com

Number 134916

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 2112 Loblolly Lane	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 1 of 3
City: Johns Island State: SC Zip Code: 29455	Printed Name: Austin Smith-Jones		XE18087
Project Name: ~~SD~~ SC-015 UST#07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	Grab/Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	NaSO4	NaO3	HCl	NaOH	SO3 Ni	Field Filtered	BTEX + MN 12DCA + TOX	EDB 8011	Remarks / Cooler I.D.
MW-1R	5/16	1638	G	X						5				X	X	
MW-1AR	5/16	1626	G	X						5				X	X	
MW-2	5/16	1645	G	X						5				X	X	
MW-5R	5/16	1840	G	X						5				X	X	
MW-5D	5/16	1809	G	X						5				X	X	
MW-5DD	5/16	1743	G	X						5				X	X	
MW-7R	5/16	1258	G	X						5				X	X	
MW-8	5/16	1250	G	X						5				X	X	
MW-9R	5/16	1509	G	X						5				X	X	
MW-10R	5/16	1439	G	X						5				X	X	

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

Sample Disposal: ☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: [signature]	5-18-22	1000	1. Received by: Chela Smith	5-18-22	1000
2. Relinquished by: Chela Smith	5/18/22	1630	2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: Thanka N Roberts	5/18/22	1630

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
Temp Blank ☒ Y ☐ N

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

Document Number: ME003N2-01

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www.pacelabs.com

Number 134917

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 2112 Loblolly Lane	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 2 of 3
City: Johns Island	State: SC	Zip Code: 29455	Printed Name: Austin Smith-Jones	XE18087
Project Name: SC-015 UST# 07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	Grab / Composite	Matrix: Aqueous	Solid	Soil / Sediment	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Filtered	BTEX+MTBE+NAPH+ZOXY	EDB 8011	Remarks / Container I.D.
MW-11R	5/16	1459	G	X						5				X	X	
MW-12R	5/16	1428	G	X						5				X	X	
MW-12D	5/16	1417	G	X						5				X	X	
MW-13	5/16	1317	G	X						5				X	X	
MW-15	5/16	1520	G	X						5				X	X	
MW-15R	5/16	1527	G	X						5				X	X	
MW-16	5/16	1230	G	X						5				X	X	
MW-17	5/16	1216	G	X						5				X	X	
MW-18	5/16	1145	G	X						5				X	X	
MW-18D	5/16	1152	G	X						4				X	X	

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

Sample Disposal: ☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by	5-18-22	1000	1. Received by	5-18-22	1000
2. Relinquished by	5/18/22	1630	2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by	5/18/22	1630

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
Temp Blank Y N

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

Document Number: MEU0SN2-01

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www.pacelabs.com

Number 134918

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.
Address: 2112 Loblolly Lane	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 3 of 3
City: Johns Island	State: SC	Zip Code: 29455	Printed Name: Austin Smith-Jones
Project Name: SC-015 UST#07680			XE18087
Project No.: SC-015	P.O. No.		PKL

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	Composite (C) or Grab (G)	# of Containers	Matrix: Solid	Matrix: Other	No. of Containers by Preservative Type: Unpres.	HCl	HNO3	H2SO4	NaOH	Field Filtered	BTEX+MTBE+TOXY 8260A	EDB 8011	Remarks / Cooler I.D.
MW-19	5/16	1446	G	X						5			X	X	
MW-20	5/16	1332	G	X						5			X	X	
MW-21	5/16	1458	G	X						5			X	X	
RW-1	5/16	1702	G	X						5			X	X	
DW-1	5/16	1831	G	X						5			X	X	
Dup1	5/16	1200	G	X						5			X	X	
Dup2	5/16	1200	G	X						5			X	X	
FB	5/16	1200	G	X						3			X	X	
TB	Lab provided		G	X						2			X		

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

Sample Disposal
☐ Return to Client X Disposal by Lab

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

QC Requirements (Specify)

	Date	Time
1. Relinquished by	5-18-22	1000
2. Relinquished by	5/18/22	1630
3. Relinquished by	Date	Time
4. Relinquished by	Date	Time

	Date	Time
1. Received by	5-18-22	1000
2. Received by	Date	Time
3. Received by	Date	Time
4. Laboratory received by	5/18/22	1630

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. 1.0 °C

Temp Blank X Y ☐ N

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

Document Number: ME003N2-01

Pace Analytical

Samples Receipt Checklist (SRC) (MED018C-15)
Issuing Authority: Pace ENV - WCOL

Revised:9/29/2020
Page 1 of 1

Sample Receipt Checklist (SRC)

Client: QES Cooler Inspected by/date: TEC / 05/18/2022 Lot #: XE18087

Means of receipt: ☑ Pace ☐ 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: NA Chlorine Strip ID: NA Tested by: NA

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

1.9 / 1.9 °C NA / NA °C NA / NA °C NA / NA °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" (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/625.1/608.3 (< 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 #

MM 5/18/22

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

Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA.

Time of preservation NA. If more than one preservative is needed, please note in the comments below.

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

Samples(s) NA 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: NA.

SR barcode labels applied by: TEC Date: 05/18/2022

Comments:

APPENDIX G

DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 1

2. Page 1 of

3. Generator's Name and Mailing Address Crown Central LLC Various sites

4. Generator's Phone ( )

5. Transporter 1 Company Name ARM Environmental Services

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address TK Tank Services 425 Boulevard Rd Sumter, SC

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone 803-418-5314

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	91.75	gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

Site	UST #	Gallons	Site	UST #	Gal
SC-553	15098	8.75	SC-518	08432	1.5
SC-609	07891	8.5	SC-532	08626	1,75
SC-614	06107	61.25	SC-015	07680	10

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Joseph Goings as agent for Crown Central LLC

Signature: [signature]

Date: Month 6 Day 9 Year 22

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.

Printed/Typed Name: JASMINE ANDERSON

Signature: [signature]

Date: Month 6 Day 9 Year 22

APPENDIX K

DATA VERIFICATION CHECKLIST

Contractor Checklist

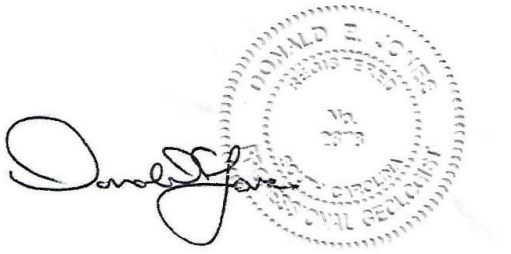
Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Explanation for missing and incomplete information? NONE

Project Verifier:



Date: June 21, 2022

UST 118 Fuels DOCKETING

Domenico Model (Oxygenates)

UST # 07680
Site Name: SC-015
Modeler: Matt Wykel
Date: 12.20.2022

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	28	ft/yr

Transport Parameters

x_{max}	96	ft
y_{max}	30	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	120	ft
α_x	8.005253	ft
α_y	0.800525	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim} 32 yrs

Aquifer Characteristics

ρ_d	1.55	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
tBA		1
tAA	48.6	1
DIPE		1.5
tAME		1.5
EtBE		1.5
Ethanol		0.5

Retarded Velocity (ft/yr)

CoC	R	v_R
tBA	1.001	27.97
tAA	1.001	27.97
DIPE	1.002	27.95
tAME	1.002	27.95
EtBE	1.002	27.95
Ethanol	1.001	27.98

Simulation Points for Breakthrough Curves

		4.87	
x	ft	x	ft
y	ft	y	ft
z	ft	z	ft

$$C(x,y,z,t) = \left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right] erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

tAA Calibration

Spatial Calibration Data

(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	48.6	48.6
9.6		39.650
19.2		32.136
28.8		25.684
38.4		20.342
48		16.047
57.6		12.646
67.2		9.969
76.8		7.867
86.4		6.216
96	0.28	4.919

Temporal Calibration Data

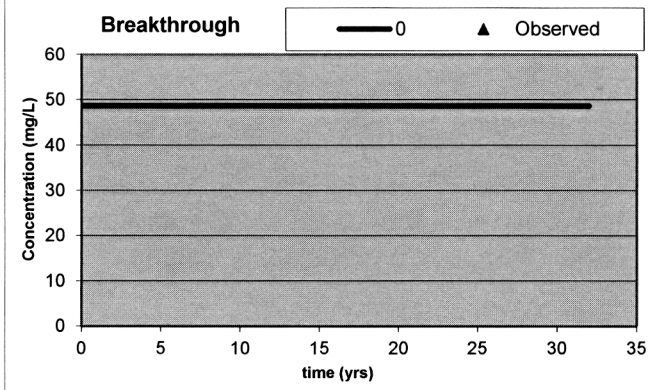
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		48.6		48.6
3.2		48.600		48.600
6.4		48.600		48.600
9.6		48.600		48.600
12.8		48.600		48.600
16		48.600		48.600
19.2		48.600		48.600
22.4		48.600		48.600
25.6		48.600		48.600
28.8		48.600		48.600
32		48.600		48.600

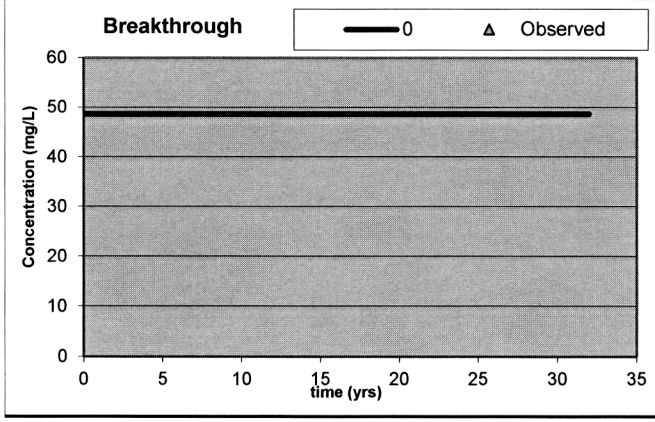
Site ID 07680

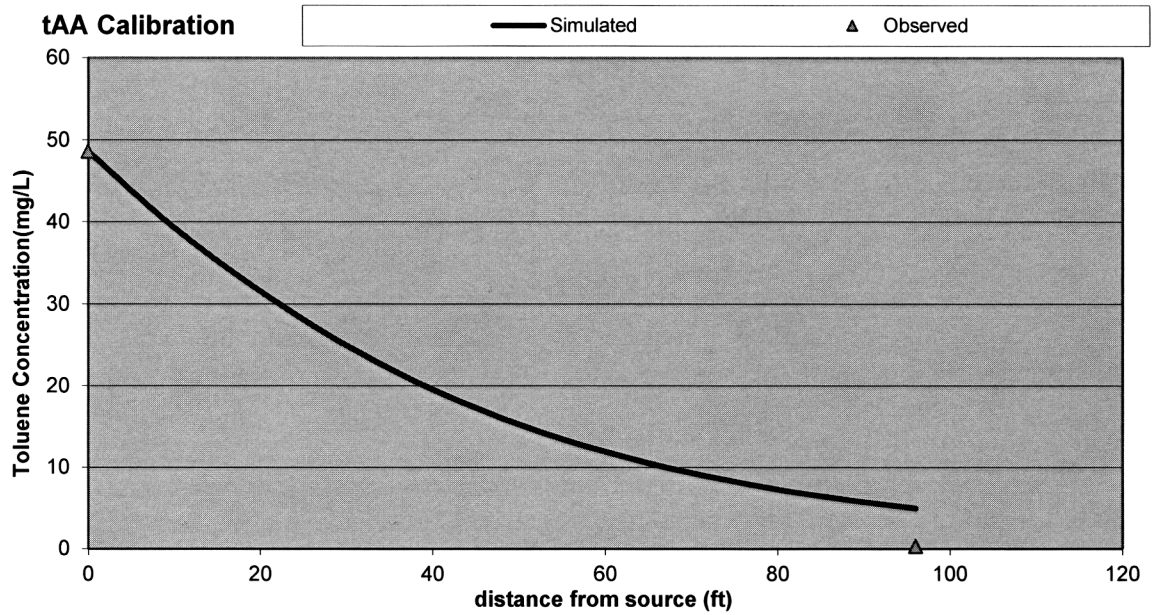
Site Name SC-015

Model Calibration Parameters

$t_{1/2}$	1	yrs	λ	0.693	yr^{-1}
v_x	28	ft/yr			
R	1.001				
v_R	27.965	ft/yr	C_{source}	48.6	mg/L
L_p	120	ft			
α_x	8.005253	ft	t_{sim}	32	yrs
α_y	0.800525	ft			
α_z	1E-99	ft			





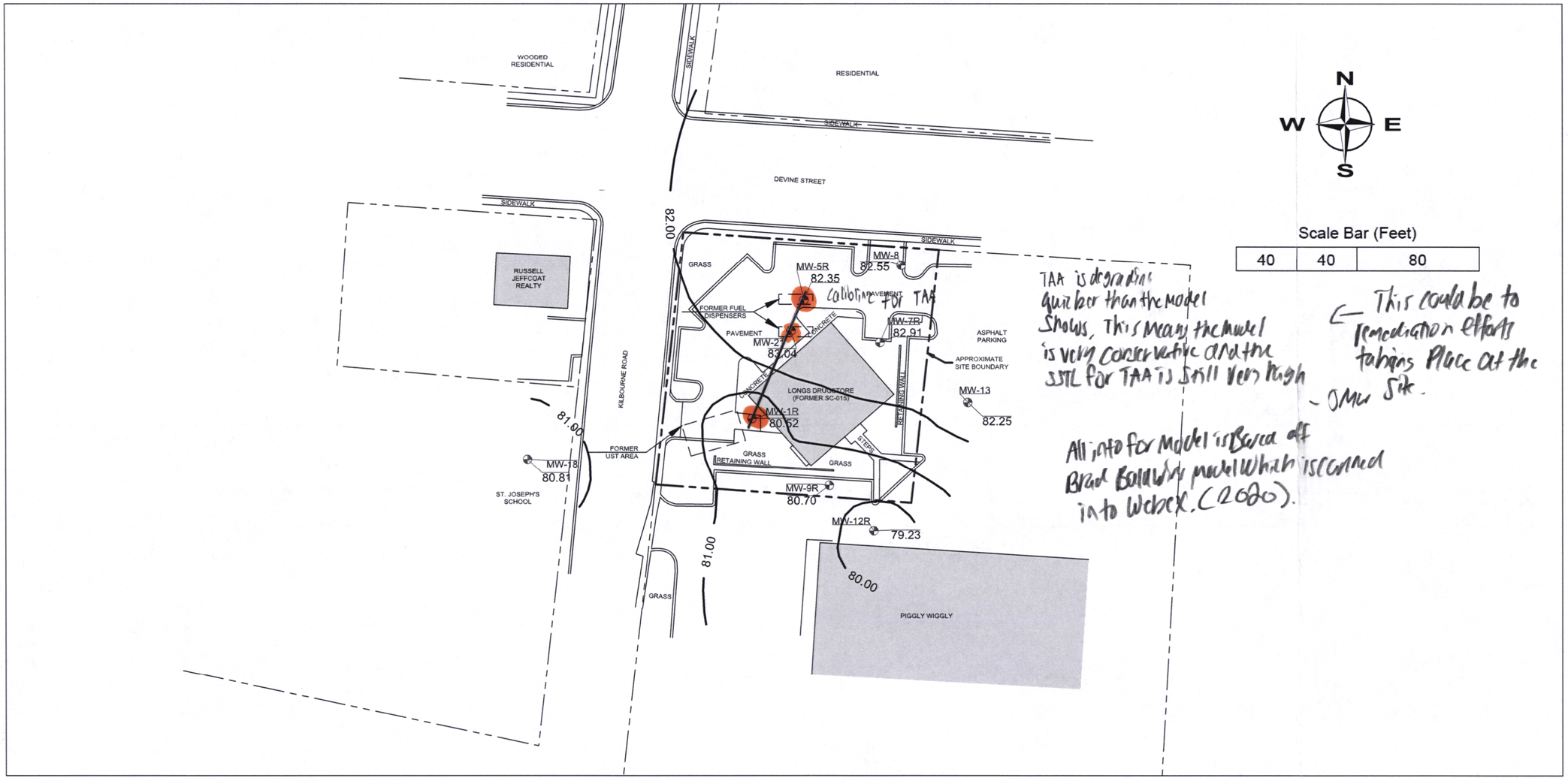


Source	9.6	19.2	28.8	38.4	48	57.6	67.2	76.8	86.4	96
30	0.00258165	0.11035951	0.3587452	0.60043189	0.76523126	0.8482877	0.86678	0.840778	0.787162	0.718507
15	19.8276925	16.1784924	13.2007818	10.7699411	8.78346496	7.1585671	5.829123	4.741992	3.853944	3.129454
0	39.6502217	32.1362679	25.6843362	20.3418233	16.0473835	12.64611	9.969282	7.867094	6.216311	4.918814
15	19.8276925	16.1784924	13.2007818	10.7699411	8.78346496	7.1585671	5.829123	4.741992	3.853944	3.129454
30	0.00258165	0.11035951	0.3587452	0.60043189	0.76523126	0.8482877	0.86678	0.840778	0.787162	0.718507

SSTLs t 1000 yrs

UST Permit # 07680
Site Name: SC-015

SSTLs in mg/L		RBSLs (mg/L):			0.240				
MW #	x (ft)	y (ft)	z (ft)		tAA SSTL				
MW-5R	284				190.070				



TAA is degrading quicker than the model shows, This means the model is very conservative and the SSTL for TAA is still very high

← This could be to remediation efforts taking place at the site.

- OMW

All info for model is based off Brad Baldwin's model which is canned into Webex. (2020).

Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

dhec
Healthy People. Healthy Communities.



DEC 20 2022

CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT STREET 25TH FLOOR
BALTIMORE MD 21202

Re: Injection Corrective Action Plan Request
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Monitoring Report received July 8, 2022
Richland County

Dear Carol Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the soil and groundwater above Risk-Based Screening Levels and established Site-Specific Target Levels (SSTLs). As recommended by your contractor, the next appropriate scope of work is the development of a Corrective Action Plan (CAP) for a sub-surface chemical injection.

Under state and federal regulations, as the underground storage tank (UST) owner/operator at the time of the referenced release, you are ultimately responsible for cleanup actions taken in response to this release. Pursuant to S.C. Code Ann. Section 44-2-40(D), funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Site Rehabilitation Fund Account and SUPERB Financial Responsibility Fund provide combined coverage for site rehabilitation activities and third party claims not to exceed one million dollars. The maximum allowable corrective action cost DHEC can establish is dependent on the remaining SUPERB Account balance for the individual release. According to UST Division records, approximately $384,031.83 has been expended from the SUPERB Account to date.

In accordance with South Carolina Underground Storage Tank Control Regulations (USTCR R.61-92 § 208.66) DHEC is requesting the submission of a CAP for subsurface chemical injections, as recommended by your contractor. **The CAP should be submitted within 45 days of this correspondence**. The CAP must be completed in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP) and all applicable regulations. The QAPP is available at scdhec.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance.

The CAP must define the methods, injectates, anticipated number of injection wells, injection locations, construction details injectate volumes, well abandonment methods, and safety protocols that will address the Area of Concern. The injection methods and technologies should be designed to prevent vapors from entering onsite or adjacent structures. It must be shown, by use of scientific models, computations, or discussion, how Chemicals of Concern concentrations will be reduced by each method and technology proposed. Any assumptions used in a model will be listed or shown, as well as appropriate references.

Note that the use of monitoring wells for injection purposes is not allowed. Accordingly, the CAP may propose installation of additional injection and compliance wells. General construction details must be included (e.g., install four additional recovery wells, construct a compliance point etc.) as well as details of well abandonment and component removal. In accordance with the SC Well Standards and Regulations R.61-71, all temporary injection points are to be abandoned within 5 days of borehole completion. Abandonment activities should be done in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP) and all applicable regulations. A corrective action timetable must be provided in the CAP.

The contractor must ensure that access to the area being treated is restricted to anyone not involved in the project. All individuals working with the injectates must be familiar with the applicable MS/DS information (available from the manufacturer). Further, the Contractor must consider and comply with the manufacturer's instructions for the Safe Handling, Use, and Storage of the injectates.

A description of secondary parameters, such as nitrate, Oxidation Reduction Potential (ORP), sulfate, ferrous iron, dissolved oxygen, etc. to be used to evaluate the suitability of the product and its effectiveness. These measurements shall be documented in the Reports. The UST Management Division will review the CAP and initiate a public notice period in accordance with R.61-92 and the UST QAPP. The contractor should consult you and any other affected property owners for approval of the location where injections are to be performed.

Your contractor must complete and submit all applications for permits (injection, NPDES, BAQC modeling form, etc.) with the CAP to the appropriate DHEC program area. All submitted applications must comply with the requirements of the respective permitting program. Any required permit changes or corrections should be submitted within 15 days of notification by DHEC.

After the CAP and all permit applications are reviewed and approved, the UST Management Division will issue a notice to proceed with CAP implementation. **Implementation of the CAP is not authorized until the contractor receives a notice to proceed from the UST Management Division.**

The contractor must, at all times, keep the site free from waste materials and rubbish related to the corrective action. All contaminated soil and construction debris, contaminated water, and FP generated on-site will be removed from the site promptly. Manifests documenting the proper disposal of the contaminated soil, construction debris, contaminated water, and FP must be included in the appropriate report.

All site rehabilitation activities associated with the UST releases must be performed by a DHEC Certified Class I UST Site Rehabilitation Contractor as required by the SUPERB Site Rehabilitation and Fund Access Regulation, R.61-98. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied.

On all correspondence concerning this site, please reference UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-7705, by fax at (803) 898-0673, or by email at wykeljm@dhec.sc.gov.

Sincerely,

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

Enc: Table with Site-Specific Target Levels for Permit #07680
Limited CAP Response Form

Cc: QES, Inc., 2112 Loblolly Lane, John's Island, SC 29455
Devine Street Holdings, LLC., 3722 Devine Street, Columbia, SC 29205
Technical File

LIMITED CORRECTIVE ACTION PLAN RESPONSE FORM: SC-015, #07680

A. ACCEPTANCE and DELIVERY STATEMENT

The UST Site Rehabilitation Contractor agrees to complete the Injections as specified at the price set forth for the site as stated below.

For the purpose of possible acceptance of financial approval, I certify that this company

- Has reviewed the technical file for the release and understands the nature of the release(s) and the geologic conditions at the site as documented in the technical file. Any quantities listed below are estimates and changes to those quantities or to the listed method(s) will not affect the financial approval amount.
- Has conducted a site visit and understands the physical layout of the property, the location(s) of any identified receptors, and any limitations that may exist on or off property as it may relate to the possible implementation.
- Understands that acceptance is based on total cost to treat the area of concern, as depicted in the Corrective Action Plan (CAP).

_____ _____

UST Site Rehabilitation Contractor (Print) UST Site Rehabilitation Contractor Certification #

_____ _____

Registered Professional Name (Print) Registered Professional Signature (required)

P.G. ☐ P.E. ☐ (Check appropriate box) Professional Certification # _____

For the purpose of possible acceptance of financial approval, I (the UST tank owner) certify that:

- Has discussed the proposed remedial plan with the UST Site Rehabilitation Contractor and agree with the proposal as put forth.

- Understands that costs up to $1 million SUPERB coverage may be utilized and the UST Management Division reserves the right to set aside fund for the purpose of verifying achievement of remedial goals.

- Understands that cost in excess of the $1 million SUPERB coverage are my responsibility as the UST owner.

_____ _____

UST Owner (Print) UST Owner Signature

B. CORRECTIVE ACTION RESPONSE

Please respond to the following questions:

1. Please provide detailed information as to how the proposed treatment technique(s) that will be discussed in the CAP will effectively remove free phase product and/or reduce dissolved concentrations to reach target Site Specific Target Levels. Please include the number of proposed injection points, proposed number of extraction points, proposed volume of excavated material, proposed volume of injected material, etc. Only method(s) and/or technology(ies) that will be implemented on site should be included.

   _____

   _____

   _____

   _____

   _____

2. The Cost, in whole dollars is _____, to treat the area of concern shown in the CAP; prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon and/or remove any remedial components.

3. Please provide how the corrective action costs stated in #2 will be allocated for the corrective action activities discussed in item #1 to include but not limited to, corrective action system planning & installation (including the installation of any remediation wells), system operation & maintenance, expendables (e.g. injectates), sampling/analyses to verify effectiveness of proposed method(s), corrective action system installation, etc. **(See Example Chart Below)**

4. Please provide an estimated timetable for implementation of all proposed techniques discussed in #1. (See Example Chart Below)

CHART IS AN EXAMPLE ONLY

Item	Cost	Time (date)
Preconstruction Cost		
CAP Design	$10,000	August 2020
Construction Cost		
Well Installation/Drilling Services	Allowable Rates	October 2020
Drill Cuttings/Disposal	Allowable Rates	October 2020
Surfactant Cost	$40,000	September 2020
Chemical Injection Cost	$25,000	September 2020
Soil Excavation	$45,000	November 2020
Soil Disposal Costs	Allowable Rates	November 2020
Soil amendments & Backfill costs	$20,000	November 2020
AFVR w/ off gas (1 events/96 hours)	$85,000	December 2020
AFVR Wastewater/Product Disposal (20,000 gallons)	Allowable Rates	December 2020
Skimmers/Socks	Allowable Rates	January 2021
Analytical/Groundwater Sampling (2 quarterly events-post injection)	Allowable Rates	April 2021 /July 2021
Total	**$ (Provide Total Cost)**	

Please note, the table is for example purposes only and not inclusive, actual line items to be included may vary depending on the technology and costs that will be incurred. All anticipated costs should be accounted for in the table along with the appropriate time for completion.

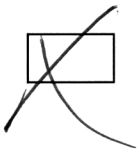
#07680

SSTLs in ug/L

MW #	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	TAA SSTL
MW-1AR	39,162.00	26,540.00	3,700.00	21,680.00	6,849.00	6,700.00	283.00	42,094.83
MW-2	23,279.00	26,540.00	3,700.00	21,680.00	5,114.00	6,700.00	171.00	31,186.28
MW-8	13,274.00	26,540.00	3,700.00	21,680.00	3,727.00	6,059.00	100.00	22,546.93
MW-5R	44,390.00	26,540.00	3,700.00	21,680.00	29,670.00	6,700.00	1,900.00	190,069.91
MW-15R	44,390.00	26,540.00	3,700.00	21,680.00	16,338.00	6,700.00	1,262.00	102,870.15
MW-21	44,390.00	26,540.00	3,700.00	21,680.00	19,079.00	6,700.00	1,649.00	120,658.83
RW-1	44,390.00	26,540.00	3,700.00	21,680.00	19,079.00	6,700.00	1,649.00	120,658.83
RW-2	44,390.00	26,540.00	3,700.00	21,680.00	27,166.00	6,700.00	1,900.00	173,582.46
RW-3	44,390.00	26,540.00	3,700.00	21,680.00	29,670.00	6,700.00	1,900.00	190,069.91
Solubility:	44,390.00	26,540.00	3,700.00	21,680.00	173,000.00	6,700.00	1,900.00	35,900,000.00

Values with calculated SSTLs greater than Solubility are set to solubility limits.

Document Receipt Information

 **Hard Copy**  **CD**

Date Received 2-7-23

Permit Number 07680

Project Manager ~~[illegible]~~ Matt Wykel

Name of Contractor QES

Docket Title Injection CAP

Document Number 120 tech

Scanned _____

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

January 31, 2023

Mr. Matt Wykel, Hydrogeologist
South Carolina Department of Health & Environmental Control
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: Injection Corrective Action Plan (CAP)
Former Crown Fast Fare SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

Dear Mr. Wykel:

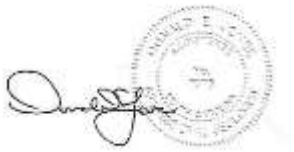
Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *Injection Corrective Action Plan (CAP)* for the above-listed facility ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently a vacant former Long's Drugstore; the USTs associated with the former Crown service station were removed in July 1991.

The last comprehensive groundwater sampling event occurred in May 2022. SCDHEC developed Site-Specific Target Levels (SSTLs) in May 2020 for the on-Site monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The analytical results showed SSTL exceedances in MW-5R and recovery well RW-1. Light non-aqueous phase liquid (LNAPL) was present in RW-2 and RW-3.

QES and the SCDHEC Project Manager agreed that continued aggressive fluid-vapor recovery (AFVR) events would not be a cost-effective remedial alternative. QES evaluated the possibility of impacted soil over-excavation in the area with LNAPL and SSTL exceedances as the contamination is shallow and localized. Also, the property is currently vacant following the closure of the drug store. Soil excavation was not deemed feasible due to possible damage to the existing structure as the impacted area is close to the building, asphalt and concrete restoration costs and the overall project cost. SCDHEC requested the submission of this Injection CAP in a December 20, 2022 letter. QES has developed a cost estimate for injection of reagents to effectively destroy the LNAPL and reduce dissolved hydrocarbon concentrations to levels below the SSTLs. The injection remedial approach should result in sufficient contaminant reductions leading to Eventual SCDHEC issuance of a Conditional No Further Action (CNFA) determination.

Please review the attached *Injection CAP* and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Attachment: *Injection Corrective Action Report (CAP)*

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
Mr. Wayne Snyder - Niggel Family LLC Representative (wayne@coburncourt.com)
Ms. Catherine Baker – Niggel Family LLC Representative – cat.baker729@gmail.com)

QES File: 201-189-SC-015

INJECTION CORRECTIVE ACTION PLAN (CAP)
FORMER CROWN FAST FARE SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT #07680

Submitted to:

Mr. Matt Wykel, Hydrogeologist
South Carolina Department of Health and Environmental Control
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central, LLC
PO Box 44
Bridgewater, VT 05034

Prepared by:

Quality Environmental Solutions, Inc.
PO Box 44
Bridgewater, VT 05034
Contractor Certification Number 461
410-841-5552

January 31, 2023

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Figure 2A: Site Vicinity Map
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Appendix B: UIC Permit Application
Appendix C: Limited CAP Response Form

1.0 Introduction

Quality Environmental Solutions, Inc. (QES) has prepared this *Injection Corrective Action Plan* (Injection CAP) for the former Crown Fast Fare location SC-015 located at 3800 Devine Street in Columbia, South Carolina ("Site"). The former Crown Site is associated with the South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the adjacent Piggly Wiggly supermarket.

Environmental activities at the Site included subsurface assessments, installation of recovery wells and completion of aggressive fluid-vapor recovery (AFVR) events. SCDHEC has developed Site-Specific Target Levels (SSTLs) for several Site monitoring wells and the three recovery wells. The continued presence of light non-aqueous phase liquid (LNAPL) and dissolved hydrocarbon concentrations greater than the SSTLs dictates that an alternative remedial technology be employed to eliminate the LNAPL and reduce groundwater concentrations to below SSTLs. Soil excavation was considered and ultimately rejected due to logistics, the proximity of the impacted area to the existing building and total cost. SCDHEC requested this Injection CAP in a December 20, 2022 letter as the approach is considered a viable and cost-effective alternative to soil excavation or continued sampling and AFVR events.

1.1 Objective

The objective of the Injection CAP is to secure SCDHEC formal approval to implement the controlled oxidation injection technology to eliminate the LNAPL and lower groundwater concentrations to levels below SSTLs. Post-injection groundwater sampling will occur to confirm the anticipated results with a goal of dissolved hydrocarbon concentrations remaining below the SSTLs leading to eventual issuance of a Conditional No Further Action (CNFA) determination.

1.2 Site Description

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

1.3 Site Assessment and Remediation History

Subsurface assessments and remedial activities have been completed at the Site by Crown consultants since the initial release was reported in 1989. The activities and results are summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC Risk-Based Screening Levels (RBSLs) were present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- LNAPL was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R on one occasion (May 2020 sampling event). LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen AFVR events were completed at the Site between April 2010 and July 2018.

- Three recovery wells were installed at the Site in June 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands are the primary sources of groundwater impacts.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the subsequent November 2021 sampling event.
- The Site monitoring and recovery wells were last sampled in May 2022. LNAPL was detected in RW-2 and RW-3 during the May 2022 sampling event.

SSTLs were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The toluene SSTL was exceeded in MW-5R, MW-21, RW-1 and RW-3 during the November 2021 sampling event. The May 2022 analytical results were below the SSTLs except for the toluene concentrations in MW-5R and RW-1 along with the presence of LNAPL in RW-2 and RW-3.

The historical monitoring well gauging and analytical data are listed in **Table 2** and **Table 3**, respectively. The June 2022 analytical results are depicted on **Figure 4** and the potentiometric surface elevations and contours are depicted on **Figure 5**.

2.0 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer.

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

3.0 Proposed Corrective Action Technology

3.1 Overview

Several corrective action methodologies and technologies were considered to remediate the site during an initial remediation alternatives screening process. Source excavation, continued AFVR events and in-situ chemical oxidation were considered. The potential corrective action technologies and methodologies and their applicability to the site based on a review of the attributes and logistics of excavation, installation and operation, technical likelihood of success, prior corrective action work conducted at the site, and economic concerns were discussed. The removal of LNAPL and a reduction in dissolved-phase contaminant concentrations are necessary to ensure that levels remain below SSTL concentrations.

Sixteen AFVR events have been completed at the Site with LNAPL still present and dissolved hydrocarbon concentrations remaining above the SSTLs. AFVR events have been shown to be ineffective at achieving the remediation goals due to the presence of perched water zones, low permeability sediments and residual petroleum in a smear zone. Soil excavation was considered and ultimately rejected due to logistics, the proximity of the impacted area to the existing building and total cost (>$150,000).

SCDHEC requested this Injection CAP as the approach is considered a viable and cost-effective alternative to soil excavation or continued sampling and AFVR events. In-situ chemical oxidation will be used to eliminate LNAPL and residual petroleum in the smear zone and reduce dissolved-phase contaminant concentrations.

3.2 Injection Process and Technology

The LNAPL and highest dissolved hydrocarbon concentrations are present in the area of the two former dispensers. The proposed treatment encompasses the area of greatest impact as delineated by the MW-5 series monitoring wells, MW-21 and the three recovery wells. The approximate treatment area is 2,500 square feet with a treatment depth of 25 feet, which is approximately ten feet below the water table.

The proposed injections will be completed by Deep Earth Technologies, which has developed the patented chemical oxidation injectate *Cool-Ox*®. The injection of *Cool-Ox*® into the subsurface will be completed utilizing direct-push technology (DPT) by a SC-licensed driller, ARM Environmental Services, as directed by Deep Earth personnel. Deep Earth has estimated that the treatment process can be completed with 69 DPT points based on a grid spacing of six feet. Deep Earth estimates that 104 gallons of injectate will be used per DPT point for a total of 7,222 gallons.

The *Cool-Ox*® technology is a patented remediation process designed to treat in-situ contaminants in soil and groundwater. Utilizing the application of a single aqueous based formulation, the hydrocarbons are hydroxylated (oxidized) to form alcohols and/or weak organic acids. The process is based on using hydrogen peroxide as the generator of the oxidizing radicals. Unlike other processes, the *Cool-Ox*® process generates hydrogen peroxide from solid peroxygens that are injected into the soil and groundwater in an aqueous suspension. Once in place, the peroxygens react with water to produce the hydrogen peroxide. **Appendix A** includes a full description of the *Cool-Ox*® process.

An Underground Injection Control (UIC) Permit Application will be forwarded to Ms. Courtney Milledge at the SCDHEC UIC Section for approval. A copy of the UIC Permit Application is included in **Appendix B** (minus the attachments).

3.3 Technical Support

Deep Earth Technology offers a preponderance of technical support and site-specific recommendations for implementation of *Cool-Ox*® remediation. They were supplied with detailed Site information including Site features, contaminant levels and distribution, subsurface lithology, hydrogeology and remediation goals. The Site data were utilized to develop a treatment plan and cost estimate, which is included in **Appendix A**. The proposed process has been used successfully at fueling facilities across the United States, including former Crown locations.

4.0 Evaluation of Corrective Action Effectiveness

Two quarterly monitoring well gauging and sampling events are proposed to confirm the effectiveness of the *Cool-Ox*® remediation technology at eliminating LNAPL and reducing dissolved hydrocarbon concentrations to below the SCDHEC SSTLs.

The monitoring well gauging and sampling activities will be conducted in accordance with the sampling requirements described in SCDHEC QAPP revision 4.0 and the QES approved ACQAP.

5.0 Implementation Schedule

QES will schedule the Deep Earth and ARM personnel once the Injection CAP is approved, a Cost Agreement established and the UIC permit issued. Deep Earth estimates that the *Cool-Ox*® injections can be completed in six days. The first quarterly gauging and sampling event will be completed approximately 30 days after the injections. A timetable for completion of the Injection CAP components is included in **Appendix C**.

6.0 Site Restoration

Following SCDHEC determination that the remediation goals have been achieved, the Site monitoring and recovery wells will be properly abandoned following SCDHEC approval. Monitoring well abandonment is the precursor to SCDHEC issuance of the CNFA.

7.0 Remediation Cost Estimate

The Deep Earth cost estimate is included in **Appendix A**. The SCDHEC *Limited Corrective Action Response Form* is included in **Appendix C**. The form includes a cost estimate for QES time, ARM drilling services and the Deep Earth injections. The cost estimate covers the period from CAP approval and implementation through completion of the two quarterly sampling events and reporting. A table is also included summarizing the Injection CAP components, cost per component and the corresponding implementation schedule.

The total cost estimate is $159,278.58. QES and Crown recognize that the final Cost Agreement will depend on the finalized CAP and SCDHEC approval of the cost line items.

8.0 Conclusion and Recommendation

Several corrective action methodologies and technologies were considered to remediate the Site during an initial remediation alternatives screening process. Source excavation, continued AFVR events and in-situ chemical oxidation were considered. The potential corrective action technologies and methodologies and their applicability to the Site based on a review of the attributes and logistics of excavation, installation and operation, technical likelihood of success, prior corrective action work conducted at the site, and economic concerns were discussed. The removal of LNAPL and a reduction in dissolved-phase contaminant concentrations are necessary to ensure that levels remain below SSTL concentrations.

SCDHEC requested this Injection CAP as the approach is considered a viable and cost-effective alternative to soil excavation or continued sampling and AFVR events. In-situ chemical oxidation will be used to eliminate LNAPL and residual petroleum in the smear zone and reduce dissolved-phase contaminant concentrations.

QES recommends SCDHEC approval of the Injection CAP as the selected technology to eliminate LNAPL and reduce dissolved hydrocarbon concentrations to levels below SSTLs, leading to issuance of a CNFA determination.

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
	05/16/22	98.41	Dry			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
	05/16/22	98.35	ND	17.83	ND	80.52
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'	05/16/22	99.34	ND	31.65	ND	67.69
Screen						
40-45'						
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
	05/16/22	98.45	ND	28.05	ND	70.40
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
	05/16/22	98.29	ND	15.94	ND	82.35
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79
	05/16/22	98.49	ND	42.25	ND	56.24

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Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
	05/16/22	98.83	ND	51.18	ND	47.65
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
	05/16/22	98.85	ND	15.94	ND	82.91
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
	05/16/22	99.48	ND	16.93	ND	82.55
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
	05/16/22	93.32	ND	12.62	ND	80.70
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
	05/16/22	95.71	ND	28.69	ND	67.02
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65
	05/16/22	92.26	ND	25.81	ND	66.45

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Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
	05/16/22	92.43	ND	13.20	ND	79.23
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
	05/16/22	92.51	ND	37.40	ND	55.11
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
	05/16/22	94.26	ND	12.01	ND	82.25
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
	05/16/22	99.70	ND	32.65	ND	67.05
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
	05/16/22	100.47	ND	32.55	ND	67.92

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Former Crown SC-015
Columbia, South Carolina
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Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25
	05/16/22	102.85	ND	27.58	ND	75.27
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
	05/16/22	100.84	ND	32.94	ND	67.90
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
	05/16/22	103.46	ND	22.65	ND	80.81
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
	05/16/22	103.28	ND	40.49	ND	62.79
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
	05/16/22	95.74	ND	28.71	ND	67.03
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
	05/16/22	92.93	ND	27.24	ND	65.69

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17
	05/16/22	98.89	ND	15.85	ND	83.04
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
	05/16/22	97.48	ND	31.70	ND	65.78
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen	05/16/22	99.25	ND	16.17	ND	83.08
5-25'						
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen	05/16/22	99.11	15.87	16.17	0.30	83.18
5-25'						
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen	05/16/22	99.15	16.39	16.50	0.11	82.74
5-25'						

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
	05/16/22	Dry															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
	05/16/22	**32**	2.5	160	79	**110**	**110**	<0.005	2.3	1.8	<8.0	<0.40	<52	63	1.1 J	290	<2.0
MW-1AR	*SSTLs*	*39,162*	*26,540*	*3,700*	*21,680*	*6,849*	*6,700*	*283*						*42,095*			
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-2	*SSTLs*	*23,279*	*26,540*	*3,700*	*21,680*	*5,114*	*6,700*	*171*						*31,186*			
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
	05/16/22	<0.40	<0.40	<0.40	<0.40	**160**	0.85 J	<0.005	<0.40	<0.40	<8.0	<0.40	140	190	0.67 J	620	<2.0
MW-5R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*						*190,070*			
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**11,500**	***37,100***	**2,560**	**13,200**	**573**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**9,500**	***46,000***	***3,700***	**18,000**	**280**	**870**	0.010 J	**270**	2.6	<8.0	<0.40	<52	**5,500**	19	620	<2.0
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Duplicate #2	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Duplicate #1	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-8	*SSTLs*	*13,274*	*26,540*	*3,700*	*21,680*	*3,727*	*6,059*	*100*						*22,547*			
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.5	0.51 J	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	27	<2.0
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	0.52 J	11	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	69	<0.42	19 J	<2.0
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.60 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	2.5	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-15R	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*16,338*	*6,700*	*1,262*						*102,870*			
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.9	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.49 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

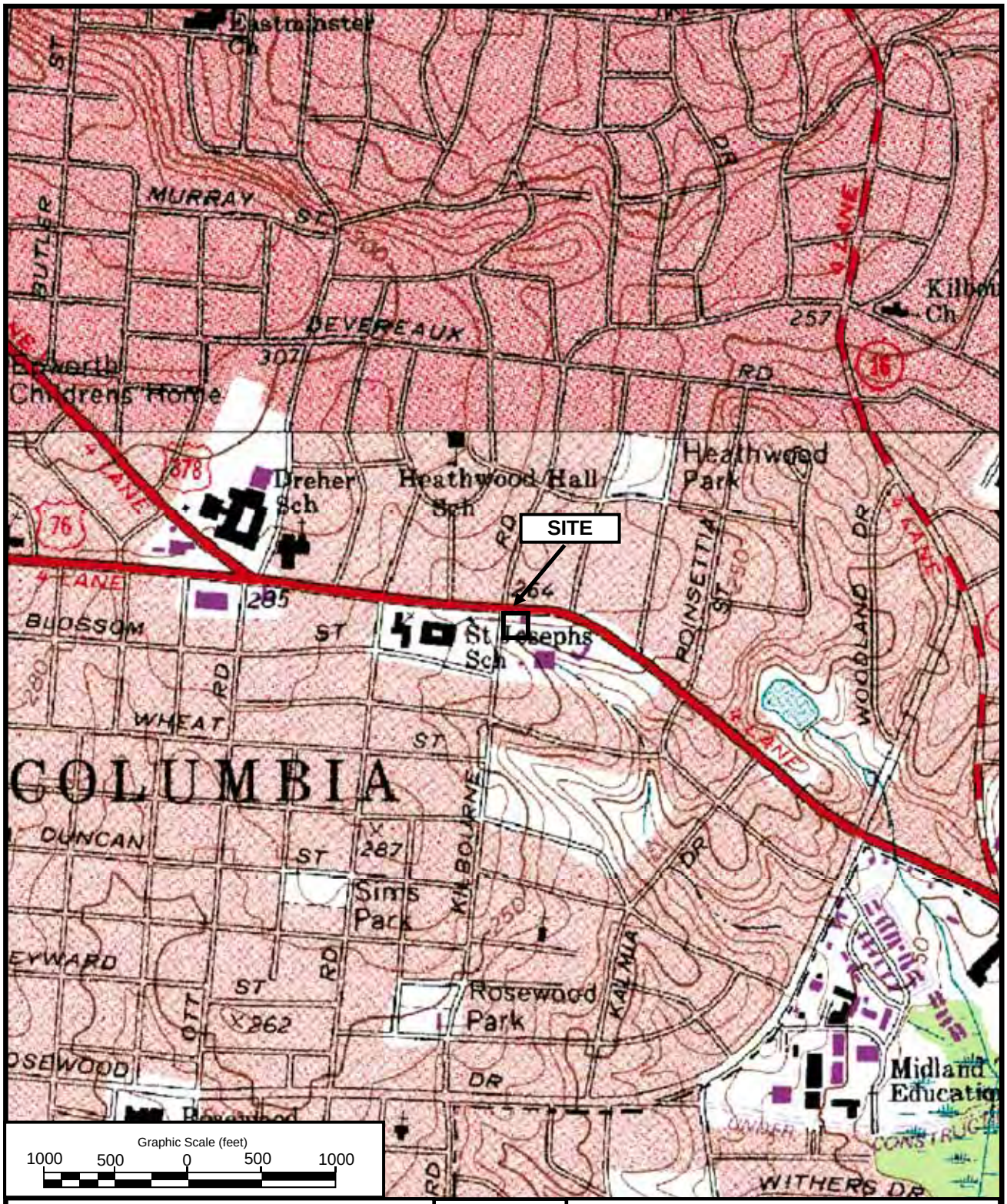
Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
MW-21	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*						*120,659*			
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	***28,500***	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	05/16/22	**1,100**	**23,000**	**3,200**	**15,000**	<80	**1,200**	0.022	<80	<80	<1,600	<80	<10,000	<1,600	<84	<1,600	<400
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	0.67 J	4.4	<0.40	2.4	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
RW-1	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*19,079*	*6,700*	*1,649*						*120,659*			
	05/10/20	**6,300**	***33,000***	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	***33,100***	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**5,300**	***42,000***	**2,800**	**15,000**	<80	**560**	**0.450**	<80	<80	<1,600	<80	<10,000	**5,500**	<84	<1,600	<400
RW-2	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*27,166*	*6,700*	*1,900*						*173,582*			
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
RW-3	*SSTLs*	*44,390*	*26,540*	*3,700*	*21,680*	*29,670*	*6,700*	*1,900*						*190,070*			
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	***43,600***	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
Field Blank	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
Trip Blank	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

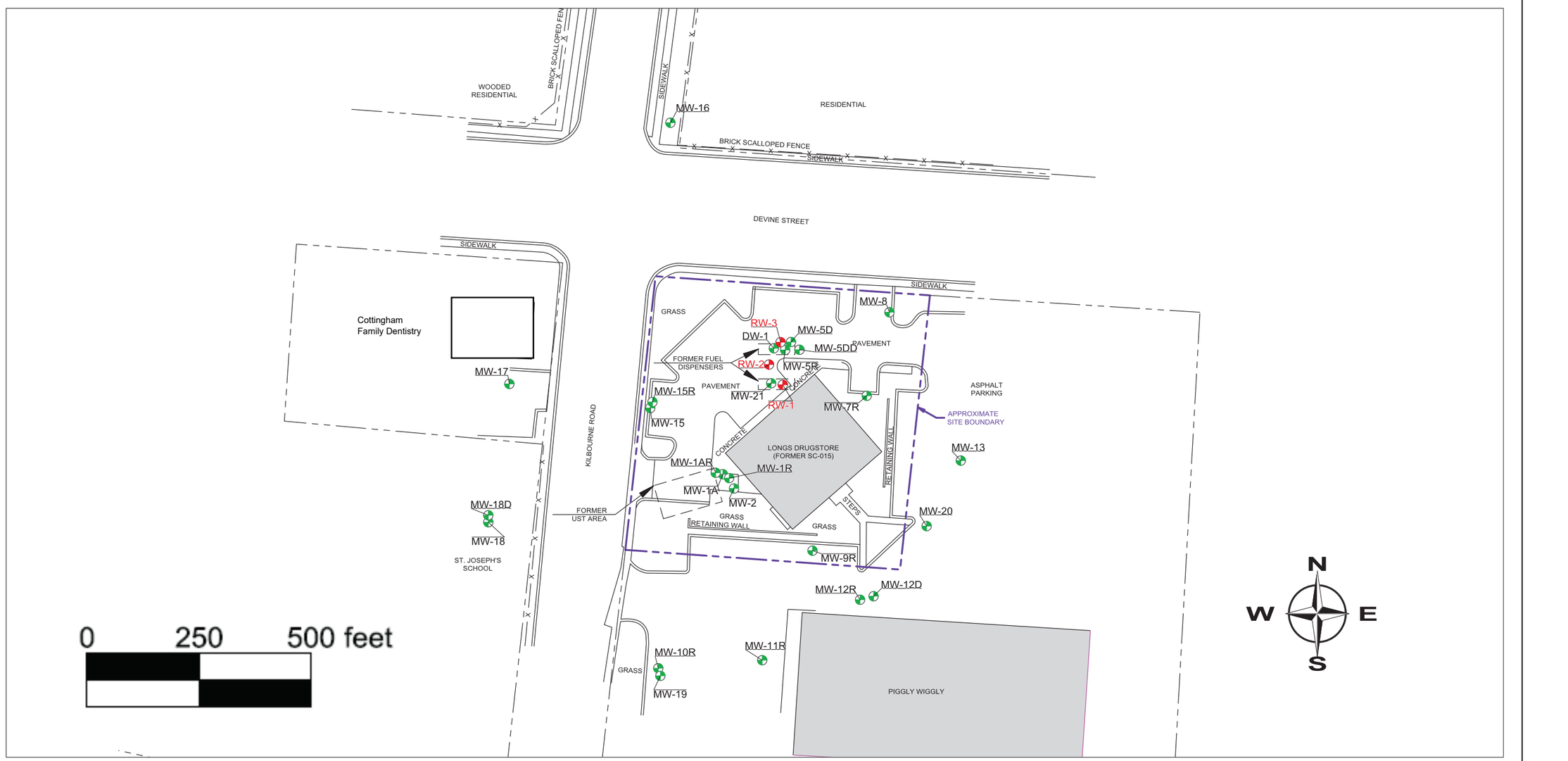
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Detection Limit for all Parameters	
NS	Not Sampled	
* Red Boxed Values > SSTLs		
Concentrations in ug/L		

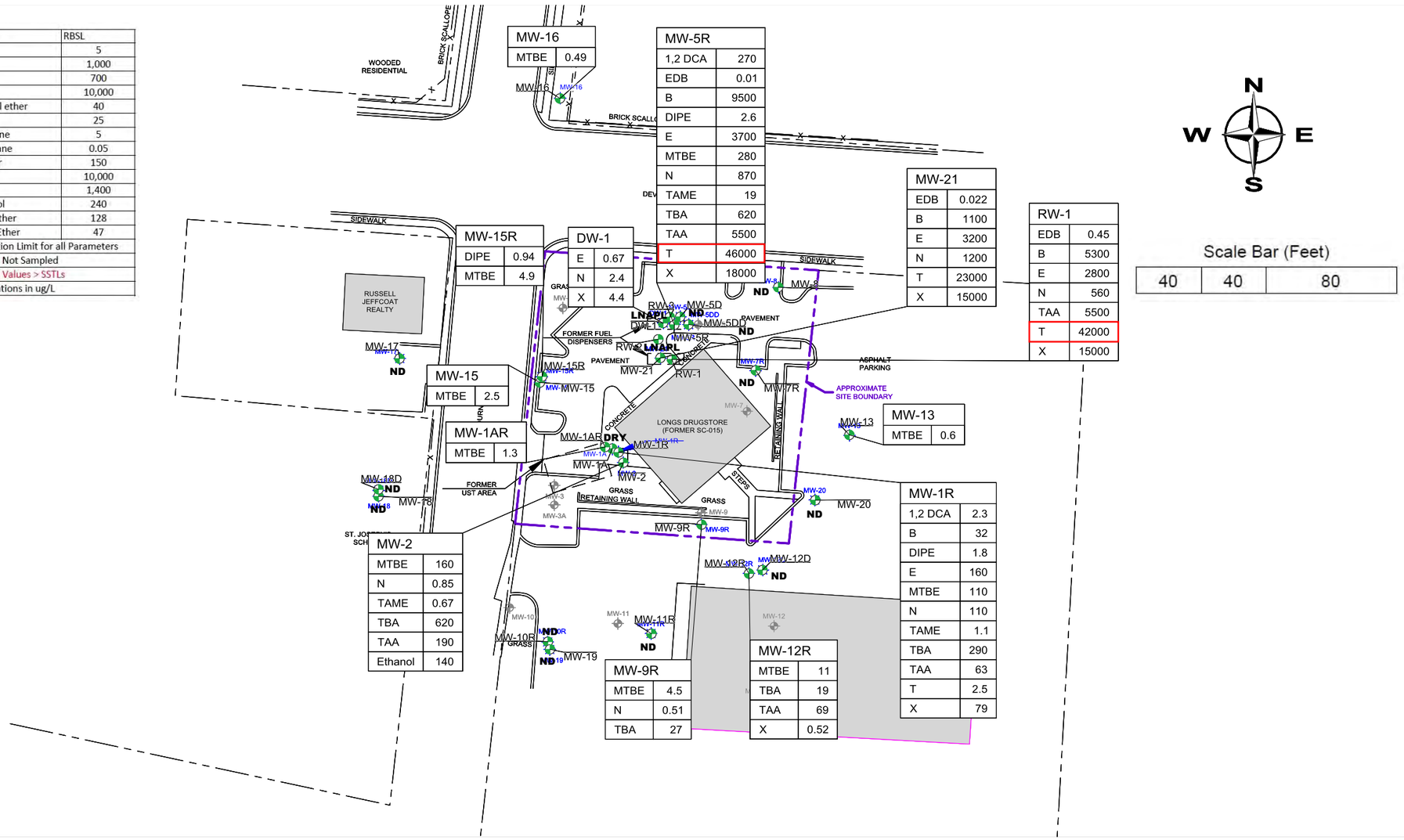


Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680



Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES

APPENDIX A

Deep Earth Technology Cool-Ox® Process Description and Cost Estimate

DeepEarth Technologies, Inc.

Cool-Ox®

(708) 396-0100 - tech@cool-ox.com

DTI Field Services Group - Summary Sheet for Cool-Ox® Application

Quality Environmental Solutions, Inc.
PO Box 44
Bridgewater, VT 05034

Site: Former Crown SC-015
3800 Devine Street
Columbia, SC

1/17/2023

DTI Job #: 2696

Attention: Donald E. Jones, C.P.G. Phone: 410-841-5552 djones@qualityenvironmental.net

DeepEarth Technologies, Inc., is pleased to submit this proposal for *Cool-Ox*® remediation of subject site:

Contaminants:	LNAPL	Depth to Groundwater (feet bgl):	113
Media Treated:	Soil & GW	Vertical Extent (feet bgl):	12 to 25
Area (square feet):	2,500	Proposed Injection Point Spacing (feet):	6
Cubic Yards:	1,204	Reagent Per Cubic Yard (gal):	6
Number of Points:	69	Est. On-Site Days to Complete:	6
Estimated Total Gals:	7,222		
Gals Per Point:	104		
Lump Sum Price:	$ 81,982		

Conditions of Quote:

1) All quotes shall remain in effect for a period of sixty (60) days only. Expired quotes must be renegotiated.

2) The Client shall:
   a) Arrange for a suitable water source at the site.
   b) Arrange for the locating and marking of all underground utilities and structures including GPR. DTI shall not be liable for any damage to such utilities or structures not clearly identified and revealed to DTI.
   c) Secure all permits necessary for the legal commencement of work and right of entry to the site.
   d) Unless otherwise noted, source and retain DPT subcontractor licensed and legally permitted to perform probing work necessary for the injection of *Cool-Ox*® into the subsurface as directed by DTI. This estimate does not include the estimated cost of DPT subcontractors.
   DPT rig shall be track mounted and of a size acceptable to DTI.
   e) If necessary, arrange for coring of paved surfaces prior to the commencement of work.
   f) Pay DTI for all work completed within 30 days of receipt of DTI invoice. For projects in excess of $200,000 a minimum deposit in the amount of 1/3 of the quoted price will be required prior to the commencement of work to cover a portion of the materials and mobilization costs.
   If payment is not received within 30 days of receipt of DTI invoice, a late payment fee of 1.5% per month will be charged.
   g) Notify DTI if any additional on site health and safety training classes are required 30 days prior to job start.
   h) Provide copies of all analytical data derived from samples collected prior to (to establish baseline data), during, and for three years after the completion of the remedial application. This data shall be considered confidential and used to evaluate and improve the *Cool-Ox*® technology.

3) Assumptions:
   a) No work shall be conducted in inclement weather such as lightning storms, freezing conditions, excessive rain or snow. The Stand-by daily rate, if applicable, shall be that rate stated in the work order.
   b) All quotes are based upon an eight (8) hour work day.
   c) In offering this quote, DTI does not warrant or imply that the site shall be remediated to closure standards by a single application of the *Cool-Ox*® technology.
   d) The Estimated Total Gallons states the maximum amount that could be applied at the above mentioned site. If the amount of reagent applied is less than the Estimated Total Gallons, a discount in the Lump Sum Price will not be provided.

4) Site Specific Provisions:

a) This estimate includes costs for chemicals, labor and injection equipment (DeepShot-Rig). Changes to the scope may be made in the field by DTI to account for unknowns or changes in the site conditions.

b) If a larger treatment area or additional reagent is required to adequately treat the site, a change order shall be be executed by the client prior to the initiation of additional work.

5) Ownership of Documents, Patents, and Copyrights:

Client understands and agrees that the primary reason Client is contracting with DTI is to secure the services and knowledge of DTI to provide Client with in-situ or ex-situ remediation of contaminants employing technology and application methods developed and provided by DTI. Client further understands and agrees that in the broadest definition of the term, the "craft" of DTI is providing, developing and improving the technology for the exclusive commercial or other use of DTI and that all intellectual property developed in the performance of any and all Work performed by DTI for Client or its clients, including, without limitation, all drawings, specifications, reports, summaries, samples, photographs, memoranda, notes, calculations, and other documents collected or prepared by DTI, shall be deemed the exclusive property of the DTI.

We at DTI wish to thank you for your consideration of our company as your in-situ chemical oxidation and reduction remedial contractor. If you have any questions regarding the technology or the information contained in this proposal, please contact us immediately. If you are in agreement with the proposal and wish to proceed with the project by reserving a work schedule date, please sign below and return this form to us.

Sincerely,

William L. Lundy, Sr. V. P.

DeepEarth Technologies, Inc.

Accepted:

Name and Title:_____

Order Number:_____ Date:_____

Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Detection Limit for all Parameters	
NS	Not Sampled	
* Red Boxed Values > SSTLs		
Concentrations in ug/L		

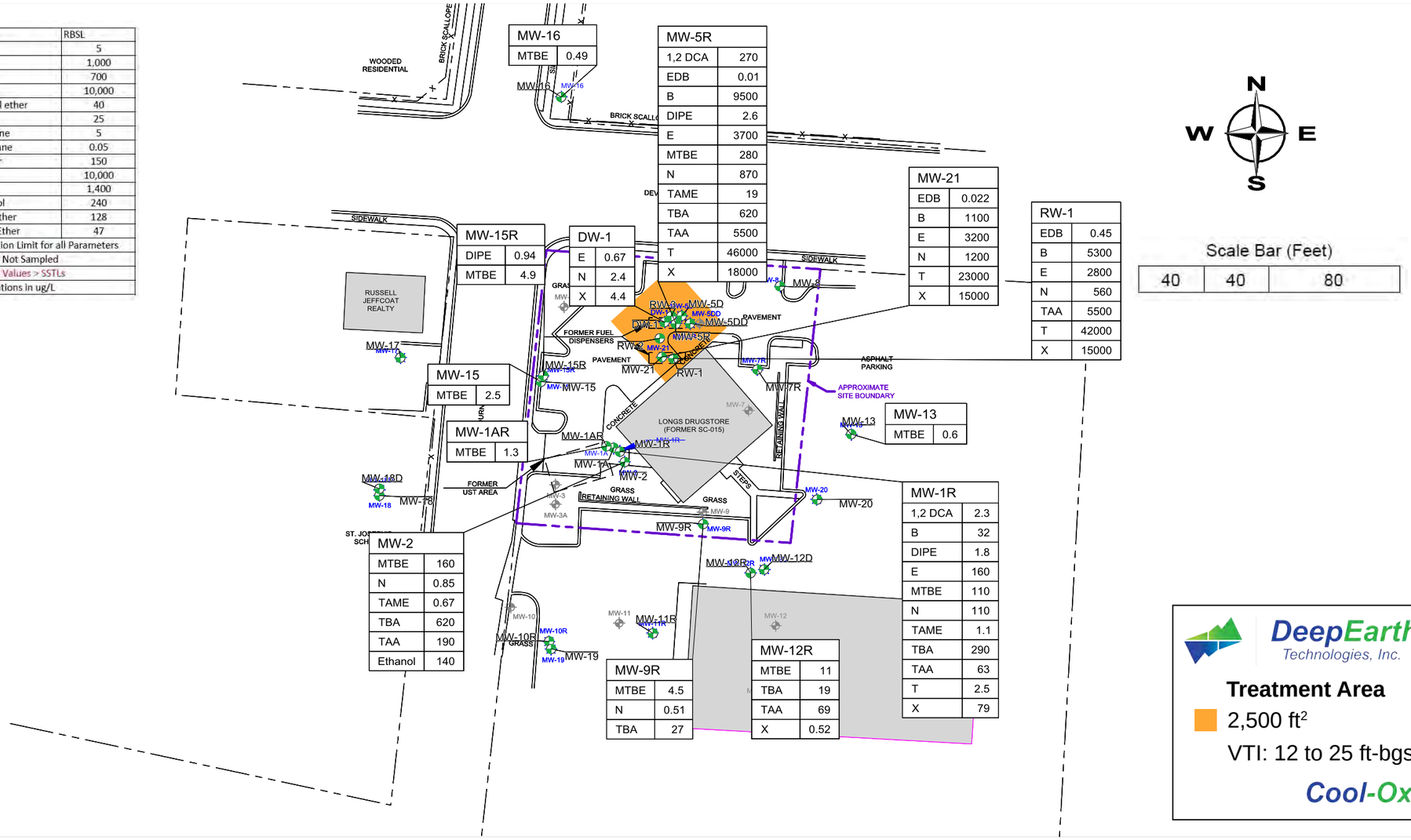
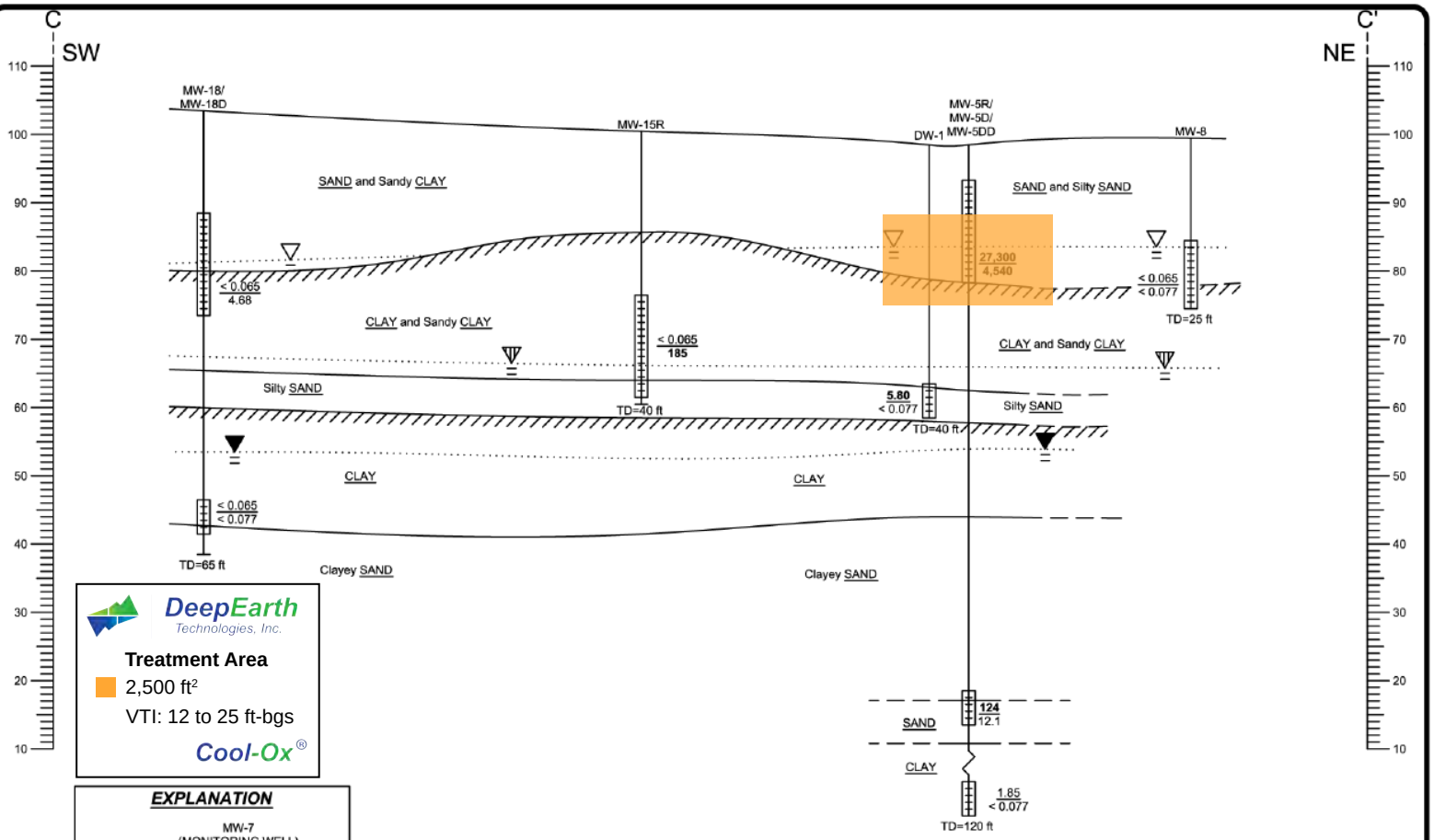


Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: May 16, 2022

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES



DeepEarth Technologies, Inc.

Treatment Area

2,500 ft²

VTI: 12 to 25 ft-bgs

Cool-Ox®

EXPLANATION

MW-7 (MONITORING WELL)

SHALLOW WATER LEVEL

INTERMEDIATE WATER LEVEL

DEEP WATER LEVEL

SCREEN INTERVAL

TD = TOTAL DEPTH (in feet)

35,300 BENZENE CONCENTRATION
7,100 MTBE CONCENTRATION

CONCENTRATIONS IN BOLD EXCEED RBSLs

HORIZONTAL GRAPHIC SCALE

40 0 40

(FEET)

VERTICAL GRAPHIC SCALE

20 0 20

(FEET)

GEOLOGIC CROSS SECTION C-C'
FORMER SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Project Mngr: PMH	Terracon	Project No.	73078012
Designed By: PMH		Scale:	AS SHOWN
Checked By: PMH	521 Clemson Road	Date:	4-23-09
Approved By: PMH	Columbia, South Carolina 29229	Drawn By:	PTK
File Name: \73078012.dwg		Figure No.	6

a patented technology

Cool-Ox® Technology is a patented remediation process* designed to treat in-situ as well as ex-situ contaminants found in soils and groundwater. The process combines controlled chemical oxidation (targeting hydrocarbons) with abiotic chemical reduction (targeting halogenated organic compounds). Utilizing the application of a single aqueous based formulation, the hydrocarbons are hydroxylated (oxidized) to form alcohols and/or weak organic acids while halogenated compounds are reduced to carbon dioxide and free halogen ions.

controlled oxidation

destroys hydrocarbons & halogenated organics

produces CO_2 & non-toxic reaction products

produces H_2O_2 in-situ

The process is based upon using hydrogen peroxide as the generator of the oxidizing radicals. However, unlike the Fenton or Fenton like processes that use liquid hydrogen peroxide, *the Cool-Ox® Process generates hydrogen peroxide from solid peroxygens that are injected into the soil or groundwater in an aqueous suspension*. *Once in place, the peroxygens react with water to produce hydrogen peroxide*. This reaction is widely understood.

is not a Fenton look-a-like

In conventional Fenton or Fenton like processes, the liquid hydrogen peroxide reacts with injected iron salts introduced to produce the oxidizing radicals. This reaction is largely uncontrollable and produces excessive amounts of heat. Even where the iron is introduced in a separate injection sequence, the reaction can be dangerously robust. Similarly, other processes that have begun using solid peroxygens with introduced iron salts find it difficult to avoid volatilization of contaminants because of the heat produced. The *Cool-Ox®* Process has eliminated these problems.

H_2O_2 production slow and controlled

longer-lasting

greater radius of influence

greater contact with contaminants

Because most peroxygens are only sparingly soluble in aqueous solutions, their dissolution rate is quite slow. Therefore, once injected they remain in the contaminated media for an extended period of time before they become soluble. ***This low solubility characteristic also allows peroxygens to be hydraulically distributed by the injection equipment thereby, increasing the radius of influence from the injection point.*** This significantly increases the probability of the oxidizer contacting the contaminants. However, ***the greatest distinguishing feature of the Cool-Ox® Process is that it does not require the introduction of iron salts to produce the radicals necessary for chemical oxidation.***

does not use injected catalyst (iron salts)

chelates produce natural catalysts

The *Cool-Ox®* formulations include chelating compounds that activate the intrinsic catalytic metals in the soil matrix being treated. This eliminates the need to artificially introduce iron salts either as a component of the oxidizing reagent or injected sequentially. The use of chelates also imposes a second control factor (the first is the low solubility of the peroxygens) on the reaction rates of the oxidizers. ***These factors allow the oxidation reactions to proceed without producing heat.***

Cool-Ox® does not produce heat

no heat = no volatilization of VOCs

no RCRA metals

leaves no footprints

the only truly "green" process

optimum pH of Cool-Ox® Process is pH=8

will not react with limestone or carbonates in clay

organic compounds exhibiting organic acid characteristics are more soluble in basic solutions thus, are more reactive when treated with the Cool-Ox® Process

most recalcitrant halogens are readily treatable with Cool-Ox®

valuable process for pretreating contaminants to accelerate aerobic biodegradation

Microbial plate counts greatly increased after treatment

Cool-Ox® does not inhibit microbial processes

Therefore, the probability of volatilizing contaminants because of heat generation is eliminated when the *Cool-Ox®* Process is properly employed. This increased control eliminates the risk associated with other oxidizing processes and there are no hazardous metals such as lead, chrome or arsenic in the *Cool-Ox®* formulations. In fact, ***the only artifact remaining after the Cool-Ox® process has completed contaminant mitigation is calcium. Because the calcium from the process is indistinguishable from naturally occurring calcium compounds such as limestone or calcium carbonates, the Cool-Ox® process is the only truly "Green Technology" available to date.***

An additional and extremely important characteristic of the *Cool-Ox®* Process is the pH at which the oxidation reactions proceed. ***Unlike the Fenton or Fenton-Like reactions that require a low (acidic) pH, the optimum pH of the*** *Cool-Ox®* ***Process is slightly basic at around pH 8***. This is critical for treating contaminants found in limestone or soils containing high concentrations of carbonates where a low pH would be buffered toward neutrality. Equally important is the factor that almost all phenolic, chloro-phenolic and chlorinated organic compounds exhibit organic acid characteristics. In general, these compounds become increasingly soluble in aqueous solutions as the pH is increased. Once soluble, they are quite susceptible to oxidation via the *Cool-Ox®* Process. Thus, a broad family of troublesome recalcitrant compounds such as creosotes, PCP, PCBs, PAHs, fuel hydrocarbons, dioxins as well as a host of herbicides and pesticides are treatable using the *Cool-Ox®* Process.

While the primary function of the Technology is the abiotic hydroxylation of organic contaminants, many see the process as a highly effective and valuable precursor to aerobic bioremediation. ***Once hydroxylated (converted to alcohols), contaminants which, prior to treatment with the Cool-Ox® process, were recalcitrant to biodegradation become an abundant carbon source for microbial proliferation***. It is not unusual to observe heterotrophic microbial plate counts which prior to treatment may range in the hundreds or thousands, elevating to millions or tens of millions in samples collected subsequent to a *Cool-Ox®* application. It has also been observed in laboratory studies** that the technology does not inhibit microbial processes or have a detrimental effect on plants.

DeepEarth Technologies, Inc.

**Cool-Ox®* is a trademark of DeepEarth Technologies, Inc. - all rights reserved.
**Laboratory studies are available upon request.
For information contact toll free 877-COOL-OX1 or tech@cool-ox.com

Our Mission

Since day one, we have recognized the value in leaving our earth cleaner than we found it. This goal has been the foundation in the development of our products and services. By applying innovative scientific solutions to real world environmental situations, we offer technology and services that are in unity with nature.

Our sustainable green chemistry and application methods achieve source reduction and elimination of chemical hazards. Our process is less energy and material intensive than any other technology on the market. After active oxidation, we provide every site with the necessary nutrients required to restore and enhance the site's natural microbial population and vegetation.

DeepEarth
Technologies, Inc.

Where Science and Technology Meet



Cool-Ox®

To learn more about us, visit our website!
www.Cool-Ox.com

Contact Us

(877) 266-5691

tech@cool-ox.com

DeepEarth Technologies, Inc.



Cool-Ox®

Environmental Remediation Services & Products

DeepEarth Technologies, Inc. (DTI) is a full-turn key ISCO and ISCR environmental restoration company. We specialize in providing Cool-Ox® technology for cleaning up contaminated soils and groundwater. Cool-Ox® has been awarded fourteen (14) patents in the US, Canada, Europe and Australia.

DeepEarth
Technologies, Inc.

(877) 266-5691

tech@cool-ox.com

About Us

Unlike most ISCO/ISCR companies that simply sell products, DeepEarth Technologies, Inc. is a total turn-key operation service:

- **Proven Patented Oxidation and Reduction Technology**
- **FREE Remedial Designs**
- **Experienced Operations Personnel**
- **Innovative Application Machinery**
- **FREE Post Analytical Analysis**
- **Resulting in: Abbreviated Life Cycle Costing**





Typical Onsite Footprint

- **1-Deep-Shot™ Formulation & Injection Rig**
- **1-26-foot Secure Chemical Storage Truck**
- **2-One-ton Field Service Trucks**
- **1-Track mounted AMS 9520 DPT PowerProbe®**
- **1-32 Foot H/D Flat Bed Transport Trailer**

DeepEarth
Technologies, Inc.

Our Goal is to Reduce Contaminant Concentrations

The *Cool-Ox*® process is designed to eliminate a wide variety of contaminants including petroleum hydrocarbons, chlorinated organics (PCP, PCB, DDT, Dioxins), nitrate explosives (TNT, DNT) and brine. It is especially effective at destroying vapor phase contaminants (HC-VOC, CVOC) impacting various types of soils including clay (ChemHydro-Infusion™). While *Cool-Ox*® is tough on contaminants, it is gentle on vegetation. Because the mechanisms are different, *Cool-Ox*® can eliminate pollutants while actually promoting plant growth.

HYDROCARBONS
- **BTEX**
- **Crude Oil**
- **LNAPL**
- **PHAs**
- **Jet Fuel**
- **Home Heating Oil**

MGP
- **Coal Tar**
- **Creosote**

Brine
- **Petroleum Byproducts**

HALOGENATED ORGANICS
- **Pesticides**
- **Chlorinated Pesticides**
- **Chlorinated Herbicides**
- **Chlorobenzenes**
- **Organophosphates**
  - **-Chlorpyrifos**
  - **-Malathion**
- **Vinyl Chloride (DCE)**
- **Pentachlorophenol (PCP)**
- **PERC**
- **TCE**
- **Non-Aqueous Phase Liquid**
- **DNAPL**
- **PCBs**
- **Dioxins**
- **Agent Orange**





Cool-Ox®

Chemical Reactions

A unique feature of the *Cool-Ox*® process is the development of foam as the reagent reacts with the contaminants. This allows DTI to identify source areas during site application. It is a real-time assessment tool and is utilized in the field application to effectively and efficiently destroy any ongoing contaminant sources.



PATENTED OXIDATION, REDUCTION AND BIOREMEDIATION TECHNOLOGIES

Trusted by Top Environmental Consultants & Responsible Parties to provide Remedial Solutions for:

- Service Stations
- Railroads
- Pipelines
- Agchem Formulators
- Manufactured Gas Plants
- Wood Treating
- Military Bases
- National Parks
- Residential
- Dry Cleaners
- Marine Bulk Terminals
- Under Building Structures
- Sediments
- Mixed Plumes
- Refineries
- Steel Mills

Cool-Ox®

Destroys Hydrocarbons and Halogens Simultaneously

- Eliminates Odor Upon Contact!
- Long Term Oxidation (>90 days)
- Sustained Bioremediation
- Produced Water (Brine) Mitigation
- Application Know-How
- Free Product Destruction
- Aquifer Aeration
- Real-Time Situ Characterization
- Reductive Dechlorination
- Site Closures
- Relief from Environmental Liability
- No Corrosion
- No Heat
- No Pore Clogging
- No Toxic by-products formed with anaerobic dechlorination
  - ▶ DCE – DCA – VC – Methane
- No Long drawn-out bioremediation projects
- No SAR Exacerbation
  - ▶ No Sodium or Potassium

DeepEarth Technologies, Inc.

Application Techniques

DPT Injections



Hydro-Dart™



Soil Blending



Well Injections



Turnkey Services

Specialty Equipment

Personnel Know-How

20 Years in Business

Small Footprint

Strong H&S Culture



Our EMR rating of < 1 validates how engrained 'safety' is in the DTI culture.



Our Clients

We work with many environmental consulting firms and responsible parties. Our goal is to collaborate with project managers to design customized site-specific remedies that help achieve the desired end result. From initial site design to pilot study, full-scale implementation and post analytical review, we maintain strong relationships that serve the needs of our clients.

PHILLIPS 66 · CEC Civil & Environmental Consultants, Inc. · 7-ELEVEN · REPUBLIC SERVICES · TETRA TECH · Chevron · KINDER MORGAN INC. · WPXENERGY · GHD · wood. · AECOM · ERM · DOW · Western Midstream Partners, LP · ENERCON ENERGY FOR THE WORLD · Stantec · US ecology · ATLAS · KLEINFELDER Bright People. Right Solutions. · APEX · ConocoPhillips

DeepEarth Technologies, Inc.

Cool-Ox®

APPENDIX B

UIC Permit Application

Form I UIC	D H E C Underground Injection Control Permit Application Ground-Water Protection Division (Collected under the Authority of Title 48 Chapter I of the 1976 South Carolina Code of Laws)	I. EPA ID NUMBER	T/A	C
		U		

Read attached instructions before starting.

For OfficialUse Only

Application Approved month day year	Date Received month day year	Permit Well Number

Comments

II. Facility Name and Address	III. Owner/Operator and Address
Facility Name: Former Crown Fast Fare SC-015	Owner/OperatorName: Crown Central, LLC C/O QES, Inc.
Street Address: 3800 Devine Street	Street Address: PO Box 44
City: Columbia; State: South Carolina; Zip Code: 29205	City: Bridgewater; State: Vermont; Zip Code: 05034

IV. Ownership Status (Select One)

☐ A. Federal ☐ B. State ☒ C. Private ☐ D. Public ☐ E. Other (Explain)

V. SIC Codes

VI. Well Status (Select A, B or C)

☐ A. Operating | Date Started *(MM/DD/YYYY)* | ☐ B. Modification/Conversion ☒ C. Proposed

VII. Type of Permit Requested - Class and Type of Well (see reverse)

A. Class(es) enter code(s)	B. Type(s) enter code(s)	C. If class is "other" or type is code 'Y', explain	D. Number of Wells per type
V.A	I		

VIII. Location of Wells or Approximate Center of field or Project

C	A. Latitude				B. Longitude			
I	Deg	Min	Sec		Deg	Min	Sec	
	33	59	47.54		-80	59	13.78	

IX. Attachments

Complete the following questions on a separate sheet(s) and number accordingly; see instructions for Classes 11, 111, and V, complete and submit on a separate sheet(s) attachments A-U as appropriate. Attach maps where required. List attachments by letter which are applicable and include with your application.

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

A. Name (Type or Print)	Title	B. Phone No.
Donald Jones, PG (QES)	Hydrogeologist	(410) 841-5552
C. Signature		D. Date Signed (MM/DD/YYYY) 01/31/2023

DHEC2502(08/1997)

UIC Permit Application for Injection Corrective Action Plan
Former Crown Fast Fare SC-015, Columbia, SC
DHEC UST Permit #07680

Attachments to Form 1 UIC (DHEC 2502)

Attachment A: Activity for Review

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to the South Carolina Department of Health and Environmental Control (SCDHEC) in August 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the adjacent Piggly Wiggly supermarket.

Environmental activities at the Site included subsurface assessments, installation of recovery wells and completion of aggressive fluid-vapor recovery (AFVR) events. SCDHEC has developed Site-Specific Target Levels (SSTLs) for several Site monitoring wells and the three recovery wells. The continued presence of light non-aqueous phase liquid (LNAPL) and dissolved hydrocarbon concentrations greater than the SSTLs dictates that an alternative remedial technology be employed to eliminate the LNAPL and reduce groundwater concentrations to below SSTLs. Soil excavation was considered and ultimately rejected due to logistics, the proximity of the impacted area to the existing building and total cost. SCDHEC requested this Injection Corrective Action Plan (CAP) in a December 20, 2022 letter (attached) as the approach is considered a viable and cost-effective alternative to soil excavation or continued sampling and AFVR events.

The LNAPL and highest dissolved hydrocarbon concentrations are present in the area of the two former dispensers. The proposed treatment encompasses the area of greatest impact as delineated by the MW-5 series monitoring wells, MW-21 and the three recovery wells. The approximate treatment area is 2,500 square feet with a continuous treatment depth of 25 feet, which is approximately ten feet below the water table.

The proposed injections will be completed by Deep Earth Technologies, which has developed the patented chemical oxidation injectate *Cool-Ox*®. The injection of *Cool-Ox*® into the subsurface will be completed utilizing direct-push technology (DPT) by a SC-licensed driller, ARM Environmental Services, as directed by Deep Earth personnel. Deep Earth has estimated that the treatment process can be completed with 69 DPT points based on a grid spacing of six feet. Deep Earth estimates that 104 gallons of injectate will be used per DPT point for a total of 7,222 gallons.

The *Cool-Ox*® technology is a patented remediation process designed to treat in-situ contaminants in soil and groundwater. Utilizing the application of a single aqueous based formulation, the hydrocarbons are hydroxylated (oxidized) to form alcohols and/or weak organic acids. The process is based on using hydrogen peroxide as the generator of the oxidizing radicals. Unlike other processes, the *Cool-Ox*® process generates hydrogen peroxide from solid peroxygens that are injected into the soil and groundwater in an aqueous suspension. Once in place, the peroxygens react with water to produce the hydrogen peroxide. A full description of the *Cool-Ox*® process is attached.

The Site is currently vacant. A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Attachment B: Well Construction Details

The injections will be completed during the DPT drilling of the 25-feet deep soil borings. No wells are proposed.

Attachment C: Operating Data

The proposed Injection CAP includes a one-time *Cool-Ox*® injection during the drilling of 69 DPT borings. The treatment area is approximately 2,500 square feet with a total treatment depth of 25 feet at each boring. Deep Earth estimates 104 gallons of *Cool-Ox*® per boring for a total of 7,222 gallons of injectate. The injection treatment process is estimated to take a total of six days. The DPT borings will be properly abandoned by the driller following the injections. There are no chemicals of concern in *Cool-Ox*®.

Attachment D: Monitoring Program

The Site monitoring wells will be gauged and sampled in accordance with the SCDHEC-approved Injection CAP, the SCDHEC Quality Assurance Protocol Plan (QAPP, version 4.0) and the QES SCDHEC-approved Annual Contractor Quality Assurance Plan (ACQAP, version 4.0). The Site monitoring wells will be gauged and sampled one month following the injections and subsequently quarterly until SCDHEC is satisfied that a Conditional No Further Action (CNFA) is warranted.

Attachment E: Existing or Pending State/Federal Permits

SCDHEC UST Permit #07680.

Attachment F: Description of Business

The Site is developed with a former Long's Drugstore building and parking lot. The facility is currently vacant.

Attachment G: Area of Review

Refer to **Figure 1**, **Figure 2A** and **Figure 2B**. The Site and surrounding area are serviced with municipal water supply.

Attachment H: Maps of Wells and Area of Review

The Site monitoring and recovery wells are depicted on **Figure 2B**. The most recent analytical results and potentiometric surface map are included as **Figure 4** and **Figure 5**, respectively. The historical well gauging data and analytical data are presented in **Table 2** and **Table 3**, respectively.

Attachment I: Cross Sections/Diagrams

Drilling logs describing the subsurface lithology for the monitoring wells in the proposed treatment area are attached along with geologic cross-sections and grain size analyses. Slug test results for the shallow perched zone and deeper confined portion of the aquifer area also attached.

Attachment J: Name and Depth of Underground Sources of Drinking Water

There are no know groundwater users in the Site area.

Attachment K: Hydraulic Control

Hydraulic controls are not proposed as there are no injection wells.

APPENDIX C

Limited CAP Response Form

LIMITED CORRECTIVE ACTION PLAN RESPONSE FORM: SC-015, #07680

A. ACCEPTANCE and DELIVERY STATEMENT

The UST Site Rehabilitation Contractor agrees to complete the Injections as specified at the price set forth for the site as stated below.

For the purpose of possible acceptance of financial approval, I certify that this company

- Has reviewed the technical file for the release and understands the nature of the release(s) and the geologic conditions at the site as documented in the technical file. Any quantities listed below are estimates and changes to those quantities or to the listed method(s) will not affect the financial approval amount.
- Has conducted a site visit and understands the physical layout of the property, the location(s) of any identified receptors, and any limitations that may exist on or off property as it may relate to the possible implementation.
- Understands that acceptance is based on total cost to treat the area of concern, as depicted in the Corrective Action Plan (CAP).

Quality Environmental Solutions Inc. 461

UST Site Rehabilitation Contractor (Print) — UST Site Rehabilitation Contractor Certification #

Donald E. Jones

Registered Professional Name (Print) — Registered Professional Signature (required)

P.G. ☒ P.E. ☐ (Check appropriate box) Professional Certification # 2676

For the purpose of possible acceptance of financial approval, I (the UST tank owner) certify that:

- Has discussed the proposed remedial plan with the UST Site Rehabilitation Contractor and agree with the proposal as put forth.
- Understands that costs up to $1 million SUPERB coverage may be utilized and the UST Management Division reserves the right to set aside fund for the purpose of verifying achievement of remedial goals.
- Understands that cost in excess of the $1 million SUPERB coverage are my responsibility as the UST owner.

Annie Smith-Jones

UST Owner (Print) — UST Owner Signature

B. CORRECTIVE ACTION RESPONSE

Please respond to the following questions:

1. Please provide detailed information as to how the proposed treatment technique(s) that will be discussed in the CAP will effectively remove free phase product and/or reduce dissolved concentrations to reach target Site Specific Target Levels. Please include the number of proposed injection points, proposed number of extraction points, proposed volume of excavated material, proposed volume of injected material, etc. Only method(s) and/or technology(ies) that will be implemented on site should be included. See Injection CAP

   · Injection of Cool-Ox® during the completion of 69 direct-push borings to a depth of 25' below surface.

   · Injection area by former dispensers and MWs/PWs with highest dissolved concentrations and LNAPL

   · Abandon borings

   · Two sampling events + reporting post injections

2. The Cost, in whole dollars is $159,279, to treat the area of concern shown in the CAP; prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon and/or remove any remedial components.

3. Please provide how the corrective action costs stated in #2 will be allocated for the corrective action activities discussed in item #1 to include but not limited to, corrective action system planning & installation (including the installation of any remediation wells), system operation & maintenance, expendables (e.g. injectates), sampling/analyses to verify effectiveness of proposed method(s), corrective action system installation, etc. **(See Example Chart Below)** See attached Assessment Component CA & Attached Table.

4. Please provide an estimated timetable for implementation of all proposed techniques discussed in #1. (See Example Chart Below) See Attached Table.

CAP Task	Estimated Cost	Estimated Timeline
Site-Specific Work Plan	$170	Done
DPT Injection Borings Equipment Mobilization	$2,307	45 Days following CAP approval (Day 45)
DPT Injection Borings (69) 1,725 Feet Total	$29,273	Day 51
DPT Injection Borings Abandonment	$6,055	Day 60
QES Injection Oversight 6 Personnel	$2,870	Included Above
Deep Earth Subcontract Cool-Ox Injections	$81,982	Included Above
Sampling Events 2 Events (28 wells)	$19,556	Day 90 to Day 180
Reporting + PM 12% of Total	$17,066	Day 75, Day 120 + Day 210
TOTAL COST ESTIMATE	***$159,279***	***Day 210***

ASSESSMENT COMPONENT COST AGREEMENT
South Carolina
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
July 1, 2022

Healthy People. Healthy Communities.

Facility Name: Former Crown SC-015

UST Permit #: 07680 Cost Agreement #:

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. Plan Preparation					
1.1 Site-Specific Work Plan	1	each	$169.65		$169.65
2.1 Tax Map		each	$79.17		$0.00
3.1 QAPP Contractor Addendum (App B)		each	$250.00		$0.00
B. Survey *					
1. Receptor Survey		each	$623.20		$0.00
C. Survey					
1.1 Comprehensive Survey		each	$1,176.26		$0.00
5. Ground Penetrating Radar Survey (100 x 100)		each	$1,029.23		$0.00
D. Mob/Demob					
1.1 Equipment (DPT - injections + boring abandonment)	2	each	$1,153.64		$2,307.28
2.1 Personnel (Injections + 2 /Sampling Events)	8	each	$478.42		$3,827.36
3.1 Adverse Terrain Vehicle		each	$565.51		$0.00
E. Soil Borings*					
1. Soil Borings (hand auger)		foot	$5.66		$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)*					
1.1 Standard	1,725	per foot	$16.97		$29,273.25
2.1 Fractured Rock		per foot	$21.84		$0.00
G.					
H. Well Abandonment (does not include Field Screening)*					
1.1 2" diameter or less DPT POINTS	1,725	per foot	$3.51		$6,054.75
2.1 Greater than 2" to 6" diameter		per foot	$5.09		$0.00
3.1 Dug/Bored well (up to 6 feet diameter)		per foot	$16.96		$0.00
I. Well Installation (In accordance with R.61-71)*					
1.1 Water Table (hand augered)		per foot	$11.99		$0.00
2.A Water Table (drill rig) 2" Diameter		per foot	$42.98		$0.00
2.1 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$43.46		$0.00
3.1 Telescoping		per foot	$56.55		$0.00
4.1 Rock Drilling		per foot	$65.60		$0.00
5.1 2" Rock Coring		per foot	$34.95		$0.00
6.1 Multi-sampling ports/screens		per foot	$37.78		$0.00
7.1 Recovery Well (4" diameter)		per foot	$50.90		$0.00
9.1 Rotosonic (2" diameter)		per foot	$49.77		$0.00
10.1 Re-develop Existing Well		per foot	$12.44		$0.00
J. Groundwater Sample Collection / Gauging Depth to Water/Product *					
1.1 Groundwater Purge		per well	$67.86		$0.00
2.1 Air or Vapors		sample	$13.57		$0.00
3.1 Water Supply Sample		sample	$24.88		$0.00
4.1 HydraSleeve		sample	$53.00		$0.00

4.2A No-purge Groundwater Sample/Surface water		sample	$31.67		$0.00
5.1 Gauge Well only		sample	$7.92		$0.00
6.1 Sample Below Product		sample	$13.57		$0.00
7.1 Passive Diffusion Bag		sample	$29.40		$0.00
8.1 Field Duplicates (MWs & WSWs) and Field Blanks	8	sample	$27.83		$222.64
9.1 Groundwater (low flow purge) 2 events	56	sample	$102.93		$5,764.08
10.1 Equipment Blank		sample	$27.83		$0.00
11. Sample Product		per well	$48.76		$0.00
K. Laboratory Analyses-Groundwater					
1.1 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D) + 2 TB	66	per sample	$137.98		$9,106.68
2.1 Lead, Filtered		per sample	$15.60		$0.00
3.1 Rush EPA Method 8260B		per sample	$173.72		$0.00
4.1 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$31.67		$0.00
5.1 PAH's		per sample	$68.54		$0.00
6.1 Lead		per sample	$18.09		$0.00
7.1 EDB by EPA 8011	64	per sample	$51.12		$3,271.68
8.1 EDB by EPA Method 8011 Rush		per sample	$77.14		$0.00
9.1 8 RCRA Metals		per sample	$71.71		$0.00
10.1 TPH (9070)		per sample	$46.38		$0.00
11.1 PH		per sample	$5.88		$0.00
12.1 BOD		per sample	$22.62		$0.00
13.1 Ethanol		per sample	$16.74		$0.00
K. Analyses-Drinking Water					
14.1 BTEXNM+1,2 DCA (524.2)		per sample	$140.30		$0.00
15.1 7-OXYGENATES & ETHANOL (8260D)		per sample	$103.77		$0.00
16.1 EDB (504.1)		per sample	$89.92		$0.00
17.1 RCRA METALS (200.8)		per sample	$113.10		$0.00
K. Analyses-Soil					
18.1 BTEX + Naphth.		per sample	$72.39		$0.00
19.1 PAH's		per sample	$72.43		$0.00
20.1 8 RCRA Metals		per sample	$63.79		$0.00
21.1 TPH-DRO (3550C/8015C)		per sample	$45.24		$0.00
22.1 TPH- GRO (5035B/8015C)		per sample	$40.67		$0.00
23.1 Grain size/hydrometer		per sample	$117.63		$0.00
24.1 Total Organic Carbon		per sample	$34.61		$0.00
K. Analyses-Air					
25.1 BTEX + Naphthalene		per sample	$244.30		$0.00
K. Hydrocarbon Fuel Identification					$0.00
27. C3-C44 Whole Oil (ASTM D3328)		per sample	$431.42		$0.00
28. Fuel Oxygenates (1624 Mod)		per sample	$368.88		$0.00
29. ALKYL Leads, EDB MMT (8080)		per sample	$368.88		$0.00
30. C8-C40 Full Scan (ASTM 5739)		per sample	$583.00		$0.00
31. Simulated Distillation (ASTM 2887)		per sample	$368.88		$0.00
32. Parent & Alk. PAH Com. (8270 SIM)		per sample	$670.03		$0.00
33. C3-C10 Piano (8260 MOD)		per sample	$555.44		$0.00
34. C10+Alkane Fingerprints		per sample	$555.44		$0.00
35. Expert Data Interpretation & Report		each	$551.20		$0.00
L. Aquifer Characterization*					
1.1 Pumping Test		per hour	$26.01		$0.00
2.1 Slug Test		per test	$216.03		$0.00
3.1 Fractured Rock		per test	$113.10		$0.00

M. Free Product *					
1. Free Product Recovery Rate Test		each	$42.98		$0.00
N.					
O. Risk Evaluation					
1.1 Tier I Risk Evaluation		each	$339.31		$0.00
2.1 Tier II Risk Evaluation		each	$113.10		$0.00
P. Survey*					
1. Subsequent Survey		each	$275.60		$0.00
Q. Disposal (gallons or tons)*					
1.1 Wastewater	100	gallon	$0.64		$64.00
2.1 Free Product		gallon	$0.56		$0.00
3.1 Soil Treatment/Disposal		ton	$67.86		$0.00
4.1 Drilling fluids		gallon	$0.48		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.1 Southeast Region		standard	$11,687.56		$0.00
2.1 All Other Counties		standard	$12,818.58		$0.00
U. IGWA (Use DHEC 3666 form)					
1.1 Southeast Region		standard	$4,031.18		$0.00
2.1 All Other Counties		standard	$4,370.38		$0.00
V. Active Correction Action (Deep Earth injections)	$81,982	PFP	Bid Cost		$81,982
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.1 8-hour Event*		per event	$1,655.00		$0.00
2. 24-hour Event*		per event	$4,081.28		$0.00
3. 48-hour Event*		per event	$6,706.10		$0.00
4. 96-hour Event*		per event	$13,409.52		$0.00
5. Off-gas Treatment 8 hour		per event	$130.71		$0.00
6.1 Off-gas Treatment 24 hour		per event	$272.50		$0.00
7.1 Off-gas Treatment 48 hour		per event	$357.50		$0.00
8. Off-gas Treatment 96 hour		per event	$832.26		$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$430.00		$0.00
10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$500.00		$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,000.00		$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,000.00		$0.00
13.1 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.59		$0.00
14.1 AFVR Site Reconnaissance		each	$280.00		$0.00
15. Additional Hook-ups		each	$27.48		$0.00
16.1 AFVR Effluent Disposal		gallon	$0.49		$0.00
17.1 AFVR Mobilization/Demobilization		each	$720.00		$0.00
18. Mobilization for absorbents/skimmers		each	$531.25		$0.00
19. Well sock 2" ID well		each	$34.20		$0.00
20. Well sock 4" ID well		each	$45.40		$0.00
21. pad (per pad)		each	$46.25		$0.00
22. 3" diameter x 10' length boom		each	$100.00		$0.00
23. 5" diameter x 10' length boom		each	$123.00		$0.00
24. New FPP recovery skimmer (2" wells)		each	$732.50		$0.00
25. New FPP recovery skimmer (4" wells)		each	$1,155.00		$0.00
26. Refurbished FPP recovery skimmer (2" or 4" wells)		each	$704.00		$0.00

27. Disposal of Absorbents		pound	$3.80		$0.00
28. Disposal of product from skimmers		gallon	$0.46		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.1 New GAC System Installation*		each	$2,148.94		$0.00
2.1 Refurbished GAC Sys. Install*		each	$1,017.92		$0.00
3.1 Filter replacement/removal*		each	$395.86		$0.00
4.1 GAC System removal, cleaning, & refurbishment*		each	$311.04		$0.00
5.1 GAC System housing*		each	$282.76		$0.00
6.1 In-line particulate filter		each	$169.65		$0.00
7.1 Additional piping & fittings		foot	$1.70		$0.00
Y. Well Repair					
1.1 Additional Copies of the Report Delivered	3	each	$56.55		$169.65
2.1 Repair 2x2 MW pad*		each	$56.55		$0.00
3.1 Repair 4x4 MW pad*		each	$99.53		$0.00
4.1 Replace well vault*		each	$133.46		$0.00
5.1 Replace well cover bolts		each	$2.94		$0.00
6.1 Replace locking well cap & lock		each	$16.96		$0.00
7.1 Replace/Repair stick-up*		each	$151.56		$0.00
8.1 Convert Flush-mount to Stick-up*		each	$169.65		$0.00
9.1 Convert Stick-up to Flush-mount*		each	$147.03		$0.00
10.1 Replace missing/illegible well ID plate		each	$13.57		$0.00
11. Down-hole Camera		per foot	$27.08		$0.00
Z. High Resolution Site Characterization					
1. HRSC Screening Equipment Mobilization		each	$1,360.00		$0.00
2. HRSC Drilling Category 1		per foot	$29.00		$0.00
3. HRSC Drilling Category 2		per foot	$33.50		$0.00
4. HRSC Drilling Category 3		per foot	$27.00		$0.00
5. HRSC 3-D Model		each	$4,040.00		$0.00
S. Report Prep & Project Management	12%	percent	$142,213.02		$17,065.56
TOTAL					$159,278.58

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PUBLIC NOTICE
Notice #07680
September 12, 2023

This notice is to inform the public that the South Carolina Department of Health and Environmental Control (DHEC) is taking public comments on a Corrective Action Plan (CAP). This CAP addresses the cleanup of soil and groundwater contamination at the facility listed below. The contamination was caused by petroleum products that were released from underground storage tank system at this facility.

FACILITY: **SC015, 3800 Devine St., Columbia, SC 29205**

APPLICANT: **Crown Central LLC, 100 Light St., 25th Floor, Baltimore, MD, 21202**

SUMMARY OF CAP:
Petroleum and petroleum byproducts naturally break down over time through chemical, physical, and biological processes. These processes are called natural attenuation. Quality Environmental Solutions, Inc has submitted a CAP proposing the use of the following technology(ies) in addition to natural attenuation to clean up the contamination.

- **Injection: An aqueous solution is injected to combine controlled chemical oxidation and abiotic chemical reduction to breakdown petroleum constituents in the subsurface.**

PUBLIC COMMENT PERIOD DEADLINE: The **deadline** for submitting written comments is **5 PM September 27, 2023.** Any interested person(s) may submit written comments concerning the cleanup to the Project Manager listed below. Please bring this notice to the attention of persons whom you know will be interested in this matter. Where there is a significant degree of public interest, DHEC will hold a public meeting.

Matt Wykel, Hydrogeologist
Underground Storage Tank Management Division
S.C. Dept. of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 898-7705

CONTACT INFORMATION: For additional information, please call the Project Manager listed above. To view a copy of the CAP, contact the Freedom of Information Office at 803-898-3882 or view it online at http://www.scdhec.gov/Apps/Environment/PublicNotices.

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any CAP prepared to meet the requirements of 280.66 be placed on notice for public comment.

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SEP 13 2023

CROWN CENTRAL LLC
100 LIGHT ST 25TH FLOOR
BALTIMORE MD 21202

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Corrective Action Plan received February 7, 2023
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. The above referenced release of petroleum products has been identified in the soil and/or groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and/or groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The contractor is required to coordinate all activities with the affected property owners. Your continued cooperation is appreciated.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wyjeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Leonardo Brown, Richland County Administrator, PO Box 192, Columbia, SC 29204 (w/ enc)
Quality Environmental Solutions, Inc., PO Box 44, Bridgewater, VT 05034 (w/ enc)
Technical File (w/o enc)

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SEP 13 2023

NIGGEL FAMILY PARTNERSHIP
PO BOX 6573
COLUMBIA SC 29260

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Corrective Action Plan received February 7, 2023
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. The above referenced release of petroleum products has been identified in the soil and/or groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and/or groundwater using chemical injections in addition to natural attenuation.

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Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

dhec
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SEP 13 2023

NIGGEL FAMILY PARTNERSHIP
PO BOX 6573
COLUMBIA SC 29260

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13807-03-02 and R13807-03-31, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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DUNBAR FUNERAL HOME
PO BOX 1808
COLUMBIA SC 29202

SEP 13 2023

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcel R13807-03-03, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

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Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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ST JOSEPH CHURCH AND SCHOOL
3600 DEVINE STREET
COLUMBIA SC 29205

SEP 13 2023

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcel R13808-11-01, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

Matt Wykel

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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SEP 13 2023

3722 DEVINE STREET HOLDINGS LLC
3722 DEVINE STREET
COLUMBIA SC 29205

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13808-11-03, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

dhec
Healthy People. Healthy Communities.

SEP 13 2023

MARSHALL MICHAEL LUMPKIN
21 HEATHWOOD CIRCLE
COLUMBIA SC 29205

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13808-04-02, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

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Sincerely,

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

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Community Guide

cc: Technical File (w/o enc)

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SEP 13 2023

ROSSI ANN MARIE TRUSTEE C/O THERESA BOYLE
712 VILLAGGIO DRIVE
GREENVILLE SC 29609

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcel R13807-02-11, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

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Community Guide

cc: Technical File (w/o enc)

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REGINA K MONTEITH TRUSTEE
530 KILBOURNE RD
COLUMBIA SC 29205

SEP 13 2023

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13807-03-30 and R13807-02-10, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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SEP 13 2023

JAMES MERRIT PENINGTON
3727 COLEMAN ST
COLUMBIA SC 29205

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcel R13807-02-12, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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HOLLY P CARLISLE
5717 LAKESHORE DRIVE
COLUMBIA SC 29205

SEP 13 2023

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcel R13807-02-09, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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SEP 13 2023

KEVIN SHEALY
3723 COLEMAN STREET
COLUMBIA SC 29205

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13807-02-25, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

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SEP 13 2023

JAN ALEXANDRA ROWE
3807 BLOOMWOOD ROAD
COLUMBIA SC 29205

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13807-03-35, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

dhec
Healthy People. Healthy Communities.

JOSEPH AND JODI WATSON
3811 BLOOMWOOD ROAD
COLUMBIA SC 29205

SEP 13 2023

Re: **Public Notice of Proposed Active Corrective Action**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680
Release reported August 15, 1989
Richland County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) is reviewing a proposed a corrective action plan (CAP) at the referenced facility. According to the Richland County Tax Assessors Office, you own parcels R13807-03-33, adjacent to the referenced facility.

The above referenced release of petroleum products has been identified in the soil and groundwater. Quality Environmental Solutions, Inc. (contractor) has submitted a CAP to initiate corrective action of the impacted soil and groundwater using chemical injections in addition to natural attenuation.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the South Carolina Department of Health and Environmental Control to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the CAP has been sent to you. Please contact me if you do not receive it. The CAP can also be viewed online at www.scdhec.gov/Apps/Environment/PublicNotices.

Should you have any questions or comments regarding the proposed corrective action, please contact me at (803) 898-7705 or wykeljm@dhec.sc.gov. All comments should be submitted on or before September 27, 2023.

Sincerely,

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

enc: Public Notice
Community Guide

cc: Technical File (w/o enc)

dhec
Healthy People. Healthy Communities.



CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT ST 25TH FLOOR
BALTIMORE MARYLAND 21202

OCT 16 2023

Re: **Injection Notice to Proceed**
SC-015, 3800 Devine Street, Columbia, SC
UST Permit #07680; CA#67766; UMW-29569
Release reported August 15, 1989
Corrective Action Plan received February 7, 2023
Public Notice Completed September 27, 2023
Richland County

Dear Carol Boemmel:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the Corrective Action Plan (CAP) submitted by your contractor. All work should be conducted in compliance with the most recent revision of the UST QAPP, your contractor's Anual Contractor Quality Assurance Plan, and all applicable regulations. A copy of the UST QAPP is available at SCDHEC.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance.

Pursuant to S.C. Code Ann. Section 44-2-40(D), "The SUPERB Account and the SUPERB Financial Responsibility Fund shall provide combined coverage for site rehabilitation and third-party claims, respectively, not to exceed one million dollars per occurrence". According to UST Division records, approximately $384,031.83 has been expended from the SUPERB Account to date. This scope of work, as recommended by your contractor, is anticipated to cost approximately $159,278.58.

As required by Section 280.67 of the South Carolina Underground Storage Tank Regulations R.61-92, the UST Division has provided a public notice, including notice of the pending corrective actions to the surrounding landowners. No objections to the proposed actions were expressed; implementation of the CAP may proceed. The monitoring well approval for the injection wells has been enclosed. The corrective action activities may not begin until the proper UIC Permits have been issued.

The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.

You can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Injection Report, contractor Checklist (QAPP Appendix K), and invoice should be submitted to the UST Division on or before,** May 4, 2024**.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

The final Injection Report should include a narrative portion describing the injection activities and include photographs of field work, a scaled site map showing the locations of buildings, roads, monitoring wells, the former UST system, utilities, and the injection area superimposed, pre-injection and post-injection secondary parameter test results, a copy of the SCDHEC approval letter, well installation logs, copies of all applicable permit approvals, a signature and seal by a professional engineer or professional geologist registered in the State of South Carolina.

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

Please note 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 the SUPERB Site Rehabilitation and Fund Access Regulation, R.61-98.

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

If the report cannot be submitted by the required due date, an extension may be requested by submitting a written request, either via postal mail or email, to my attention prior to the due date. The Department will issue a Notice of Alleged Violation if the report is not submitted by the required due date.

On all correspondence concerning this site, please reference UST Permit #07680. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-7705, by fax at (803) 898-0673, or by e-mail at wykeljm@dhec.sc.gov.

Sincerely,

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

enc: Approved Cost Agreement
Monitoring Well Approval Form

cc: QES, PO Box 44, Bridgewater, Vt 05034(w/enc.)
Quincy Hoffer, UST Management Division (w/enc.)
Technical file (w/enc.)

Healthy People. Healthy Communities.

Monitoring Well Approval

Approval is granted to: QES
On behalf of: Crown Central, LLC
Facility: SC-015, 3800 Devine St., Columbia, SC
UST Permit: #07680
County: Richland

This approval is for the installation of 69 temporary injection 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 UST Division shall be completed and submitted to the UST Division within 30 days after well completion or abandonment unless another schedule has been approved by the UST 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 UST Division within 30 days of receipt of laboratory results unless another schedule has been approved by the UST Division as required by R.61-71.H.1.d.
5. If any of the information provided to the UST Division changes, notification to Matt Wykel, the project manager (phone: (803) 898-7705 or email: wykeljm@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. UST 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: October 5, 2023 **Approval #: UMW-29569**

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

Approved Cost Agreement 67766

Facility: 07680 SC015
WYKELJM
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
A PLAN PREPARATION						
		1.1	SITE SPECIFIC WORK PLAN	1.0000	$169.650	169.65
D MOB/DEMOB						
		1.1	EQUIPMENT	2.0000	$1,153.640	2,307.28
		2.1	PERSONNEL	8.0000	$478.420	3,827.36
F SOIL BORINGS (DRILLED)						
		1.1	SOIL BORING/FLD SCR. STANDARD	1,725.0000	$16.970	29,273.25
H ABANDONMENT						
		1.1	ABANDONMENT 2" DIA OR LESS	1,725.0000	$3.510	6,054.75
J SAMPLE COLLECTION						
		8.1	FIELD DUPL. (MWS & WSWS) & FB	8.0000	$27.830	222.64
		9.1	GROUNDWATER (LOW FLOW PURGE)	56.0000	$102.930	5,764.08
K ANALYSES	GW GROUNDWATER					
		1.1	BTEXNM+OXYGS+1,2 DCA+ETH-8260D	66.0000	$137.980	9,106.68
		7.1	EDB BY EPA 8011	64.0000	$51.120	3,271.68
Q DISPOSAL						
		1.1	WASTEWATER	100.0000	$0.640	64.00
R MISCELLANEOUS						
			DEEP EARTH INJECTIONS	1.0000	$81,982.000	81,982.00
S REPORT PROJECT MANAGEMENT						
		S	REPORT PREP & PROJ. MANAGEMENT	0.1200	**********	17,065.56
Y WELL REPAIR						
		1.1	ADDITIONAL COPIES OF REPORT	3.0000	$56.550	169.65
				Total Amount		159,278.58

RECEIVED
JAN 26 2024
UST DIVISION
UST 123T DOCKETING

QES
Quality Environmental Solutions, Inc.
Mailing Address: PO Box 44, Bridgewater, VT 05034

January 18, 2024

Mr. Matt Wykel, Hydrogeologist
South Carolina Department of Health & Environmental Control
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: ***Injection Corrective Action Plan (ICAP) Progress Report***
Former Crown Fast Fare SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to submit this *Injection Corrective Action Plan (ICAP) Progress Report* for the above-listed facility ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently a vacant former Long's Drugstore; the USTs associated with the former Crown service station were removed in July 1991.

QES submitted the ICAP to SCDHEC on January 31, 2023. QES and the SCDHEC Project Manager previously agreed that continued aggressive fluid-vapor recovery (AFVR) events was not proving to be a cost-effective remedial alternative. As an alternative, QES evaluated the possibility of impacted soil over-excavation and determined that this approach was not feasible due to possible damage to the existing structure as the impacted area is close to the building, asphalt and concrete restoration costs and the overall project cost. The ICAP included a cost estimate for injection of reagents to effectively destroy the light non-aqueous phase liquid (LNAPL), the residual hydrocarbons in the smear zone and reduce dissolved hydrocarbon concentrations to levels below the Site-Specific Target Levels (SSTLs).

QES received a Notice to Proceed (NTP) for the ICAP implementation dated October 16, 2023. This *ICAP Progress Report* summarizes the status of this project through January 10, 2024.

Prior to field activities, QES secured an Underground Injection Control (UIC) Permit to Construct and Permit to Operate (UIC Permit # SCHE000031 and # SCHE000031 v2, respectively).

Injection field activities were completed from December 11 to 18, 2023 (six days onsite). QES personnel were onsite each day for project coordination with the property owners and subcontractor oversight. ARM Environmental Services (ARM) provided the drilling services and Deep Earth Technologies, Inc. (DTI) provided the injection services with their proprietary reagent *Cool-Ox©*.

The target area monitoring wells were gauged prior to injections and LNAPL was detected in MW-5R (0.48'), RW-2 (0.44') and RW-3 (0.38'), consistent with previous observations.

A total of 69 injection points were drilled utilizing direct-push technology with no soil cuttings generated. The *Cool-Ox©* reagent was continuously injected into each boring at 2.5 feet intervals from 12.5 to 25 feet below the ground surface (bgs). Following the injections at each boring, drilling flights were removed and the boring was properly abandoned with bentonite.

A total of 7,521 gallons of *Cool-Ox*© reagent was injected into the 69 borings. The presence of surface foam is indicative of active reactions occurring between hydrocarbons and the reagent. Surface foam was observed coming from MW-5R, RW-1, RW-2 and RW-3, as well as through various cracks in the payment at the ground surface. This indicates that there was saturation of the *Cool-Ox*© reagent throughout the target area.

The DTI report detailing the work completed is attached. Their report includes day-by-day summaries of work completed as well as accompanying photographs and a Site map. In addition, the water well record provided by ARM is also attached (SCDHEC Form 1903).

In accordance with the approved ICAP schedule, QES will complete a full round of post-injection sampling, which is scheduled to be completed the week of January 22, 2024. A subsequent sampling event is scheduled to be completed approximately three months following the January sampling event.

Please contact the undersigned at 410-841-5552 with any questions or comments.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
Ms. Sarah Spiceland – WHLR Properties (sspiceland@whlr.us)

QES File: 201-189-SC-015

DeepEarth Technologies, Inc.
(708) 396-0100
tech@cool-ox.com

A Report for the Application of
Cool-Ox®
Controlled In-Situ Chemical Oxidation & Reduction Technology



Prepared for
Donald E. Jones, C.P.G.
Quality Environmental Solutions, Inc.
PO Box 44
Bridgewater, VT 05034

Project
Former Crown SC-015
3800 Devine Street
Columbia. SC
DTI Project #2696

January 8th, 2024

This report is a copyright of DeepEarth Technologies, Inc – All rights reserved

Client: Quality Environmental Solutions, Inc.
Attn: Donald E. Jones, C.P.G.
Site: Former Crown SC-015

Introduction:

DeepEarth Technologies, Inc. (DTI) had been invited by Quality Environmental Solutions, Inc. to implement the remedial program to treat LNAPL contamination in the soil and groundwater at the Former Crown SC-015 located in Columbia, SC.

Proposed Application:

It is the goal of this project to use *Cool-Ox®* reagent to treat the target pollutants and reduce concentrations to the maximum extent possible. The estimated work scope of the project consisted of injecting up to 7,222 gallons of *Cool-Ox®* reagent into 69 injection point (IP) locations via Direct Push Technology (DPT) and DTI's *Deep-Shot™* trailer. A vertical treatment interval of 12 to 25 ft.-bgs was discussed and agreed upon.

Application:

On 12/11/23, DTI mobilized to the site to conduct a survey of the treatment areas and to coordinate on-site application activities. DTI personnel met with Quality Environmental Solutions, Inc. representatives and held a Site-Specific Health and Safety (SSH&S) meeting, wherein all points concerning general and specific safety requirements of the client and DTI were discussed and understood. DTI then moved injection equipment into position and received a shipment of *Cool-Ox®* amendments. DTI then marked out possible injection locations using white paint. DTI was able to apply 436 gallons of *Cool-Ox®* into 4 locations. Please see attached logs for more specific injection point information. Each location was sealed with bentonite.

On 12/12/23, DTI returned to the site and continued the application of *Cool-Ox®*. DTI was able to apply 1,308 gallons of reagent into 12 locations. Some foam reactions with surfacing fluid were noted. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/13/23, DTI returned to the site and continued with the *Cool-Ox®* application. DTI was able to apply 1,962 gallons of reagent into 18 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/14/23, DTI returned to the site and continued with the *Cool-Ox®* application. DTI was able to apply 1,635 gallons of reagent into 15 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/15/23, DTI returned to the site and continued with the *Cool-Ox®* application. DTI was able to apply 872 gallons of reagent into 8 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/18/23, DTI returned to the site and continued with the *Cool-Ox®* application. DTI was able to apply 1,308 gallons of reagent into 12 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

Conclusion:

A total of 7,521 gallons of *Cool-Ox®* reagent was applied to 69 locations. A vertical treatment interval of 12-15 ft. was maintained, and good reactions with foam were noted along with communication with wells that were near injection locations. All locations were sealed with bentonite and resurfaced with concrete or asphalt. The site was restored as close to its original condition as possible. For more detailed explanations on each Injection location please see attached batch logs.

DTI believes that in the treatment area, significant reductions of contaminants in the soil and groundwater will be accomplished. DTI believes that the subsequent biological activity associated with all *Cool-Ox®* injections will produce on-going remedial activity. DTI's Site Safety program was implemented at the onset of operations, and no reportable incidents were suffered.

DTI would like to thank Quality Environmental Solutions, Inc. for choosing the *Cool-Ox®* Technology to remediate the Former Crown SC-015. Should you have any questions or comments, please call or email via the information below.

Sincerely,

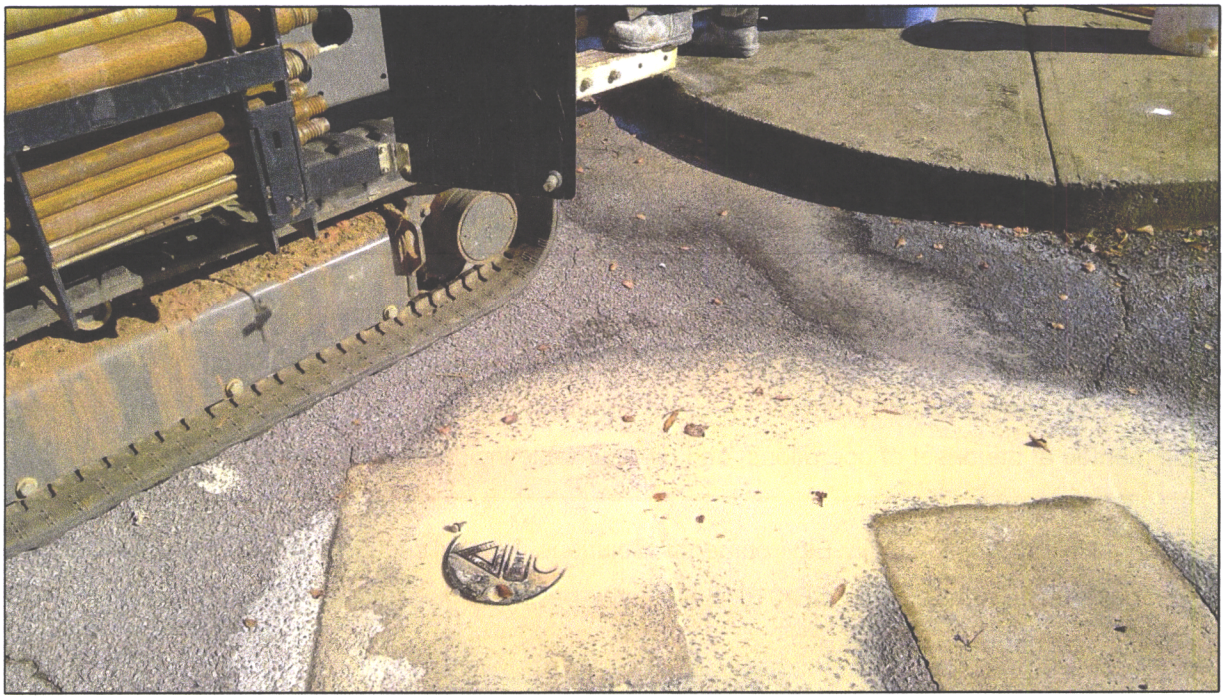
James Gainey
Operations Manager
DeepEarth Technologies, Inc.

Direct: 770-547-5335
james@cool-ox.com

DeepEarth Technologies, Inc.
(708) 396-0100
tech@cool-ox.com

Photos:





DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	Quality Environmental Solutions, Inc.	**Date:**	12/11/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	Former Crown SC-015	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/11/2023	A2	1320	1357	12	25	1	109	6	0	300	Drill broke,pumped at 16'
	A4	1513	1543	12	25	1	109	6	0	300	
	A6	1547	1620	12	25	1	109	7	0	300	
	A8	1627	1658	12	25	1	109	7	0	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/12/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/12/2023	C1	848	917	12	25	1	109	6	0	300	Daylight between asphalt and sidewalk
	C3	921	946	12	25	1	109	7	0	300	
	C5	951	1042	12	25	1	109	7	0	300	clogged injection rod, very strong odor
	C7	1049	1121	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	C9	1129	1151	12	25	1	109	7	0	300	very strong odor
	E2	1157	1228	12	25	1	109	7	0	300	very strong odor
	E4	1306	1335	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	E6	1341	1415	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	E8	1422	1458	12	25	1	109	7	0	300	
	G2	1507	1527	12	25	1	109	7	0	300	
	G4	1529	1556	12	25	1	109	7	0	300	
	G6	1600	1630	12	25	1	109	7	0	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	Quality Environmental Solutions, Inc.	**Date:**	12/13/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	Former Crown SC-015	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/13/2023	H3	845	913	12	25	1	109	7	8	300	daylight out of DW-1@ 12'
	H5	917	936	12	25	1	109	7	8	300	very strong odor, hot reaction,west side of grid
	H7	941	1002	12	25	1	109	7	8	300	
	B2	1008	1030	12	25	1	109	7	8	300	daylight RW-1 at 15'
	B4	1033	1055	12	25	1	109	7	8	300	
	B6	1107	1124	12	25	1	109	7	8	300	
	B8	1128	1144	12	25	1	109	7	8	300	
	D5	1148	1209	12	25	1	109	7	8	300	verystrong odor daylight from RW-2@20'
	D7	1244	1309	12	25	1	109	7	8	300	
	D9	1312	1332	12	25	1	109	7	8	300	
	F3	1337	1356	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@20'
	F5	1401	1419	12	25	1	109	7	8	300	
	F7	1423	1441	12	25	1	109	7	8	300	
	F9	1447	1509	12	25	1	109	7	8	300	
	H4	1512	1532	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@12'
	H6	1540	1557	12	25	1	109	7	8	300	
	F4	1602	1623	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@22'
	F6	1627	1646	12	25	1	109	7	8	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	Quality Environmental Solutions, Inc.	**Date:**	12/14/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	Former Crown SC-015	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/14/2023	G5	847	911	12	25	1	109	7	8	300	
	G7	915	937	12	25	1	109	7	8	300	
	G9	940	1015	12	25	1	109	7	8	300	drive cap broke for the probe
	F8	1026	1050	12	25	1	109	7	8	300	
	E5	1101	1134	12	25	1	109	7	8	300	Daylight through asphalt crack 10' sout of IP
	E7	1140	1210	12	25	1	109	7	8	300	
	E9	1250	1316	12	25	1	109	7	8	300	
	E8	1319	1344	12	25	1	109	7	8	300	
	E6	1348	1410	12	25	1	109	7	8	300	Daylight in well RW-2@20' also through asphalt crack 12' south
	C2	1414	1434	12	25	1	109	7	8	300	Daylight out of RW-1
	C4	1437	1455	12	25	1	109	7	8	300	Very reactive,very strong odor
	C6	1458	1455	12	25	1	109	7	8	300	
	C8	1522	1545	12	25	1	109	7	8	300	Daylight from RW-2 16' Away@21' depth
	B9	1550	1612	12	25	1	109	7	8	300	
	B7	1617	147	12	25	1	109	7	8	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	Quality Environmental Solutions, Inc.	**Date:**	12/15/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	Former Crown SC-015	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/15/2023	A1	907	926	12	25	1	109	7	8	300	
	B1	931	948	12	25	1	109	7	8	300	
	C1	952	1010	12	25	1	109	7	8	300	
	D1	1015	1037	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D2	1040	1056	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D3	1101	1122	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D4	1125	1143	12	25	1	109	7	8	300	Daylight between asphault and sidewalk, very strong odor
	E1	1146	1208	12	25	1	109	7	8	300	
											Hired driller had christmas party
					TOTAL:	8	872				

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	Quality Environmental Solutions, Inc.	**Date:**	12/18/2023
Office:	Bridgewater, VT	**Client Personnel:**	
Site:	Former Crown SC-015	**DTI Operations Manager:**	James Gainey
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry
Estimated Work Days:	6		

DTI Project #:	2696	**QUOTE:**	**Area (sft):**	**Vertical (ft. bgl):**	**Cubic Yards**	**IP Spacing (ft.)**	**Est. Total Gals**	**Gal/cy**
Client Project #:			**2,500**	**12 to 25**	**1,204**	**6**	**7,222**	**6**
Subcontract #:								

No. of IP's	**Estimated IP's/Day**
69	**12**

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/18/2023	A3	853	920	12	25	1	109	7	8	300	
	B3	924	944	12	25	1	109	7	8	300	
	E4/4	948	1009	12	25	1	109	7	8	300	Daylight where asphault meets sidewalk 5' away
	I3	1013	1033	12	25	1	109	7	8	300	
	I2	1044	1054	12	25	1	109	7	8	300	
	I1	1057	1118	12	25	1	109	7	8	300	
	H2	1122	1140	12	25	1	109	7	8	300	
	G3	1147	1208	12	25	1	109	7	8	300	
	F2	1214	1233	12	25	1	109	7	8	300	
	F1	1318	1336	12	25	1	109	7	8	300	
	G1	1340	1355	12	25	1	109	7	8	300	
	H1	1401	1425	12	25	1	109	7	8	300	

DW-1	
E	0.67
N	2.4
X	4.4

TAA	5500
T	46000
X	18000

DeepEarth Technologies, Inc.

Treatment Area

- 69 IPs | 2,500 ft²
- VTI: 12 to 25 ft-bgs
- IP injected twice

Cool-Ox®

94

4.9

GRAS

MW-

RW-3

MW-5D

DW-1

MW-5DD

DW-1

MW-5DD

PAVEMENT

FORMER FUEL DISPENSERS

MW-5R

RW-2

MW-21

PAVEMENT

MW-15R

MW-15R

MW-21

RW-1

CONCRETE

MW-7R

MW-15

MW-7R

MW-7

CONCRETE

WALL

LONGS DRUGSTORE

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Crown Central LLC (last) (first)
Address: P.O. Box 44
City: Bridgewater State: VT Zip: 05034
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Richland
Name: Former Crown SC-015
Street Address: 3800 Devine Street
City: Columbia Zip: 29205
Latitude: N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 25.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Temporary Injection Points: IP-1 through IP-69

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☑ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UIC Permit # SCHE000031

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 12/11/23
25.0 ft. Date Completed: 12/18/23

10. CASING: ☑ Threaded ☐ Welded
Diam.: 1.5"
Type: ☐ PVC ☐ Galvanized ☑ Steel ☐ Other
1.5 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface 0.0' ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: steel injection probe Diam.: 1.5"
Slot/Gauge: 1/4" ports Length: 1.0
Set Between: 12.0 ft. and 25.0 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 _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 25.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☑ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☑
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David (Cody) Felder **CERT. NO.:** 2162
Address: (Print) Level: A B C D ✓ (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.: 803-783-3314 Fax No.: 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 1/5/24
Well Driller

If D Level Driller, provide supervising driller's name:
Andrew M. Wilson, PG, cert. #1356

SC-015 UST #07680 CA Addendum

Austin Smith-Jones <austin@qualityenvironmental.net>

Thu 5/9/2024 4:57 PM

To:Wykel, Matt <wykeljm@dhec.sc.gov>
Cc:djones@qualityenvironmental.net <djones@qualityenvironmental.net>



1 attachments (76 KB)

SC-015 Injection Addendum.pdf;

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

Matt,

Please see the attached addendum. All the changes ended up subtracting $6.99 from the previous CA. The changes are summarized as:
-Increase 2 personnels. We had originally done 8 but miscounted. 1 personnel for each day onsite during injection activities (6 days) and then 2 for each subsequent sampling event (2 events).
-Add 20 no-purge Samples and decrease 28 low-flow purge samples.
-Add 8 gauge well only. Several monitoring wells were gauged but had insufficient water to sample (5 first event and 3 second event).
-Decrease 6 BTEX analyses and 8 EDB analyses.
-Decrease 67.25 gallons of wastewater

Let me know if you have any questions with this. We just received the results from the second sampling event - you can expect a report in the next week or two. Thank you,

--
Austin Smith-Jones
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
www.qesweb.com

ASSESSMENT COMPONENT COST AGREEMENT

South Carolina
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
July 1, 2022

dhec
Healthy People. Healthy Communities.

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:** 67766

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
A. Plan Preparation				
1.1 Site-specific Work Plan		each	$169.65	$0.00
2.1 Tax Map		each	$79.17	$0.00
3.1 QAPP Contractor Addendum (App B)		each	$250.00	$0.00
B. Survey *				
1. Receptor Survey		each	$623.20	$0.00
C. Survey				
1.1 Comprehensive Survey		each	$1,176.26	$0.00
5. Ground Penetrating Radar Survey (100 x 100)		each	$1,029.23	$0.00
D. Mob/Demob				
1.1 Equipment		each	$1,153.64	$0.00
2.1 Personnel	2	each	$478.42	$956.84
3.1 Adverse Terrain Vehicle		each	$565.51	$0.00
E. Soil Borings*				
1. Soil Borings (hand auger)		foot	$5.66	$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)*				
1.1 Standard		per foot	$16.97	$0.00
2.1 Fractured Rock		per foot	$21.84	$0.00
G.				
H. Well Abandonment (does not include Field Screening)*				
1.1 2" diameter or less		per foot	$3.51	$0.00
2.1 Greater than 2" to 6" diameter		per foot	$5.09	$0.00
3.1 Dug/Bored well (up to 6 feet diameter)		per foot	$16.96	$0.00
I. Well Installation (In accordance with R.61-71)*				
1.1 Water Table (hand augered)		per foot	$11.99	$0.00
2.A Water Table (drill rig) 2" Diameter		per foot	$42.98	$0.00
2.1 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$43.46	$0.00
3.1 Telescoping		per foot	$56.55	$0.00
4.1 Rock Drilling		per foot	$65.60	$0.00
5.1 2" Rock Coring		per foot	$34.95	$0.00
6.1 Multi-sampling ports/screens		per foot	$37.78	$0.00
7.1 Recovery Well (4" diameter)		per foot	$50.90	$0.00
9.1 Rotosonic (2" diameter)		per foot	$49.77	$0.00
10.1 Re-develop Existing Well		per foot	$12.44	$0.00
J. Groundwater Sample Collection / Gauging Depth to Water/Product *				
1.1 Groundwater Purge		per well	$67.86	$0.00
2.1 Air or Vapors		sample	$13.57	$0.00
3.1 Water Supply Sample		sample	$24.88	$0.00
4.1 HydraSleeve		sample	$53.00	$0.00
4.2A No-purge Groundwater Sample/Surface water	20	sample	$31.67	$633.40
5.1 Gauge Well only	8	sample	$7.92	$63.36
6.1 Sample Below Product	-28	sample	$13.57	($379.96)
7.1 Passive Diffusion Bag		sample	$29.40	$0.00
8.1 Field Duplicates (MWs & WSWs) and Field Blanks		sample	$27.83	$0.00
9.1 Groundwater (low flow purge)		sample	$102.93	$0.00
10.1 Equipment Blank		sample	$27.83	$0.00
11. Sample Product		per well	$48.76	$0.00
K. Laboratory Analyses-Groundwater				
1.1 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	-6	per sample	$137.98	($827.88)
2.1 Lead, Filtered		per sample	$15.60	$0.00
3.1 Rush EPA Method 8260B		per sample	$173.72	$0.00
4.1 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$31.67	$0.00
5.1 PAH's		per sample	$68.54	$0.00
6.1 Lead		per sample	$18.09	$0.00

Addendum

Previously Approved:	$159,278.58
Increase:	($6.99)
New Approved Total:	$159,271.59
Project Manager:	
Section Manager:	
Finance:	
Date:	5/15/24 ~~5/9/2024~~

# of pages ___	
	From:
	UST/SCDHEC
fax # ( )	
Phone # ( )	

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria.

7.1 EDB by EPA 8011	-8	per sample	$51.12		($408.96)
8.1 EDB by EPA Method 8011 Rush		per sample	$77.14		$0.00
9.1 8 RCRA Metals		per sample	$71.71		$0.00
10.1 TPH (9070)		per sample	$46.38		$0.00
11.1 PH		per sample	$5.88		$0.00
12.1 BOD		per sample	$22.62		$0.00
13.1 Ethanol		per sample	$16.74		$0.00
K. Analyses-Drinking Water					
14.1 BTEXNM+1,2 DCA (524.2)		per sample	$140.30		$0.00
15.1 7-OXYGENATES & ETHANOL (8260D)		per sample	$103.77		$0.00
16.1 EDB (504.1)		per sample	$89.92		$0.00
17.1 RCRA METALS (200.8)		per sample	$113.10		$0.00
K. Analyses-Soil					
18.1 BTEX + Naphth.		per sample	$72.39		$0.00
19.1 PAH's		per sample	$72.43		$0.00
20.1 8 RCRA Metals		per sample	$63.79		$0.00
21.1 TPH-DRO (3550C/8015C)		per sample	$45.24		$0.00
22.1 TPH- GRO (5035B/8015C)		per sample	$40.67		$0.00
23.1 Grain size/hydrometer		per sample	$117.63		$0.00
24.1 Total Organic Carbon		per sample	$34.61		$0.00
K. Analyses-Air					
25.1 BTEX + Naphthalene		per sample	$244.30		$0.00
K. Hydrocarbon Fuel Identification					$0.00
27. C3-C44 Whole Oil (ASTM D3328)		per sample	$431.42		$0.00
28. Fuel Oxygenates (1624 Mod)		per sample	$368.88		$0.00
29. ALKYL Leads, EDB MMT (8080)		per sample	$368.88		$0.00
30. C8-C40 Full Scan (ASTM 5739)		per sample	$583.00		$0.00
31. Simulated Distillation (ASTM 2887)		per sample	$368.88		$0.00
32. Parent & Alk. PAH Com. (8270 SIM)		per sample	$670.03		$0.00
33. C3-C10 Piano (8260 MOD)		per sample	$555.44		$0.00
34. C10+Alkane Fingerprints		per sample	$555.44		$0.00
35. Expert Data Interpretation & Report		each	$551.20		$0.00
L. Aquifer Characterization*					
1.1 Pumping Test		per hour	$26.01		$0.00
2.1 Slug Test		per test	$216.03		$0.00
3.1 Fractured Rock		per test	$113.10		$0.00
M. Free Product *					
1. Free Product Recovery Rate Test		each	$42.98		$0.00
N.					
O. Risk Evaluation					
1.1 Tier I Risk Evaluation		each	$339.31		$0.00
2.1 Tier II Risk Evaluation		each	$113.10		$0.00
P. Survey*					
1. Subsequent Survey		each	$275.60		$0.00
Q. Disposal (gallons or tons)*					
1.1 Wastewater	-67.25	gallon	$0.64		($43.04)
2.1 Free Product		gallon	$0.56		$0.00
3.1 Soil Treatment/Disposal		ton	$67.86		$0.00
4.1 Drilling fluids		gallon	$0.48		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.1 Southeast Region		standard	$11,687.56		$0.00
2.1 All Other Counties		standard	$12,818.58		$0.00
U. IGWA (Use DHEC 3666 form)					
1.1 Southeast Region		standard	$4,031.18		$0.00
2.1 All Other Counties		standard	$4,370.38		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.1 8-hour Event*		per event	$1,655.00		$0.00
2. 24-hour Event*		per event	$4,081.28		$0.00
3. 48-hour Event*		per event	$6,706.10		$0.00
4. 96-hour Event*		per event	$13,409.52		$0.00
5. Off-gas Treatment 8 hour		per event	$130.71		$0.00
6.1 Off-gas Treatment 24 hour		per event	$272.50		$0.00
7.1 Off-gas Treatment 48 hour		per event	$357.50		$0.00
8. Off-gas Treatment 96 hour		per event	$832.26		$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$430.00		$0.00

10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$500.00		$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,000.00		$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,000.00		$0.00
13.1 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.59		$0.00
14.1 AFVR Site Reconnaissance		each	$280.00		$0.00
15. Additional Hook-ups		each	$27.48		$0.00
16.1 AFVR Effluent Disposal		gallon	$0.49		$0.00
17.1 AFVR Mobilization/Demobilization		each	$720.00		$0.00
18. Mobilization for absorbents/skimmers		each	$531.25		$0.00
19. Well sock 2" ID well		each	$34.20		$0.00
20. Well sock 4" ID well		each	$45.40		$0.00
21. pad (per pad)		each	$46.25		$0.00
22. 3" diameter x 10' length boom		each	$100.00		$0.00
23. 5" diameter x 10' length boom		each	$123.00		$0.00
24. New FPP recovery skimmer (2" wells)		each	$732.50		$0.00
25. New FPP recovery skimmer (4" wells)		each	$1,155.00		$0.00
26. Refurbished FPP recovery skimmer (2" or 4" wells)		each	$704.00		$0.00
27. Disposal of Absorbents		pound	$3.80		$0.00
28. Disposal of product from skimmers		gallon	$0.46		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.1 New GAC System Installation*		each	$2,148.94		$0.00
2.1 Refurbished GAC Sys. Install*		each	$1,017.92		$0.00
3.1 Filter replacement/removal*		each	$395.86		$0.00
4.1 GAC System removal, cleaning, & refurbishment*		each	$311.04		$0.00
5.1 GAC System housing*		each	$282.76		$0.00
6.1 In-line particulate filter		each	$169.65		$0.00
7.1 Additional piping & fittings		foot	$1.70		$0.00
Y. Well Repair					
1.1 Additional Copies of the Report Delivered		each	$56.55		$0.00
2.1 Repair 2x2 MW pad*		each	$56.55		$0.00
3.1 Repair 4x4 MW pad*		each	$99.53		$0.00
4.1 Replace well vault*		each	$133.46		$0.00
5.1 Replace well cover bolts		each	$2.94		$0.00
6.1 Replace locking well cap & lock		each	$16.96		$0.00
7.1 Replace/Repair stick-up*		each	$151.56		$0.00
8.1 Convert Flush-mount to Stick-up*		each	$169.65		$0.00
9.1 Convert Stick-up to Flush-mount*		each	$147.03		$0.00
10.1 Replace missing/illegible well ID plate		each	$13.57		$0.00
11. Down-hole Camera		per foot	$27.08		$0.00
Z. High Resolution Site Characterization					
1. HRSC Screening Equipment Mobilization		each	$1,360.00		$0.00
2. HRSC Drilling Category 1		per foot	$29.00		$0.00
3. HRSC Drilling Category 2		per foot	$33.50		$0.00
4. HRSC Drilling Category 3		per foot	$27.00		$0.00
5. HRSC 3-D Model		each	$4,040.00		$0.00
S. Report Prep & Project Management	12%	percent	($6.24)		($0.75)
TOTAL					($6.99)

DHEC D-4294 (06/2022) *The appropriate mobilization cost can be added to complete these tasks, as necessary

SC-015 UST #07680 addendum

Austin Smith-Jones <austin@qualityenvironmental.net>

Thu 5/30/2024 10:38 AM

To:James M. Wykel <wykeljm@dhec.sc.gov>
Cc:djones@qualityenvironmental.net <djones@qualityenvironmental.net>



1 attachments (76 KB)
SC-015 Injection Addendum_v2_5-30-24.pdf;

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

Matt,

As discussed, please see the corrected attached addendum. Thank you!

--
Austin Smith-Jones
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
www.qesweb.com

ASSESSMENT COMPONENT COST AGREEMENT

South Carolina
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
July 1, 2022

Healthy People. Healthy Communities.

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:** 67766

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
A. Plan Preparation				
1.1 Site-specific Work Plan		each	$169.65	$0.00
2.1 Tax Map		each	$79.17	$0.00
3.1 QAPP Contractor Addendum (App B)		each	$250.00	$0.00
B. Survey *				
1. Receptor Survey		each	$623.20	$0.00
C. Survey				
1.1 Comprehensive Survey		each	$1,176.26	$0.00
5. Ground Penetrating Radar Survey (100 x 100)		each	$1,029.23	$0.00
D. Mob/Demob				
1.1 Equipment		each	$1,153.64	$0.00
2.1 Personnel	2	each	$478.42	$956.84
3.1 Adverse Terrain Vehicle		each	$565.51	$0.00
E. Soil Borings*				
1. Soil Borings (hand auger)		foot	$5.66	$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)*				
1.1 Standard		per foot	$16.97	$0.00
2.1 Fractured Rock		per foot	$21.84	$0.00
G.				
H. Well Abandonment (does not include Field Screening)*				
1.1 2" diameter or less		per foot	$3.51	$0.00
2.1 Greater than 2" to 6" diameter		per foot	$5.09	$0.00
3.1 Dug/Bored well (up to 6 feet diameter)		per foot	$16.96	$0.00
I. Well Installation (In accordance with R.61-71)*				
1.1 Water Table (hand augered)		per foot	$11.99	$0.00
2.A Water Table (drill rig) 2" Diameter		per foot	$42.98	$0.00
2.1 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$43.46	$0.00
3.1 Telescoping		per foot	$56.55	$0.00
4.1 Rock Drilling		per foot	$65.60	$0.00
5.1 2" Rock Coring		per foot	$34.95	$0.00
6.1 Multi-sampling ports/screens		per foot	$37.78	$0.00
7.1 Recovery Well (4" diameter)		per foot	$50.90	$0.00
9.1 Rotosonic (2" diameter)		per foot	$49.77	$0.00
10.1 Re-develop Existing Well		per foot	$12.44	$0.00
J. Groundwater Sample Collection / Gauging Depth to Water/Product *				
1.1 Groundwater Purge		per well	$67.86	$0.00
2.1 Air or Vapors		sample	$13.57	$0.00
3.1 Water Supply Sample		sample	$24.88	$0.00
4.1 HydraSleeve		sample	$53.00	$0.00
4.2A No-purge Groundwater Sample/Surface water	20	sample	$31.67	$633.40
5.1 Gauge Well only	8	sample	$7.92	$63.36
6.1 Sample Below Product		sample	$13.57	($379.96)
7.1 Passive Diffusion Bag		sample	$29.40	$0.00
8.1 Field Duplicates (MWs & WSWs) and Field Blanks		sample	$27.83	$0.00
9.1 Groundwater (low flow purge)	-28	sample	$102.93	($2,882.04)
10.1 Equipment Blank		sample	$27.83	$0.00
11. Sample Product		per well	$48.76	$0.00
K. Laboratory Analyses-Groundwater				
1.1 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	-6	per sample	$137.98	($827.88)
2.1 Lead, Filtered		per sample	$15.60	$0.00
3.1 Rush EPA Method 8260B		per sample	$173.72	$0.00
4.1 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$31.67	$0.00
5.1 PAH's		per sample	$68.54	$0.00
6.1 Lead		per sample	$18.09	$0.00

Addendum

Previously Approved:	$159,278.58
Increase:	($3,234.87)
New Approved Total:	**$156,043.71**
Project Manager:	
Section Manager:	
Finance:	
Date:	5/30/2024

# of pages ___	
	From:
	UST/SCDHEC
fax # ( )	
Phone # ( )	

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria.

7.1 EDB by EPA 8011	-8	per sample	$51.12		($408.96)
8.1 EDB by EPA Method 8011 Rush		per sample	$77.14		$0.00
9.1 8 RCRA Metals		per sample	$71.71		$0.00
10.1 TPH (9070)		per sample	$46.38		$0.00
11.1 PH		per sample	$5.88		$0.00
12.1 BOD		per sample	$22.62		$0.00
13.1 Ethanol		per sample	$16.74		$0.00
K. Analyses-Drinking Water					
14.1 BTEXNM+1,2 DCA (524.2)		per sample	$140.30		$0.00
15.1 7-OXYGENATES & ETHANOL (8260D)		per sample	$103.77		$0.00
16.1 EDB (504.1)		per sample	$89.92		$0.00
17.1 RCRA METALS (200.8)		per sample	$113.10		$0.00
K. Analyses-Soil					
18.1 BTEX + Naphth.		per sample	$72.39		$0.00
19.1 PAH's		per sample	$72.43		$0.00
20.1 8 RCRA Metals		per sample	$63.79		$0.00
21.1 TPH-DRO (3550C/8015C)		per sample	$45.24		$0.00
22.1 TPH- GRO (5035B/8015C)		per sample	$40.67		$0.00
23.1 Grain size/hydrometer		per sample	$117.63		$0.00
24.1 Total Organic Carbon		per sample	$34.61		$0.00
K. Analyses-Air					
25.1 BTEX + Naphthalene		per sample	$244.30		$0.00
K. Hydrocarbon Fuel Identification					$0.00
27. C3-C44 Whole Oil (ASTM D3328)		per sample	$431.42		$0.00
28. Fuel Oxygenates (1624 Mod)		per sample	$368.88		$0.00
29. ALKYL Leads, EDB MMT (8080)		per sample	$368.88		$0.00
30. C8-C40 Full Scan (ASTM 5739)		per sample	$583.00		$0.00
31. Simulated Distillation (ASTM 2887)		per sample	$368.88		$0.00
32. Parent & Alk. PAH Com. (8270 SIM)		per sample	$670.03		$0.00
33. C3-C10 Piano (8260 MOD)		per sample	$555.44		$0.00
34. C10+Alkane Fingerprints		per sample	$555.44		$0.00
35. Expert Data Interpretation & Report		each	$551.20		$0.00
L. Aquifer Characterization*					
1.1 Pumping Test		per hour	$26.01		$0.00
2.1 Slug Test		per test	$216.03		$0.00
3.1 Fractured Rock		per test	$113.10		$0.00
M. Free Product *					
1. Free Product Recovery Rate Test		each	$42.98		$0.00
N.					
O. Risk Evaluation					
1.1 Tier I Risk Evaluation		each	$339.31		$0.00
2.1 Tier II Risk Evaluation		each	$113.10		$0.00
P. Survey*					
1. Subsequent Survey		each	$275.60		$0.00
Q. Disposal (gallons or tons)*					
1.1 Wastewater	-67.25	gallon	$0.64		($43.04)
2.1 Free Product		gallon	$0.56		$0.00
3.1 Soil Treatment/Disposal		ton	$67.86		$0.00
4.1 Drilling fluids		gallon	$0.48		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.1 Southeast Region		standard	$11,687.56		$0.00
2.1 All Other Counties		standard	$12,818.58		$0.00
U. IGWA (Use DHEC 3666 form)					
1.1 Southeast Region		standard	$4,031.18		$0.00
2.1 All Other Counties		standard	$4,370.38		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.1 8-hour Event*		per event	$1,655.00		$0.00
2. 24-hour Event*		per event	$4,081.28		$0.00
3. 48-hour Event*		per event	$6,706.10		$0.00
4. 96-hour Event*		per event	$13,409.52		$0.00
5. Off-gas Treatment 8 hour		per event	$130.71		$0.00
6.1 Off-gas Treatment 24 hour		per event	$272.50		$0.00
7.1 Off-gas Treatment 48 hour		per event	$357.50		$0.00
8. Off-gas Treatment 96 hour		per event	$832.26		$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$430.00		$0.00

10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$500.00		$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,000.00		$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,000.00		$0.00
13.1 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.59		$0.00
14.1 AFVR Site Reconnaissance		each	$280.00		$0.00
15. Additional Hook-ups		each	$27.48		$0.00
16.1 AFVR Effluent Disposal		gallon	$0.49		$0.00
17.1 AFVR Mobilization/Demobilization		each	$720.00		$0.00
18. Mobilization for absorbents/skimmers		each	$531.25		$0.00
19. Well sock 2" ID well		each	$34.20		$0.00
20. Well sock 4" ID well		each	$45.40		$0.00
21. pad (per pad)		each	$46.25		$0.00
22. 3" diameter x 10' length boom		each	$100.00		$0.00
23. 5" diameter x 10' length boom		each	$123.00		$0.00
24. New FPP recovery skimmer (2" wells)		each	$732.50		$0.00
25. New FPP recovery skimmer (4" wells)		each	$1,155.00		$0.00
26. Refurbished FPP recovery skimmer (2" or 4" wells)		each	$704.00		$0.00
27. Disposal of Absorbents		pound	$3.80		$0.00
28. Disposal of product from skimmers		gallon	$0.46		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.1 New GAC System Installation*		each	$2,148.94		$0.00
2.1 Refurbished GAC Sys. Install*		each	$1,017.92		$0.00
3.1 Filter replacement/removal*		each	$395.86		$0.00
4.1 GAC System removal, cleaning, & refurbishment*		each	$311.04		$0.00
5.1 GAC System housing*		each	$282.76		$0.00
6.1 In-line particulate filter		each	$169.65		$0.00
7.1 Additional piping & fittings		foot	$1.70		$0.00
Y. Well Repair					
1.1 Additional Copies of the Report Delivered		each	$56.55		$0.00
2.1 Repair 2x2 MW pad*		each	$56.55		$0.00
3.1 Repair 4x4 MW pad*		each	$99.53		$0.00
4.1 Replace well vault*		each	$133.46		$0.00
5.1 Replace well cover bolts		each	$2.94		$0.00
6.1 Replace locking well cap & lock		each	$16.96		$0.00
7.1 Replace/Repair stick-up*		each	$151.56		$0.00
8.1 Convert Flush-mount to Stick-up*		each	$169.65		$0.00
9.1 Convert Stick-up to Flush-mount*		each	$147.03		$0.00
10.1 Replace missing/illegible well ID plate		each	$13.57		$0.00
11. Down-hole Camera		per foot	$27.08		$0.00
Z. High Resolution Site Characterization					
1. HRSC Screening Equipment Mobilization		each	$1,360.00		$0.00
2. HRSC Drilling Category 1		per foot	$29.00		$0.00
3. HRSC Drilling Category 2		per foot	$33.50		$0.00
4. HRSC Drilling Category 3		per foot	$27.00		$0.00
5. HRSC 3-D Model		each	$4,040.00		$0.00
S. Report Prep & Project Management	12%	percent	($2,888.28)		($346.59)
TOTAL					($3,234.87)

DHEC D-4294 (06/2022) *The appropriate mobilization cost can be added to complete these tasks, as necessary

Document Receipt Information

☒ Hard Copy ☒ CD ☐ Email

Date Received 6-18-24

Permit Number 07680

Project Manager Matt Wykel

Name of Contractor QES

Description 2024 Targeted Scope CAP report

Docket Number 126 Tech

Scanned _____

Verified _____

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

June 12, 2024

Mr. Matt Wykel, Hydrogeologist
South Carolina Department of Health & Environmental Control
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2024 Targeted Scope CAP Report
Former Crown Fast Fare SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *Targeted Scope Corrective Action Plan (CAP) Report* for the above-listed facility ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently a vacant former Long's Drugstore; the USTs associated with the former Crown service station were removed in July 1991.

The last comprehensive groundwater sampling event occurred in May 2022. SCDHEC developed Site-Specific Target Levels (SSTLs) in May 2020 for the on-Site monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. The analytical results showed SSTL exceedances in MW-5R and recovery well RW-1. Light non-aqueous phase liquid (LNAPL) was present in RW-2 and RW-3.

Sixteen AFVR events have been completed at the Site with LNAPL still periodically present in two recovery wells. Despite the AFVR events, residual LNAPL is present in a smear zone beneath the two former dispensers, in the vicinity of MW-5R, MW-21 and the recovery wells.

SCDHEC requested the submission of an Injection CAP in a December 20, 2022 letter to address LNAPL occurrence and SSTL exceedances. QES submitted a CAP on January 31, 2023 detailing plans to utilize injections of *Cool-Ox*® using direct-push technology followed by two subsequent groundwater sampling events. Public notice for the proposed work was completed on September 27, 2023 followed by a notice to proceed distributed by SCDHEC on October 16, 2023 with cost agreement #67766.

QES, Deep Earth Technologies (DTI) and ARM Environmental mobilized to the Site on December 11, 2023 to initiate injection field activities. Injections were completed in a 2,500 square-foot area containing 69 boring points evenly spaced over a grid configuration. Site monitoring wells were gauged prior to injections with LNAPL detected in MW-5R (0.48'), RW-2 (0.44') and RW-3 (0.38'). Injection field activities were completed on December 18, 2023.

Groundwater sampling events were conducted on January 30-31, 2024 and April 24, 2024 following the injections of *Cool-Ox*® in December 2023. LNAPL was detected prior to injection field activities in MW-5R, RW-2 and RW-3 with LNAPL present in only RW-2 during the January 2024 sampling event and in no wells during the April 2024 sampling event. The injections appear to have been successful in accomplishing the primary objective of removing LNAPL.

Dissolved hydrocarbon concentrations decreased significantly in MW-21 and RW-1 when compared to the 2022 sampling results as a baseline (>80% reduction of benzene, >60% reduction of toluene, >45% reduction of ethylbenzene and >30% reduction of xylenes). Prior to injections, the toluene SSTL was exceeded in RW-1 and below SSTLs for all constituents following injections. Dissolved concentrations also decreased in MW-5R and RW-3 but increased in RW-2. The increased concentrations in RW-2 are a result of the Cool-Ox® process desorbing and mobilizing hydrocarbons. This effect can also be observed in the January 2024 spike in MW-8 concentrations. SSTL exceedances were still present during the April 2024 sampling event in MW-5R, (toluene concentration of 37,500 ug/L and ethylbenzene concentration of 3,700 ug/L), RW-2 (toluene concentration of 34,000 ug/L), and RW-3 (toluene concentration of 33,900 ug/L).

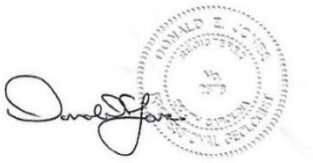
Cool-Ox® can enhance long-term beneficial biome growth with the ammonia-nitrate component as well as changes to the aquifer chemistry including increased dissolved oxygen, pH, and ORP. Several water quality parameters were still elevted during the April 2024 sampling event, indicating the aquifer has not returned to an equilibrium state.

DTI has reviewed the analytical data and concludes that there is still a strong potential for continued decreases in dissolved concentrations in the source area as the aquifer returns to equilibrium. QES recommends two additional bi-annual sampling events to continue the monitoring of dissolved hydrocarbon concentrations as the aquifer returns to equilibrium.

Please review the attached *2024 Targeted Scope CAP Report* and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDHEC's response to the data presented in the report.

Sincerely,





Austin D. Smith-Jones
SCRPG #2901
Project Manager

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Attachment: *2024 Targeted Scope CAP Report*

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
Ms. Sarah Spiceland – WHLR Real Estate Company (sspiceland@whlr.us)

QES File: 201-189-SC-015

2024 TARGETED SCOPE CAP REPORT
FORMER CROWN FAST FARE SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT #07680

Submitted to:

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June 12, 2024

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1.0 Introduction

Quality Environmental Solutions, Inc. (QES) has prepared this *2024 Targeted Scope CAP Report* for the former Crown Fast Fare location SC-015 located at 3800 Devine Street in Columbia, South Carolina ("Site"). The former Crown Site is associated with the South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680.

Crown formerly operated a fueling facility at the Site which included three steel gasoline underground storage tanks (USTs). The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDHEC in August 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the adjacent Piggly Wiggly supermarket.

QES submitted an *Injection Corrective Action Plan (CAP)* on January 31, 2023. A notice to proceed (NTP) was received in through a SCDHEC letter dated October 16, 2023 with cost agreement #67766. This report details the injection field activities completed in December 2023 and the results of two subsequent groundwater sampling events (January and April 2024).

The direct-push delivered injections, boring abandonment, and groundwater sampling events were conducted in accordance with the SCDHEC *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDHEC 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #4* (QES 2022), and the October 16, 2023 SCDHEC *Injection Notice to Proceed (NTP)* and *Approved Cost Agreement No. 67766* (SCDHEC 2023).

1.1 Objective

The primary objective of the Injection CAP was to implement the controlled oxidation injection technology, *Cool-Ox*® by DeepEarth Technologies, Inc (DTI), to eliminate the reoccurring light non-aqueous phase liquid (LNAPL) in the smear zone. The secondary objective was to reduce dissolved hydrocarbon concentrations below Site-Specific Target Levels (SSTLs).

1.2 Site Description

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations are included as **Figure 2B**.

1.3 Site Assessment and Remediation History

Subsurface assessments and remedial activities have been completed at the Site by Crown consultants since the initial release was reported in 1989. The activities and results are summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC Risk-Based Screening Levels (RBSLs) were present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- LNAPL was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R on one occasion (May 2020 sampling event). LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen AFVR events were completed at the Site between April 2010 and July 2018.

- Three recovery wells were installed at the Site in June 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands are the primary sources of groundwater impacts.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the subsequent November 2021 sampling event.
- The Site monitoring and recovery wells were last sampled in May 2022. LNAPL was detected in RW-2 and RW-3 during the May 2022 sampling event.

SSTLs were established by SCDHEC in 2020 for five monitoring wells and the three recovery wells. The toluene SSTL was exceeded in MW-5R, MW-21, RW-1 and RW-3 during the November 2021 sampling event. The May 2022 analytical results were below the SSTLs except for the toluene concentrations in MW-5R and RW-1 along with the presence of LNAPL in RW-2 and RW-3.

The historical monitoring well gauging and analytical data are listed in **Table 2** and **Table 3**, respectively.

2.0 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer.

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

3.0 Injection Methodology

In-situ chemical oxidation was selected as the targeted remedial technology with the goal of eliminating LNAPL and residual petroleum in the smear zone and reducing dissolved-phase contaminant concentrations in groundwater. The LNAPL and highest dissolved hydrocarbon concentrations are present in the area of the two former dispensers. The treatment zone encompassed the area of greatest impact as delineated by the MW-5 series monitoring wells, MW-21 and the three recovery wells. The approximate treatment area was 2,500 square feet with a treatment interval of 12.5 to 25 feet below the ground surface (bgs), which is approximately ten feet below the water table.

The injections were completed using a patented chemical oxidation injectate, *Cool-Ox*®, by DTI. The injection of *Cool-Ox*® into the subsurface was completed utilizing direct-push technology (DPT) by a SC-licensed driller, ARM Environmental Services, as directed by DTI personnel.

The *Cool-Ox*® technology is a patented remediation process designed to treat in-situ contaminants in soil and groundwater. Utilizing the application of a single aqueous based formulation, the hydrocarbons are hydroxylated (oxidized) to form alcohols and/or weak organic acids. The process is based on using hydrogen peroxide as the generator of the oxidizing radicals. Unlike other processes, the *Cool-Ox*® process generates hydrogen peroxide from solid peroxygens that are injected into the soil and groundwater in an aqueous suspension. Once in place, the peroxygens react with water to produce the hydrogen peroxide. Additionally, DTI includes an ammonia-nitrate as an energy input to accelerate beneficial microbial growth. **Appendix A** includes a full description of the *Cool-Ox*® process.

Underground Injection Control (UIC) Permits to Construct and Operate were acquired by QES under UIC Permit # SCHE000031 and Permit # SCHE000031v2.0. Copies of the UIC Permits are included in **Appendix B**.

Injection was completed with 69 DPT points based on a grid spacing of six feet. On average, 109 gallons were injected into each point for a total of 7,521 gallons. Good reactions with foam were noted in MW-5R, MW-21, RW-1, RW-2, RW-3 and at the ground surface. This is indicative of total saturation in the smear and vadose zone as well as horizontal connectivity.

The direct-push well log provided by ARM is included in **Appendix C**. A *Report for the Application of Cool-Ox*® provided by DTI is included in **Appendix A**. A map of the injection grid-spacing and boring locations is included in DTI's report.

Following injection activities, each boring was properly abandoned in accordance with the abandonment requirements described in SCDHEC QAPP revision 4.0 by a SC licensed driller. The Site was restored as close to its original condition as possible.

4.0 Groundwater Assessment Methodology

Two quarterly monitoring well gauging and sampling events were conducted to evaluate the effectiveness of the *Cool-Ox*® remediation technology at eliminating LNAPL and reducing dissolved hydrocarbon concentrations to below the SCDHEC SSTLs. The first gauging and sampling event occurred on January 30-31, 2024 and the second on April 28, 2024.

Groundwater levels were measured in the monitoring and recovery wells using a Solinst 122 Interface Meter. LNAPL was detected in RW-2 (0.07 feet) during the January sampling event and no LNAPL was detected during the April sampling event. A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Forms are included in **Appendix D**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the southwest in the shallow perched zone and to the east-southeast in the deeper intermediate zone. **Figure 5 and Figure 5A** depict the potentiometric surface contours for the April 2024 gauging date in both the upper and intermediate zones of the shallow aquifer, respectively. A potentiometric surface map based on the deeper monitoring wells is not included as there are only two data points, however historical groundwater flow in the deeper portion of the shallow aquifer is to the east.

The following monitoring wells were not sampled:

- MW-1A was dry - the well has been dry since 2003 and since the original well depth was 45 feet, this well is no longer viable. Monitoring well MW-1AR was installed as a replacement well in 2018.
- MW-2 was gauged but had insufficient water to collect samples (both events).
- MW-10R, MW-13, and MW-15 had insufficient water to collect samples (January 2024 event).
- MW-18D was not sampled during the April 2024 sampling event. The St. Joseph's School completed construction on a new field and damaged the monitoring well. The total depth was gauged to be 50' but the well is screened 57-62'.

All monitoring wells (20 wells) and recovery wells (three wells) were low-flow purged prior to sample collection during the January sampling event. In April, grab groundwater samples were collected from the monitoring wells where the water level bracketed the well screen (20 wells) and the remaining were low-flow purged prior to sample collection (four wells).

Copies of the Groundwater Sampling Field Forms are included in **Appendix D**. The manifests for the 26.75 gallons of purge water from the January sampling event and six gallons from the April event (total of 32.75 gallons) were stored in a 55-gallon drum for eventual transport to and disposal by a licensed contractor. Copies of the waste disposal manifests are included in **Appendix E**.

Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential and turbidity were measured with the In-Situ Aqua TROLL® 600 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix D**). The In-Situ Aqua Troll® was calibrated prior to use on each sampling day and calibration documentation is included in **Appendix D**. The samples were placed on ice in coolers and delivered via courier along with the chain-of-custody to Pace Analytical in West Columbia, South Carolina. The groundwater samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

Field duplicate samples were collected from monitoring wells MW-5R and MW-17 in January and from MW-5DD and DW-1 in April. A field blank sample was collected using laboratory supplied deionized water for each day of sampling. One trip blank sample in January and two in April were supplied by Pace. One equipment blank sample was collected through a submersible pump following decontamination procedures. The quality assurance/quality control samples were analyzed for the above parameters, excluding EDB analysis of the trip blank samples. There were no discrepancies noted in the analyses of the field duplicates, field blanks, equipment blank or trip blank.

5.0 Groundwater Assessment Results

The following table lists the chemicals of concern (COCs) detected above the laboratory quantitation limits for SSTL wells with red-bolded values exceeding the SSTL.

	Benzene	***Toluene***	***Ethylbenzene***	***Xylenes***	***MTBE***	***Naphthalene***
MW-1AR						
MW-5R	7,060	**37,500**	**3,700**	18,900		1,520
MW-8	2.7	24	14	60	*0.55 J*	15
MW-15R					14	554
MW-21	131	8,740	1,720	10,100		1,300
RW-1	731	8,220	1,030	8,140		555
RW-2	12,500	***34,000***	2,680	14,600		884
RW-3	8.120	***33,900***	2,580	21,600		844

	EDB	***DIPE***	***TAA***	***TBA***
MW-1AR				
MW-5R	0.14			
MW-8				
MW-15R		1.1	*69 J*	*69 J*
MW-21				
RW-1			51 J	
RW-2				
RW-3	1.7			

Notes: Values in ug/L; a J value is an estimated concentration; see Table 3 for COC definitions

Historical and the January and April 2024 groundwater sampling results are summarized in **Table 3**. A comparison of post-injection analytical data to the baseline May 2022 sampling results is included in **Table 3A**. The complete laboratory reports are included in **Appendix B** and the Data Verification Checklist is included in **Appendix F**. **Figure 4** depicts the April 2024 analytical results with highlighted SSTL exceedances for the upper portion of the shallow aquifer.

Changes to the water chemistry were observed during low-flow purging. Increased dissolved oxygen (DO), increased pH and increased oxygen-reduction potential (ORP) were observed in both January and April in the injection area. In January, DO was >50 mg/L in MW-5R, RW-1 and RW-3 and increased in MW-8 and MW-21. Elevated water quality parameters persisted during the April sampling event, indicating the aquifer is still returning to equilibrium with continuing positive effects from the *Cool-Ox*® injections.

6.0 Conclusions and Recommendation

Groundwater sampling events were conducted on January 30-31, 2024 and April 24, 2024 following the injections of *Cool-Ox*® in December 2023. LNAPL was detected prior to injection field activities in MW-5R, RW-2 and RW-3 with LNAPL present in only RW-2 during the January 2024 sampling event and in no wells during the April 2024 sampling event. The injections appear to have been successful in accomplishing the primary objective of removing LNAPL.

Dissolved hydrocarbon concentrations decreased significantly in MW-21 and RW-1 when compared to the 2022 sampling results as a baseline (>80% reduction of benzene, >60% reduction of toluene, >45% reduction of ethylbenzene and >30% reduction of xylenes). Prior to injections, the toluene SSTL was exceeded in RW-1 and below SSTLs for all constituents following injections. Dissolved concentrations also decreased in MW-5R and RW-3 but increased in RW-2. The increased concentrations in RW-2 are a result of the *Cool-Ox*® process desorbing and mobilizing hydrocarbons. This effect can also be observed in the January 2024 spike in MW-8 concentrations. SSTL exceedances were still present during the April 2024 sampling event in MW-5R, (toluene concentration of 37,500 ug/L and ethylbenzene concentration of 3,700 ug/L), RW-2 (toluene concentration of 34,000 ug/L), and RW-3 (toluene concentration of 33,900 ug/L).

Cool-Ox® can enhance long-term beneficial biome growth with the ammonia-nitrate component as well as changes to the aquifer chemistry including increased dissolved oxygen, pH, and ORP. Several water quality parameters were still elevated during the April 2024 sampling event, indicating the aquifer has not returned to an equilibrium state.

Injections of *Cool-Ox*® appear to have been successful in removing the LNAPL from the subsurface, however, dissolved hydrocarbon concentrations remain above SSTLs in MW-5R, RW-2 and RW-3. DTI has reviewed the analytical data and concludes that there is still a strong potential for continued decreases in dissolved concentrations in the source area as the aquifer returns to equilibrium. QES recommends two additional bi-annual sampling events to continue the monitoring of dissolved hydrocarbon concentrations as the aquifer returns to equilibrium.

REFERENCES

Quality Environmental Solutions, Inc. (QES), 2017. *2017 Groundwater Assessment Report, Former Crown SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit* #07680. December 29, 2017.

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Terracon Consultants, Inc. (Terracon), 2015. *Ground Water Assessment Report, Former SC-015, 3800 Devine Street, Columbia, South Carolina, UST Permit # 07680*. June 17, 2015.

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
	05/16/22	98.41	Dry			
	01/30/24	98.41	Dry			
	04/24/24	98.41	Dry			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
	05/16/22	98.35	ND	17.83	ND	80.52
	01/30/24	98.35	ND	17.16	ND	81.19
	04/24/24	98.35	ND	15.45	ND	82.90
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'	05/16/22	99.34	ND	31.65	ND	67.69
Screen	01/30/24	99.34	ND	32.33	ND	67.01
40-45'	04/24/24	99.34	ND	31.51	ND	67.83
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
	05/16/22	98.45	ND	28.05	ND	70.40
	01/30/24	98.45	ND	28.21	ND	70.24
	04/24/24	98.45	ND	29.74	ND	68.71
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
	05/16/22	98.29	ND	15.94	ND	82.35
	01/30/24	98.29	ND	15.30	ND	82.99
	04/24/24	98.29	ND	13.98	ND	84.31
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79
	05/16/22	98.49	ND	42.25	ND	56.24
	01/30/24	98.49	ND	42.80	ND	55.69
	04/24/24	98.49	ND	42.46	ND	56.03

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
	05/16/22	98.83	ND	51.18	ND	47.65
	01/30/24	98.83	ND	51.93	ND	46.90
	04/24/24	98.83	ND	51.46	ND	47.37
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
	05/16/22	98.85	ND	15.94	ND	82.91
	01/30/24	98.85	ND	15.49	ND	83.36
	04/24/24	98.85	ND	14.43	ND	84.42
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
	05/16/22	99.48	ND	16.93	ND	82.55
	01/30/24	99.48	ND	17.27	ND	82.21
	04/24/24	99.48	ND	15.70	ND	83.78
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
	05/16/22	93.32	ND	12.62	ND	80.70
	01/30/24	93.32	ND	12.74	ND	80.58
	04/24/24	93.32	ND	10.89	ND	82.43
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
	05/16/22	95.71	ND	28.69	ND	67.02
	01/30/24	95.71	ND	29.29	ND	66.42
	04/24/24	95.71	ND	28.55	ND	67.16
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65
	05/16/22	92.26	ND	25.81	ND	66.45
	01/30/24	92.26	ND	26.44	ND	65.82
	04/24/24	92.26	ND	25.70	ND	66.56

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
	05/16/22	92.43	ND	13.20	ND	79.23
	01/30/24	92.43	ND	13.20	ND	79.23
	04/24/24	92.43	ND	11.31	ND	81.12
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
	05/16/22	92.51	ND	37.40	ND	55.11
	01/30/24	92.51	ND	38.02	ND	54.49
	04/24/24	92.51	ND	37.00	ND	55.51
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
	05/16/22	94.26	ND	12.01	ND	82.25
	01/30/24	94.26	ND	12.72	ND	81.54
	04/24/24	94.26	ND	10.89	ND	83.37
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
	05/16/22	99.70	ND	32.65	ND	67.05
	01/30/24	99.70	ND	33.25	ND	66.45
	04/24/24	99.70	ND	32.51	ND	67.19
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
	05/16/22	100.47	ND	32.55	ND	67.92
	01/30/24	100.47	ND	27.58	ND	72.89
	04/24/24	100.47	ND	26.10	ND	74.37

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25
	05/16/22	102.85	ND	27.58	ND	75.27
	01/30/24	102.85	ND	27.42	ND	75.43
	04/24/24	102.85	ND	26.79	ND	76.06
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
	05/16/22	100.84	ND	32.94	ND	67.90
	01/30/24	100.84	ND	33.66	ND	67.18
	04/24/24	100.84	ND	32.70	ND	68.14
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
	05/16/22	103.46	ND	22.65	ND	80.81
	01/30/24	103.46	ND	19.23	ND	84.23
	04/24/24	103.46	ND	18.00	ND	85.46
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
	05/16/22	103.28	ND	40.49	ND	62.79
	01/30/24	103.28	ND	8.07	ND	95.21
	04/24/24	103.28	ND	36.80	ND	66.48
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
	05/16/22	95.74	ND	28.71	ND	67.03
	01/30/24	95.74	ND	29.31	ND	66.43
	04/24/24	95.74	ND	28.56	ND	67.18
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
	05/16/22	92.93	ND	27.24	ND	65.69
	01/30/24	92.93	ND	27.77	ND	65.16
	04/24/24	92.93	ND	27.07	ND	65.86

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17
	05/16/22	98.89	ND	15.85	ND	83.04
	01/30/24	98.89	ND	15.50	ND	83.39
	04/24/24	98.89	ND	13.99	ND	84.90
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
	05/16/22	97.48	ND	31.70	ND	65.78
	01/30/24	97.48	ND	32.40	ND	65.08
	04/24/24	97.48	ND	31.54	ND	65.94
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen	05/16/22	99.25	ND	16.17	ND	83.08
5-25'	01/30/24	99.25	ND	15.31	ND	83.94
	04/24/24	99.25	ND	13.95	ND	85.30
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen	05/16/22	99.11	15.87	16.17	0.30	83.18
5-25'	01/30/24	99.11	15.28	15.35	0.07	83.82
	04/24/24	99.11	ND	14.15	ND	84.96
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen	05/16/22	99.15	16.39	16.50	0.11	82.74
5-25'	01/30/24	99.15	ND	15.50	ND	83.65
	04/24/24	99.15	ND	14.00	ND	85.15

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
	05/16/22	Dry															
	01/30/24	Dry															
	04/24/24	Dry															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
	05/16/22	**32**	2.5	160	79	**110**	**110**	<0.005	2.3	1.8	<8.0	<0.40	<52	63	1.1 J	290	<2.0
	01/31/24	**15**	5.5	136	25	34	**146**	<0.007	<0.32	0.46 J	<52	<3.2	<72	<36	<2.7	60 J	<29
	04/24/24	**27**	3.3	232	16	**72**	**288**	<0.007	0.73 J	1.4 J	<104	<6.5	<144	<73	<5.3	165 J	<59
MW-1AR	***SSTLs***	***39,162***	***26,540***	***3,700***	***21,680***	***6,849***	***6,700***	***283***						***42,095***			
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	0.90 J	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-2	***SSTLs***	***23,279***	***26,540***	***3,700***	***21,680***	***5,114***	***6,700***	***171***						***31,186***			
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
	05/16/22	<0.40	<0.40	<0.40	<0.40	**160**	0.85 J	<0.005	<0.40	<0.40	<8.0	<0.40	140	190	0.67 J	620	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	Insufficient water to collect sample															
MW-5R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**11,500**	***37,100***	**2,560**	**13,200**	**573**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**9,500**	***46,000***	***3,700***	**18,000**	**280**	**870**	0.010 J	**270**	2.6	<8.0	<0.40	<52	**5,500**	19	620	<2.0
	01/31/24	**7,880**	***30,300***	***3,900***	**19,500**	<106	**724**	<0.007	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
Duplicate #2	01/31/24	**8,220**	***30,700***	***4,040***	**20,100**	<106	**962**	<0.007	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**7,060**	***37,500***	***3,700***	**18,900**	<106	**1,520**	**0.14**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Duplicate #1	04/24/24	<0.69	<0.97	<0.61	<0.68	<0.84	<1.3	<0.008	<0.64	<0.62	<104	<6.5	<144	<73	<5.3	<54	<59
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	0.96 J	12	17	<0.42	12	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	0.51 J	2.6	0.78 J	<0.42	3.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-8	***SSTLs***	***13,274***	***26,540***	***3,700***	***21,680***	***3,727***	***6,059***	***100***						***22,547***			
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	**33**	305	89	421	2.0 J	**56**	<0.007	<0.80	<0.77	<130	<8.1	<180	109 J	<6.6	<67	<74
	04/24/24	2.7	24	14	60	0.55 J	15	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.5	0.51 J	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	27	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	6.3	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	4.1	1.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	65 J	<29
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	0.52 J	11	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	69	<0.42	19 J	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	4.7	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	2.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	80 J	<2.7	63 J	<29
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.60 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	2.5	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	1.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-15R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***16,338***	***6,700***	***1,262***						***102,870***			
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.9	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	15	<0.64	<0.007	<0.32	0.96 J	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	14	<0.64	<0.008	<0.32	1.1	<52	<3.2	<72	69 J	<2.7	69 J	<29
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.49 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Duplicate #1	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51.9	<3.2	<72.2	<36.4	<2.7	<26.8	<29.4
	04/24/24	Not Sampled- Well depth shallower than screened interval															
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	1.0	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-21	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	***28,500***	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	05/16/22	**1,100**	**23,000**	**3,200**	**15,000**	<80	**1,200**	0.022	<80	<80	<1,600	<80	<10,000	<1,600	<84	<1,600	<400
	01/31/24	**594**	**20,200**	**2,530**	**12,600**	<84.4	**1,210**	<0.007	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	04/24/24	**131**	**8,740**	**1,720**	**10,100**	<21	**1,300**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	0.67 J	4.4	<0.40	2.4	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	2.6	5.4	1.1	4.9	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	3.5	5.5	2.7	11	<0.42	3.5	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Duplicate #2	04/24/24	3.5	5.7	2.8	12	<0.42	3.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
RW-1	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	05/10/20	**6,300**	***33,000***	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	***33,100***	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**5,300**	***42,000***	**2,800**	**15,000**	<80	**560**	**0.450**	<80	<80	<1,600	<80	<10,000	**5,500**	<84	<1,600	<400
	01/31/24	**1,690**	**15,700**	**1,970**	8,840	<53	**440**	<0.007	<40	<39	<6,490	<405	<9,020	<4,550	<332	<3,350	<3,680
	04/24/24	**731**	**8,220**	**1,030**	8,140	<21	**555**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
RW-2	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***27,166***	***6,700***	***1,900***						***173,582***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**12,100**	***36,000***	**3,560**	**19,800**	<106	**1,120**	**0.27**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**12,500**	***34,000***	**2,680**	**14,600**	<106	**884**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
RW-3	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	***43,600***	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**9,650**	***39,200***	***3,810***	**19,000**	<106	**958**	**1.5**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**8,120**	***33,900***	**2,580**	**21,600**	<106	**844**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
Equipment Blank	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Field Blank	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Trip Blank	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
Red concentrations exceed SSTLs
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

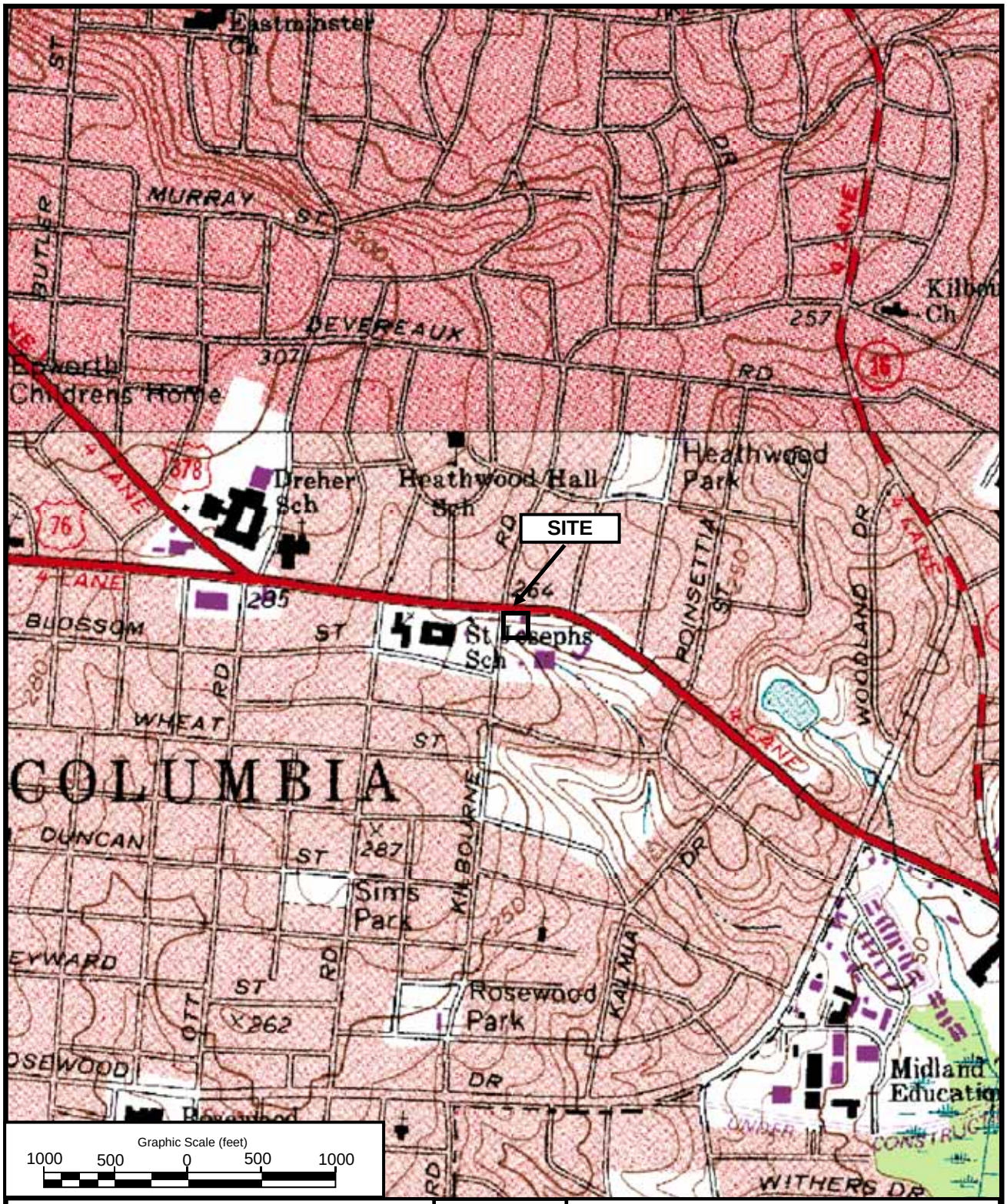
MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

Table 3A: Comparison of Baseline and Post-Injection Groundwater Analytical Data
Former Crown SC-015
Columbia, SC
UST Permit # 07680

Well #		Date	Benzene (ug/L)	% Change	Toluene (ug/L)	% Change	Ethyl-Benzene (ug/L)	% Change	Total Xylenes (ug/L)	% Change	MTBE (ug/L)	% Change	Naphthalene (mg/l)	% Change	EDB (mg/l)	% Change	TAA (mg/l)	% Change
MW-5R	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-May-22	9,500		***46,000***		***3,700***		18,000		280		870		0.01		5,500	
		31-Jan-24	7,880	-17.1%	***30,300***	-34.1%	***4,040***	9.2%	20,100	11.7%	<106		724	-16.8%	<0.007		<9,100	
		24-Apr-24	7,060	-25.7%	***37,500***	-18.5%	***3,700***	0.0%	18,900	5.0%	<106		1,520	74.7%	0.14	1300%	<9,100	
MW-21	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	1,100		23,000		3,200		15,000		<80		1,200		0.02		<1,600	
		31-Jan-24	594	-46.0%	20,200	-12.2%	2,530	-20.9%	12,600	-16.0%	<84		1,210	0.8%	<0.007		<7,280	
		24-Apr-24	131	-88.1%	8,740	-62.0%	1,720	-46.3%	10,100	-32.7%	<21		1,300	8.3%	<0.008		<1,820	
RW-1	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	5,300		***42,000***		2,800		15,000		<80		560		0.45		5,500	
		31-Jan-24	1,690	-68.1%	15,700	-62.6%	1,970	-29.6%	8,840	-41.1%	<53		440	-21.4%	<0.007		<4,550	
		24-Apr-24	731	-86.2%	8,220	-80.4%	1,030	-63.2%	8,140	-45.7%	<21		555	-0.9%	<0.008		<1,820	
RW-2	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	8,500		24,400		2,570		12,400		<106		516		0.13		<9,100	
		16-May-22	LNAPL (0.30') Present - no sample															
sample under LNAPL (0.07')		31-Jan-24	12,100	42.4%	***36,000***	47.5%	3,560	38.5%	19,800	59.7%	<106		1,120	117.1%	0.27	107.7%	<9,100	
		24-Apr-24	12,500	47.1%	***34,000***	39.3%	2,680	4.3%	14,600	17.7%	<106		884	71.3%	<0.008		<9,100	
RW-3	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	11,200		***43,600***		3,240		15,100		<106		538		1.70		<9,100	
		16-May-22	LNAPL (0.11') Present - no sample															
		31-Jan-24	9,650	-13.8%	***39,200***	-10.1%	***3,810***	17.6%	19,000	25.8%	<106		958	78.1%	1.50	-11.8%	<9,100	
		24-Apr-24	8,120	-27.5%	***33,900***	-22.2%	2,580	-20.4%	21,600	43.0%	<106		844	56.9%	1.70	0.0%	<9,100	

FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

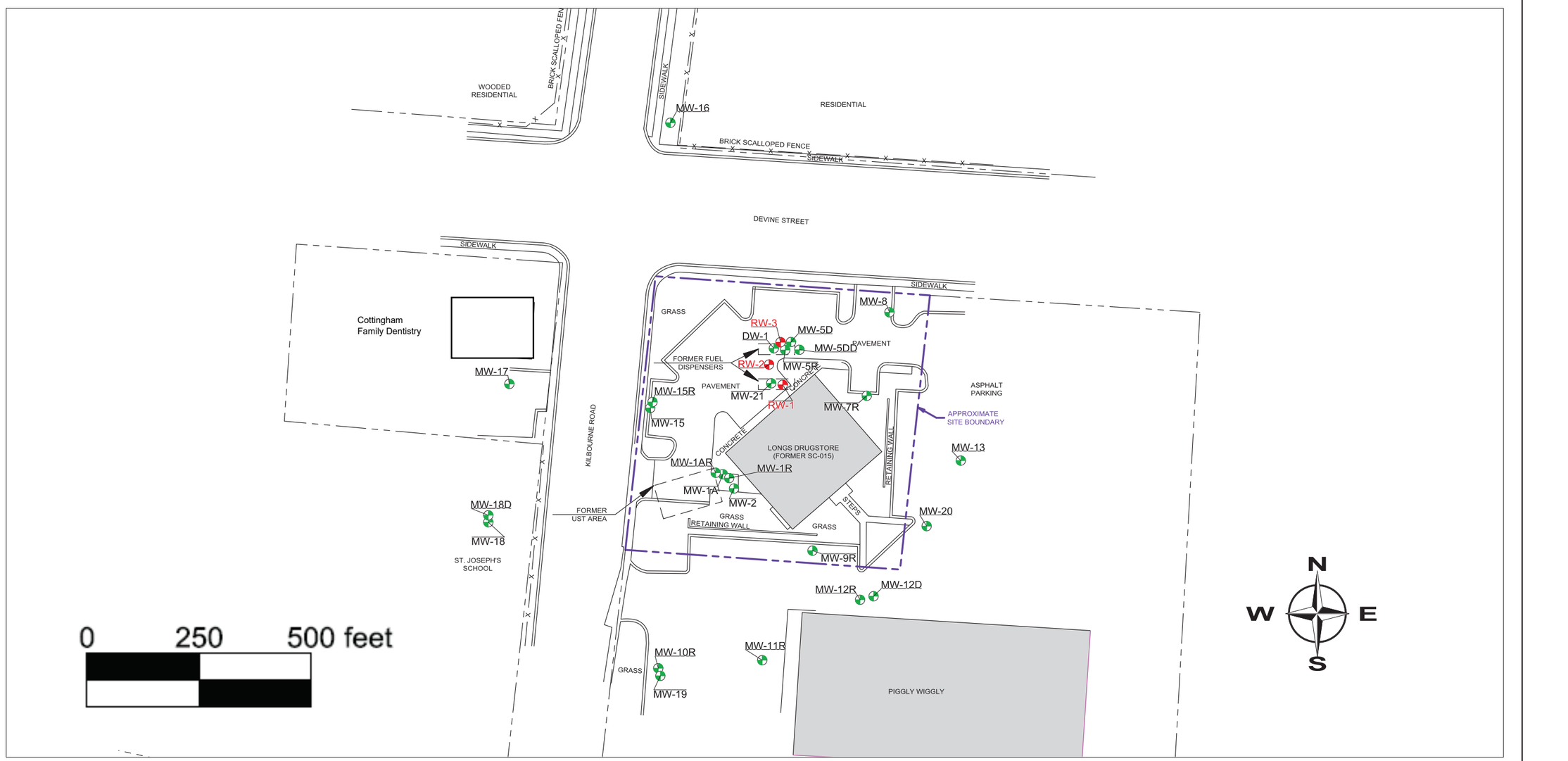
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Detection Limit for all Parameters	
NS	Not Sampled	
* Red Boxed Values > SSTLs		
Concentrations in ug/L		

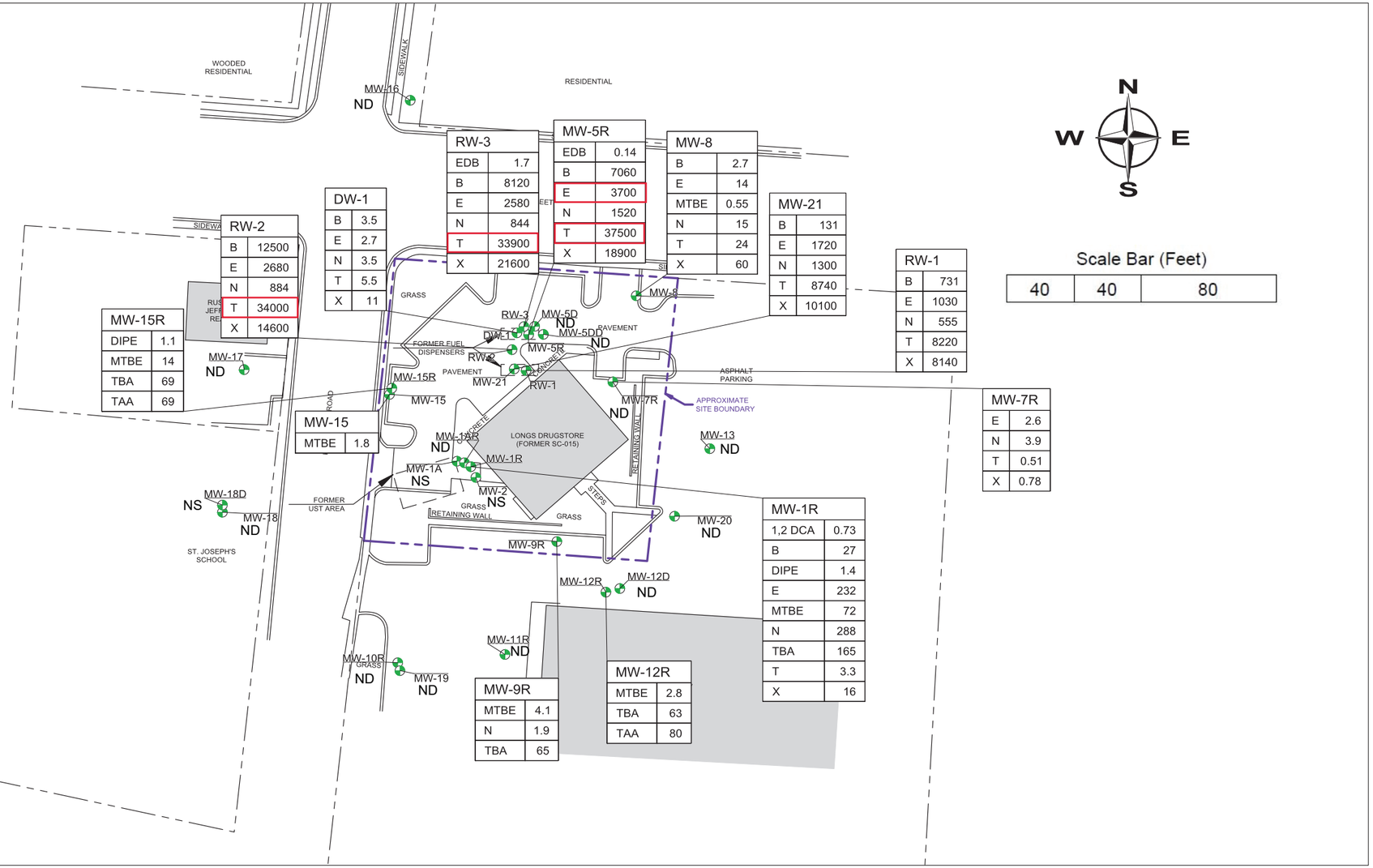


Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: April 24, 2024

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Quality Environmental Solutions, Inc
Providing PEACE of Mind since 1992

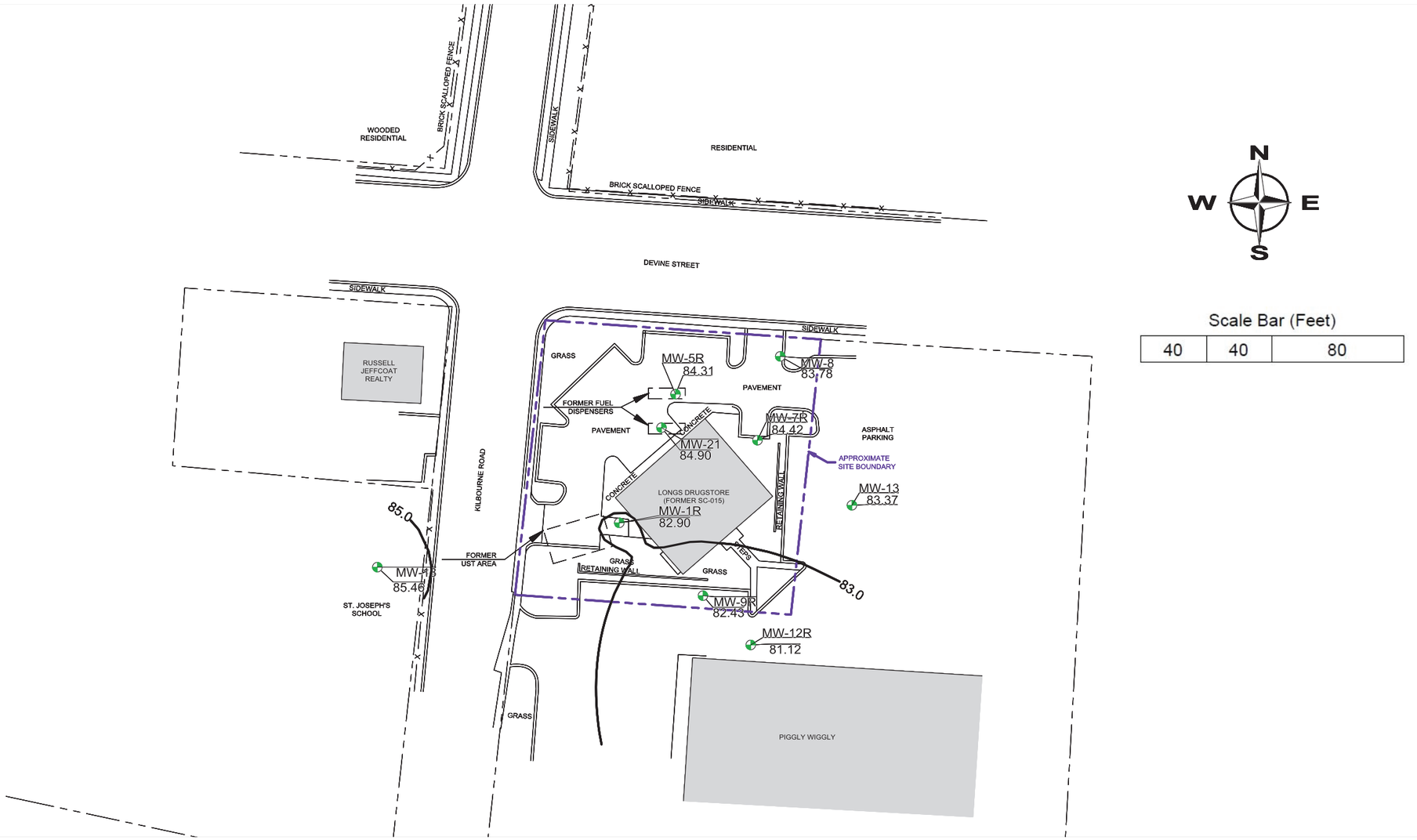


Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: April 24, 2024

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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Quality Environmental Solutions, Inc
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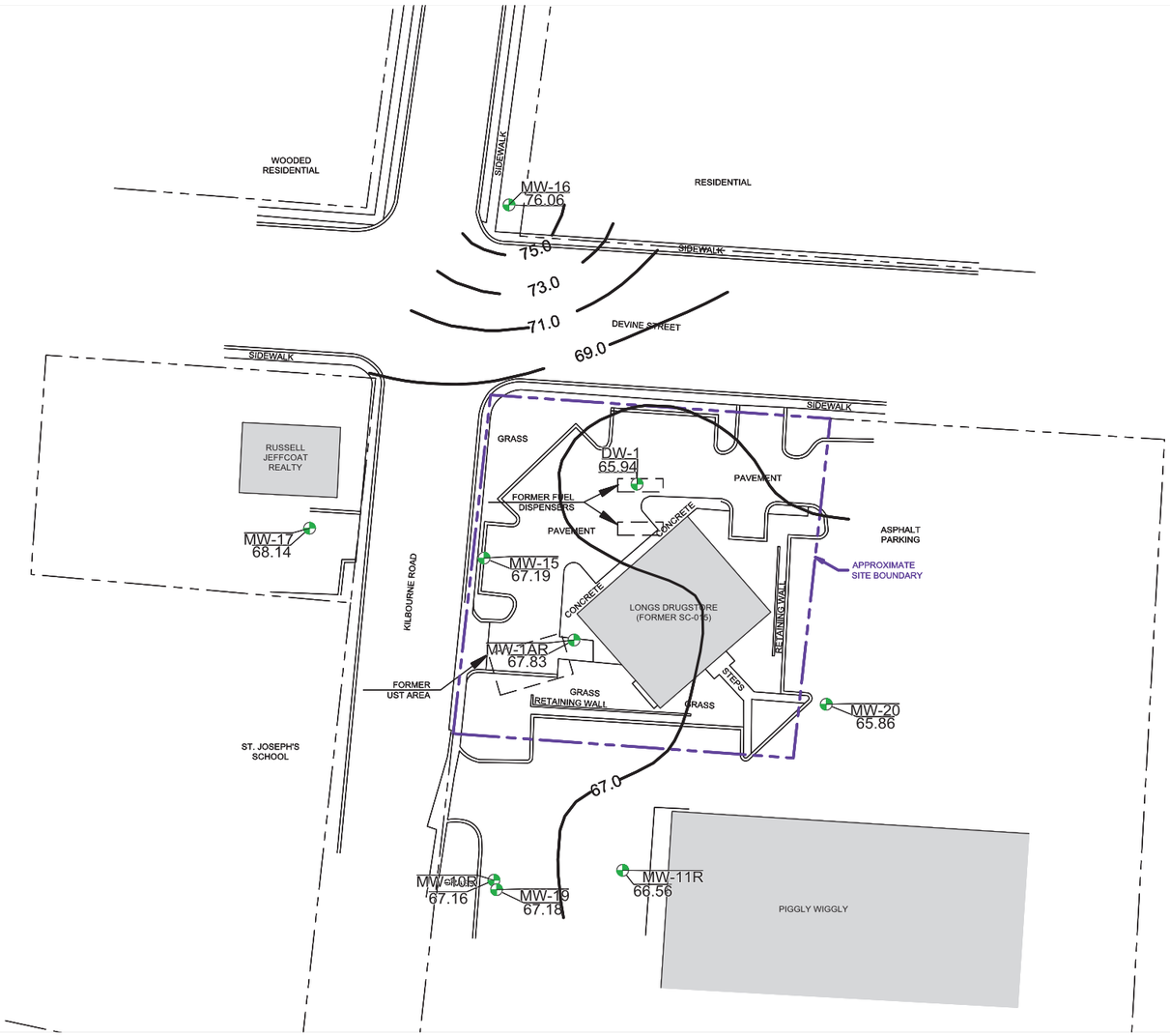



Scale Bar (Feet)

40	40	80

Figure 5A: Potentiometric Surface Map - Intermediate Screened Wells

Former Crown SC-015
Sample Date: April 24, 2024

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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APPENDIX A

Deep Earth Technology Cool-Ox® Process Description and Preliminary Report

DeepEarth Technologies, Inc.

DeepEarth Technologies, Inc.
(708) 396-0100
tech@cool-ox.com

A Report for the Application of

Cool-Ox®

Controlled In-Situ Chemical Oxidation & Reduction Technology



Prepared for

Donald E. Jones, C.P.G.

Quality Environmental Solutions, Inc.
PO Box 44
Bridgewater, VT 05034

Project

Former Crown SC-015

3800 Devine Street
Columbia, SC
DTI Project #2696

January 8th, 2024

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Client: Quality Environmental Solutions, Inc.
Attn: Donald E. Jones, C.P.G.
Site: Former Crown SC-015

Introduction:

DeepEarth Technologies, Inc. (DTI) had been invited by Quality Environmental Solutions, Inc. to implement the remedial program to treat LNAPL contamination in the soil and groundwater at the Former Crown SC-015 located in Columbia, SC.

Proposed Application:

It is the goal of this project to use *Cool-Ox*® reagent to treat the target pollutants and reduce concentrations to the maximum extent possible. The estimated work scope of the project consisted of injecting up to 7,222 gallons of *Cool-Ox*® reagent into 69 injection point (IP) locations via Direct Push Technology (DPT) and DTI's *Deep-Shot*™ trailer. A vertical treatment interval of 12 to 25 ft.-bgs was discussed and agreed upon.

Application:

On 12/11/23, DTI mobilized to the site to conduct a survey of the treatment areas and to coordinate on-site application activities. DTI personnel met with Quality Environmental Solutions, Inc. representatives and held a Site-Specific Health and Safety (SSH&S) meeting, wherein all points concerning general and specific safety requirements of the client and DTI were discussed and understood. DTI then moved injection equipment into position and received a shipment of *Cool-Ox*® amendments. DTI then marked out possible injection locations using white paint. DTI was able to apply 436 gallons of *Cool-Ox*® into 4 locations. Please see attached logs for more specific injection point information. Each location was sealed with bentonite.

On 12/12/23, DTI returned to the site and continued the application of *Cool-Ox*®. DTI was able to apply 1,308 gallons of reagent into 12 locations. Some foam reactions with surfacing fluid were noted. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/13/23, DTI returned to the site and continued with the *Cool-Ox*® application. DTI was able to apply 1,962 gallons of reagent into 18 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/14/23, DTI returned to the site and continued with the *Cool-Ox*® application. DTI was able to apply 1,635 gallons of reagent into 15 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/15/23, DTI returned to the site and continued with the *Cool-Ox*® application. DTI was able to apply 872 gallons of reagent into 8 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

On 12/18/23, DTI returned to the site and continued with the *Cool-Ox*® application. DTI was able to apply 1,308 gallons of reagent into 12 locations. Some foam reactions were noted with surfacing material. Please see attached logs for more specific injection point information. All points were sealed with bentonite.

Conclusion:

A total of 7,521 gallons of *Cool-Ox*® reagent was applied to 69 locations. A vertical treatment interval of 12-15 ft. was maintained, and good reactions with foam were noted along with communication with wells that were near injection locations. All locations were sealed with bentonite and resurfaced with concrete or asphalt. The site was restored as close to its original condition as possible. For more detailed explanations on each Injection location please see attached batch logs.

DTI believes that in the treatment area, significant reductions of contaminants in the soil and groundwater will be accomplished. DTI believes that the subsequent biological activity associated with all *Cool-Ox*® injections will produce on-going remedial activity. DTI's Site Safety program was implemented at the onset of operations, and no reportable incidents were suffered.

DTI would like to thank Quality Environmental Solutions, Inc. for choosing the *Cool-Ox*® Technology to remediate the Former Crown SC-015. Should you have any questions or comments, please call or email via the information below.

Sincerely,

James Gainey
Operations Manager
DeepEarth Technologies, Inc.
Direct: 770-547-5335
james@cool-ox.com

DeepEarth Technologies, Inc.

DeepEarth Technologies, Inc.
(708) 396-0100
tech@cool-ox.com

Photos:





DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/11/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/11/2023	A2	1320	1357	12	25	1	109	6	0	300	Drill broke,pumped at 16'
	A4	1513	1543	12	25	1	109	6	0	300	
	A6	1547	1620	12	25	1	109	7	0	300	
	A8	1627	1658	12	25	1	109	7	0	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/12/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/12/2023	C1	848	917	12	25	1	109	6	0	300	Daylight between asphalt and sidewalk
	C3	921	946	12	25	1	109	7	0	300	
	C5	951	1042	12	25	1	109	7	0	300	clogged injection rod, very strong odor
	C7	1049	1121	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	C9	1129	1151	12	25	1	109	7	0	300	very strong odor
	E2	1157	1228	12	25	1	109	7	0	300	very strong odor
	E4	1306	1335	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	E6	1341	1415	12	25	1	109	7	0	300	very strong odor,daylight out of DW-1
	E8	1422	1458	12	25	1	109	7	0	300	
	G2	1507	1527	12	25	1	109	7	0	300	
	G4	1529	1556	12	25	1	109	7	0	300	
	G6	1600	1630	12	25	1	109	7	0	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/13/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/13/2023	H3	845	913	12	25	1	109	7	8	300	daylight out of DW-1@ 12'
	H5	917	936	12	25	1	109	7	8	300	very strong odor, hot reaction,west side of grid
	H7	941	1002	12	25	1	109	7	8	300	
	B2	1008	1030	12	25	1	109	7	8	300	daylight RW-1 at 15'
	B4	1033	1055	12	25	1	109	7	8	300	
	B6	1107	1124	12	25	1	109	7	8	300	
	B8	1128	1144	12	25	1	109	7	8	300	
	D5	1148	1209	12	25	1	109	7	8	300	verystrong odor daylight from RW-2@20'
	D7	1244	1309	12	25	1	109	7	8	300	
	D9	1312	1332	12	25	1	109	7	8	300	
	F3	1337	1356	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@20'
	F5	1401	1419	12	25	1	109	7	8	300	
	F7	1423	1441	12	25	1	109	7	8	300	
	F9	1447	1509	12	25	1	109	7	8	300	
	H4	1512	1532	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@12'
	H6	1540	1557	12	25	1	109	7	8	300	
	F4	1602	1623	12	25	1	109	7	8	300	very strong odor,daylight from MW-5R@22'
	F6	1627	1646	12	25	1	109	7	8	300	

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/14/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/14/2023	G5	847	911	12	25	1	109	7	8	300	
	G7	915	937	12	25	1	109	7	8	300	
	G9	940	1015	12	25	1	109	7	8	300	drive cap broke for the probe
	F8	1026	1050	12	25	1	109	7	8	300	
	E5	1101	1134	12	25	1	109	7	8	300	Daylight through asphalt crack 10' sout of IP
	E7	1140	1210	12	25	1	109	7	8	300	
	E9	1250	1316	12	25	1	109	7	8	300	
	E8	1319	1344	12	25	1	109	7	8	300	
	E6	1348	1410	12	25	1	109	7	8	300	Daylight in well RW-2@20' also through asphalt crack 12' south
	C2	1414	1434	12	25	1	109	7	8	300	Daylight out of RW-1
	C4	1437	1455	12	25	1	109	7	8	300	Very reactive,very strong odor
	C6	1458	1455	12	25	1	109	7	8	300	
	C8	1522	1545	12	25	1	109	7	8	300	Daylight from RW-2 16' Away@21' depth
	B9	1550	1612	12	25	1	109	7	8	300	
	B7	1617	147	12	25	1	109	7	8	300	
					TOTAL:	**15**	**1635**				

DeepEarth Technologies, Inc.

Cool-Ox®

Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/15/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/15/2023	A1	907	926	12	25	1	109	7	8	300	
	B1	931	948	12	25	1	109	7	8	300	
	C1	952	1010	12	25	1	109	7	8	300	
	D1	1015	1037	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D2	1040	1056	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D3	1101	1122	12	25	1	109	7	8	300	Daylight out of RW-1@21'
	D4	1125	1143	12	25	1	109	7	8	300	Daylight between asphault and sidewalk, very strong odor
	E1	1146	1208	12	25	1	109	7	8	300	
											Hired driller had christmas party
					TOTAL:	**8**	**872**				

DeepEarth Technologies, Inc.

Cool-Ox®

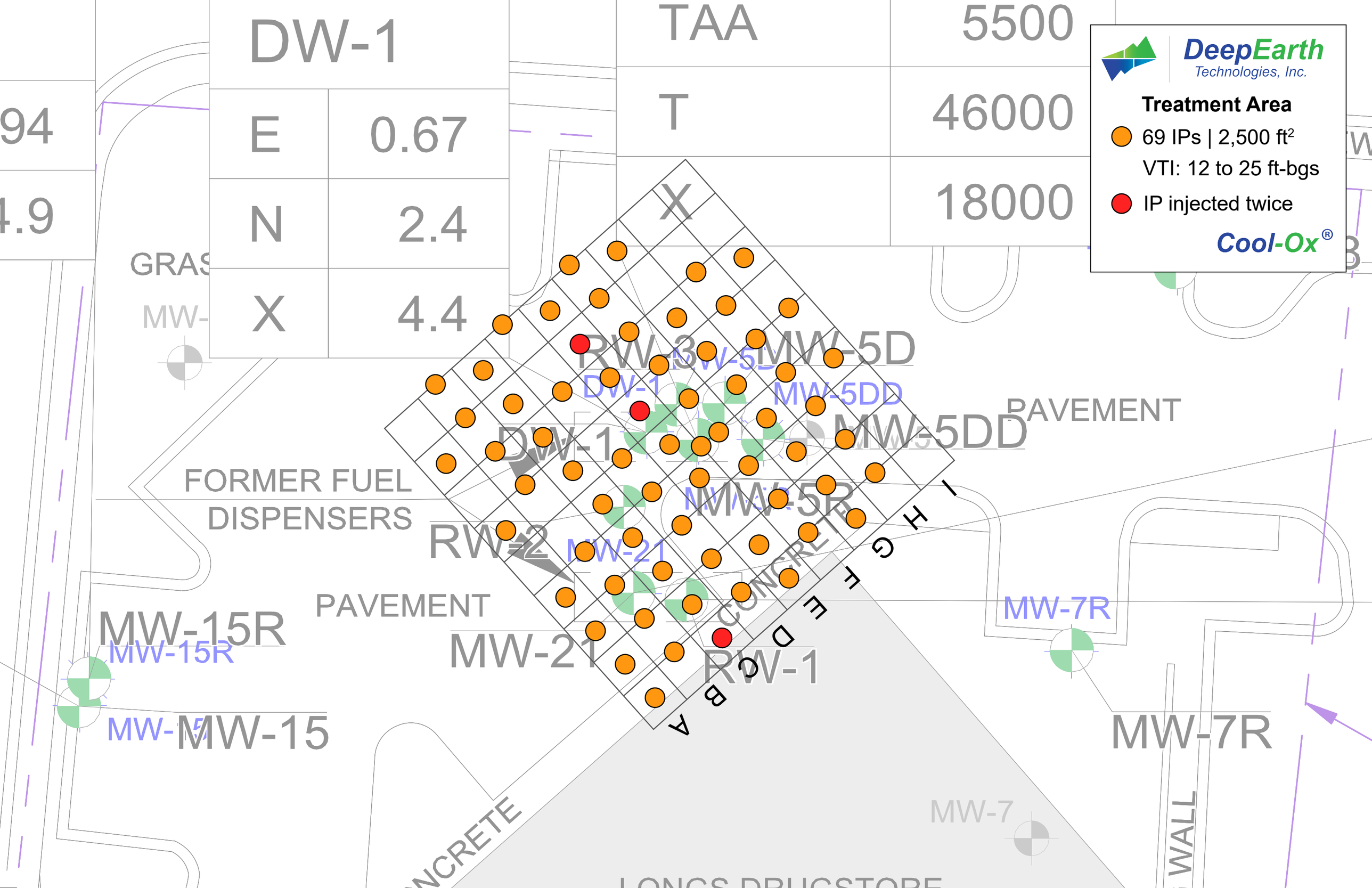
Cool-Ox® Daily Field Injection Sheet

Client:	**Quality Environmental Solutions, Inc.**	**Date:**	12/18/2023	**DTI Project #:**	2696
Office:	Bridgewater, VT	**Client Personnel:**		**Client Project #:**	
Site:	**Former Crown SC-015**	**DTI Operations Manager:**	James Gainey	**Subcontract #:**	
Location:	3800 Devine Street Columbia, SC	**DTI Field Crew:**	Jeremy, Ned, & Barry		
Estimated Work Days:	6				

QUOTE:	Area (sft):	Vertical (ft. bgl):	Cubic Yards	IP Spacing (ft.)	Est. Total Gals	Gal/cy	No. of IP's	Estimated IP's/Day
	2,500	12 to 25	1,204	6	7,222	6	69	12

INJECTION INFORMATION

Date	IP #	Time		VTI		Total IPs	Gallons	GPM	pH	Pressure	Comments
		Start	End	From:	To:						
12/18/2023	A3	853	920	12	25	1	109	7	8	300	
	B3	924	944	12	25	1	109	7	8	300	
	E4/4	948	1009	12	25	1	109	7	8	300	Daylight where asphault meets sidewalk 5' away
	I3	1013	1033	12	25	1	109	7	8	300	
	I2	1044	1054	12	25	1	109	7	8	300	
	I1	1057	1118	12	25	1	109	7	8	300	
	H2	1122	1140	12	25	1	109	7	8	300	
	G3	1147	1208	12	25	1	109	7	8	300	
	F2	1214	1233	12	25	1	109	7	8	300	
	F1	1318	1336	12	25	1	109	7	8	300	
	G1	1340	1355	12	25	1	109	7	8	300	
	H1	1401	1425	12	25	1	109	7	8	300	


DW-1
E 0.67
N 2.4
X 4.4
TAA 5500
T 46000
X 18000
DeepEarth Technologies, Inc.
Treatment Area
69 IPs | 2,500 ft²
VTI: 12 to 25 ft-bgs
IP injected twice
Cool-Ox®
RW-3
MW-5D
DW-1
MW-5DD
PAVEMENT
FORMER FUEL DISPENSERS
MW-5R
RW-2
MW-21
CONCRETE
PAVEMENT
MW-15R
MW-21
RW-1
MW-7R
MW-15
MW-7R
MW-7
WALL
LONGS DRUGSTORE

APPENDIX B

UIC Permits

May 01, 2023

Quality Environmental Solutions, Inc
ATTEN: Donald Jones
PO Box 44
Bridgewater, VT, 05034

Re: Underground Injection Control Permit # SCHE000031
Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205
Richland County

Dear Mr. Donald Jones:

Enclosed is a Permit to Construct Sixty-nine (69) DPT, Class V.A-I wells at the Former Crown Fast Fare SC-015 Site, in Richland County as requested in the permit application received February 27, 2023. Other permits maybe necessary for the intended activities. Please ensure all permits have been obtained before proceeding.

South Carolina Board of Health and Environmental Control
Guide to Board Review
Pursuant to S.C. Code Ann. § 44-1-60
Effective May 8, 2014

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of $100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

I. Filing of Request for Final Review

1. A written Request for Final Review (RFR)and the required filing fee of one hundred dollars ($100) must be received by Clerk of the Board within fifteen (15)calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.

2. RFRs shall be in writing and should include, at a minimum, the following information:

    - The grounds for amending, modifying, or rescinding the staff decision;
    - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
    - the relief requested; and
    - a copy of the decision for which review is requested.

3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control

Attention: Clerk of the Board

2600 Bull Street

Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).

4. The filing fee maybe paid by cash, certified check or credit card. If a RFR is filed by facsimile or electronic mail, the filing fee may be mailed to the Clerk of the Board and the envelope must be postmarked within the time allowed for filing a RFR.

5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.

6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.

7. The Clerk will email the RFR to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. A copy of the Notice of Appeal Procedure will be included with the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

8. If the RFR is to be considered by the RFR Committee, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response to the RFR should be provided by Department staff to the Clerk within eight (8) working days after the RFR is forwarded.

II. Final Review Conference Scheduling

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.

2. The Clerk will request Department staff provide the Administrative Record.

3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:

- include the place, date and time of the Conference;
- state the presentation times allowed in the Conference;
- state evidence may be presented at the Conference;
- if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
- inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.

4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:

   - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
     - Type of decision (permit, enforcement, etc.) and description of the program.
     - Parties
     - Description of facility/site
     - Applicable statutes and regulations
     - Decision and materials relied upon in the administrative record to support the staff decision.
   - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
   - Rebuttal by Department staff[15 minutes]
   - Rebuttal by Requestor(s)[10 minutes]

   Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

Please submit all of the well logs for the installed wells to schedule a well inspection. An inspection of the UIC System must be conducted prior to issuance of the Permit to Operate. If you have any questions, please call Courtney Milledge at (803)898-5609.

Sincerely,



Courtney Milledge, Hydrogeologist – UIC Coordinator
Water Monitoring Assessment and Protection Division
SCDHEC - Bureau of Water

cc: Arthur Shrader – SCDHEC UST

WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit
for
Class II, III, and V.A. Injection Well(s)

Permit # SCHE000031

Date Issued: May 01, 2023
Date Expired: May 16, 2024

For (Operator): Quality Environmental Solutions, Inc

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of Sixty-nine (69) DPT temporary wells with a true diameter of 1 to 3 inches, and a total depth of approximately 25 feet located at Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205 Site, Richland County with the following provisions:

1) **The Department's UIC Permitting Program shall be notified by Email at least 24 hours prior to installing injection wells at milledcb@dhec.sc.gov or by calling (803) 898-5609.**

2) The operator shall submit completed SCDHEC well record forms to the Department's Water Monitoring, Assessment & Protection Division after completion of the injection wells.

3) **All Constructed wells for underground injection that require grouting are to have the well annulus grouted within 24 hours of screen installation.**

4) **All wells remaining more than 24 hours from installation are to have water tight capped casings, lockable vaults and/or protective covers and surface pads. All Direct Push Technology (DPT) wells are to be abandoned upon completion of injection activities at each location.**

5) Upon completion of construction, injection activities shall not commence prior to receiving approval from the Department to operate the injection wells. This provision also applies to injection during cycle testing.

6) When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71)

Leigh Anne Monroe, Manager
Water Monitoring Assessment and Protection Division
SCDHEC - Bureau of Water

STATEMENT OF BASIS - UIC DRAFT PERMIT # SCHE000031

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.13(J), this Statement of Basis has been prepared for the Former Crown Fast Fare SC-015, Richland County Underground Injection Control permit application received February 27, 2023.

Ownership of the proposed injection well is Donald Jones, PO Box 44 Bridgewater, VT 05034. The permit (UIC SCHE000031) is for the construction of Sixty-nine (69) DPT, Class V.A-I wells at the Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205 Site. The intent of the injection wells is to install Sixty-nine (69) DPT, Class V.A-I injection wells injecting only Hydrogen Peroxide, Potable Water as described in the plan dated February 27, 2023. The final permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.

May 01, 2023

ATTN: Donald Jones
Quality Environmental Solutions, Inc
PO Box 44
Bridgewater, VT, 05034

Re: Underground Injection Control Permit # SCHE000031 v2.0
Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205
Richland County

Dear Mr. Donald Jones:

Enclosed is a Permit to Operate Sixty-nine (69) DPT, Class V.A-I wells at the Former Crown Fast Fare SC-015 Site, Richland County as requested in the permit application received February 27, 2023.Other permits maybe necessary for the intended activities. Please ensure all permits have been obtained before proceeding.

South Carolina Board of Health and Environmental Control
Guide to Board Review
Pursuant to S.C. Code Ann. § 44-1-60
Effective May 8, 2014

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Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

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   Columbia, South Carolina 29201

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2. The Clerk will request Department staff provide the Administrative Record.

3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publicly noticed and should:

   - include the place, date and time of the Conference;
   - state the presentation times allowed in the Conference;
   - state evidence may be presented at the Conference;
   - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
   - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.

4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
    - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
        - Type of decision (permit, enforcement, etc.) and description of the program.
        - Parties
        - Description of facility/site
        - Applicable statutes and regulations
        - Decision and materials relied upon in the administrative record to support the staff decision.
    - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
    - Rebuttal by Department staff [15 minutes]
    - Rebuttal by Requestor(s) [10 minutes]

      Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
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The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

If you have any questions, please call Courtney Milledge at (803) 898-5609.

Sincerely,



Courtney Milledge, Hydrogeologist – UIC Coordinator
Water Monitoring Assessment and Protection Division
SCDHEC - Bureau of Water

cc: Arthur Shrader – SCDHEC UST

WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Operating Approval

for

Class II, III, and V.A. Injection Well(s)

Permit # SCHE000031 v2.0 Date of Issue: May 02, 2023

In accordance with R.61-72 this permit will become final unless it is appealed within fifteen (15) days of the issuance date.

In accordance with the provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, and pursuant to receiving a Permit to Operate Sixty-nine (69) DPT, Class V.A-I wells, authorization is granted to Donald Jones to operate Sixty-nine (69) DPT, Class V.A-I wells located at the Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205 Site, Richland County, SC, and are subject to the attached provisos noted for the operator.

The Sixty-nine (69) Class V.A DPT temporary wells are 1 to 3 inches in diameter, and approximately 25 feet deep.

Pursuant to Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, this authorization may be rescinded if these injection wells should, at any time, contaminate, pollute, or otherwise adversely affect other water in the vicinity or for any other conditions contained in R61-87, Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended.

Expires: May 17, 2024

Leigh AR Monroe

Date May 02, 2023

Leigh Anne R. Monroe, Manager
Water Monitoring Assessment and Protection Division
SCDHEC - Bureau of Water

Provisions to the Injection Well Operating Approval
for
Underground Injection Well Permit # SCHE000031 v2.0
Former Crown Fast Fare SC-015 3800 Devine Street Columbia SC 29205 Site
Richland County, SC
May 02, 2023

1) Construction of new or abandonment of existing wells must be reported to the Department within thirty (30) days of completion.

2) Only Hydrogen Peroxide, Potable Water as described in the corrective action plan may be injected into the subsurface at the wells. Any changes in the system operation other than as presented in the UIC Permit Application must be reported to the Department **prior** to implementation.

3) **Permit must be maintained as an active Permit to Operate. Failure to renew a Permit within 30 days of expiration will result in automatic closure of the Permit to Operate. Reactivation of an expired Permit to Operate will be considered after a letter of request to reactivate UIC Permit SCHE000031 v2.0 is received and reviewed.**

APPENDIX C

Drilling Log

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Crown Central LLC (last) (first)
Address: P.O. Box 44
City: Bridgewater State: VT Zip: 05034
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Richland
Name: Former Crown SC-015
Street Address: 3800 Devine Street
City: Columbia Zip: 29205
Latitude: N33.996545° Longitude: -80.987105°

3. PUBLIC SYSTEM NAME: N/A **PUBLIC SYSTEM NUMBER:** N/A

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 25.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
see enclosed log		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Temporary Injection Points: IP-1 through IP-69

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☑ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UST Permit #07680, UIC Permit # SCHE000031

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 12/11/23 Date Completed: 12/18/23

10. CASING: ☑ Threaded ☐ Welded
Diam.: 1.5"
Type: ☐ PVC ☐ Galvanized ☑ Steel ☐ Other
1.5 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface 0.0' ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: steel injection probe Diam.: 1.5"
Slot/Gauge: 1/4" ports Length: 1.0
Set Between: 12.0 ft. and 25.0 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 _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 25.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: site ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☑ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☑
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David (Cody) Felder **CERT. NO.:** 2162
Address: (Print) Level: A B C D ✔ (circle one)
ARM Environmental Svcs, P.O. Box 50285
Columbia, SC 29250
Telephone No.: 803-783-3314 Fax No.: 803-783-2587

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 1/5/24
Well Driller

If D Level Driller, provide supervising driller's name:
Andrew M. Wilson, PG, cert. #1356

APPENDIX D

Groundwater Sampling Logs, Laboratory Data Sheets, Calibration Documentation and Chain-of-Custody

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date: 11/30 - 11/31/24	**QES Associate(s):** A. Smith-Jones
Project Number: SC-015, UST #07680	**Others Present:**
Project Name: *Former Crown SC-015*	**QES Associate Signature:**

	Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag	
D	MW-1A	Dry	@	9.20			✓	✓	2/2	✓	✓	NS
P	MW-1R	—	17.16	—	28.40	1215	✓	✓	0/2	✓	✓	
S	MW-1AR	—	32.33	—	41.40	1158	✓	✓	2/2	✓	✓	
S/D	MW-2	—	28.21	—	30.20	1208	✓	✓	0/2	✓	✓	NS
P	MW-5R	—	15.30	—		1518	✓	✓	0/2	✓	✓	
S	MW-5D	—	42.80	—	85.15	1716	✓	✓	0/2	✓	✓	
S	MW-5DD	—	51.93	—		1705	✓	✓	0/2	✓	✓	
P	MW-7R	—	15.49	—	23.45	1124	✓	✓	0/2	✓	✓	
P	MW-8	—	17.27	—	21.75	1108	✓	✓	0/2	✓	✓	
P	MW-9R	—	12.74	—	19.70	1518	✓	✓	2/2	✓	✓	
S/D	MW-10R	—	29.29	—	30.30	1607	✓	✓	0/2	✓	✓	NS
S/D	MW-11R	—	26.44	—	30.10	1302	✓	✓	0/2	✓	✓	
P	MW-12R	—	13.20	—	19.90	1249	✓	✓	0/2	✓	✓	
S	MW-12D	—	38.02	—	75.20	1256	✓	✓	0/2	✓	✓	
P	MW-13	—	12.72	—	15.60	1200	✓	✓	2/2	✓	✓	NS
S/D	MW-15	—	33.25	—	34.40	1642	✓	✓	2/2	✓	✓	NS
S	MW-15R	—	27.58	—	39.25	1632	✓	✓	2/2	✓	✓	
S	MW-16	—	27.42	—	34.85	1114	✓	✓	2/2	✓	✓	
S	MW-17	—	33.66	—	39.40	1029	✓	✓	0/2	✓	✓	
P	MW-18	—	19.23	—	29.70	1400	✓	✓	0/0	✓	✓	
S	MW-18D	—	8.07	—	50.00	1408	✓	✓	0/0	✓	✓	
S	MW-19	—	29.31	—	34.80	1554	✓	✓	1/2	✓	✓	
S	MW-20	—	27.77	—	33.85	945	✓	✓	0/2	✓	✓	

Comments (Discussion, Required Action, Health and Safety Concerns):

MW18 + MW18D - school built new field, constructed new manways for MWs. MW18D likely destroyed → total depth higher than screened interval

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:		**QES Associate(s):**	
Project Number:	**SC-015, UST #07680**	**Others Present:**	
Project Name:	***Former Crown SC-015***	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
P MW-21	—	15.50	—		1410	✓	✓	0/0	✓	✓
P RW-1	✓	15.31	—		1412	✓	✓	0/2	✓	✓
P RW-2	15.28	15.35	—		1503	✓	✓	0/2	✓	✓
P RW-3	—	15.50	—		1515	✓	✓	0/2	✓	✓
S DW-1	✓	32.40	—	38.75	1359	✓	✓	0/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1236	250	Start Purge (0)							
1241		1.25	17.75	7.65	0.00	0.227	29	45	
1246		2.50	17.71	7.44	0.00	0.212	34	28	
1251		3.75	17.66	7.18	0.00	0.167	67	21	
1256		5.00	17.70	7.10	0.00	0.162	70	20	
1259		5.75	17.65	7.12	0.00	0.160	72	21	

Gauging Time:	1215	**Sample Time:**	1300
Depth to Water (ft.):	17.16		
Well Depth (ft.):	28.40	**# of Containers:**	5

Well Number: MW 1R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.75 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (~~shallow wells~~) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1201	350	Start Purge (0)							
1206	↓	1.75	18.62	5.78	2.22	0.075	316	220	
1211		3.50	18.34	6.38	1.66	0.084	290	51	
1216		5.25	18.24	6.45	1.45	0.087	285	54	
1221		7.00	18.21	6.46	2.00	0.084	288	52	
1224	↓	8.05	18.22	6.45	2.11	0.083	290	953	

Gauging Time:	1158	**Sample Time:**	1225
Depth to Water (ft.):	32.33		
Well Depth (ft.):	41.40	**# of Containers:**	5

Well Number: MW 1AR

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 2.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1228	350	Start Purge (0)							
1233	|		DRY @ 1230 →			let recharge		then	gray
1238	|								
1243	|								
			DRY @		1430 →	NO SAMPLE			

Gauging Time:	1208	**Sample Time:**	
Depth to Water (ft.):	28.21		
Well Depth (ft.):	30.20	**# of Containers:**	5

Well Number: MW2

DRUM 0.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1557	350	Start Purge (0)							
1602	↓	1.75	19.77	14.00	>50	6.24	-55	>1000	
1607		3.50	19.70	14.00	>50	5.02	-50	842	
1612		5.25	19.52	14.00	>50	4.71	-48	958	
1617	↓	7.00	19.50	14.00	>50	4.70	-45	835	

Gauging Time:	1518	**Sample Time:**	1617
Depth to Water (ft.):	15.30		
Well Depth (ft.):		**# of Containers:**	5 + 5

Well Number: MW5R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM Dup2

2 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1740	350	Start Purge (0)							
1745	〃	1.75	18.57	7.10	0.00	0.072	186	462	
1750	〃	3.50	18.34	7.05	0.00	0.073	195	475	
1755	〃	5.25	18.24	7.13	0.00	0.074	189	467	

Gauging Time:	1716	**Sample Time:**	1756
Depth to Water (ft.):	42.80		
Well Depth (ft.):	85.15	**# of Containers:**	5

Well Number: MW5D Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
17.12	350	Start Purge (0)							
1717		1.75	19.47	6.32	7.88	0.046	248	17	
1722		3.50	19.40	6.09	8.36	0.045	271	4.5	
1727		5.25	19.62	6.01	8.32	0.044	281	1.6	
1732		7.00	19.62	5.99	8.18	0.044	290	4.8	

Gauging Time:	1705	**Sample Time:**	1733
Depth to Water (ft.):	51.93		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW 5DD

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1145	250	Start Purge (0)							
1150		1.25	20.16	12.31	0.08	0.859	108	510	
1155		2.50	20.20	11.48	0.07	0.637	167	333	
1200		3.75	19.98	10.67	0.06	0.599	30	168	
1205		5.00	17.89	10.13	0.06	0.592	25	146	
1209		5.75	20.03	9.77	0.06	0.590	24	128	
1211		6.50	20.07	9.56	0.06	0.585	21	130	

Gauging Time:	1124	**Sample Time:**	1212
Depth to Water (ft.):	15.47		
Well Depth (ft.):	23.45	**# of Containers:**	5

Well Number: MW 7R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Ground

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1119	250	Start Purge (0)							
1124	↓	1.25	21.36	13.49	.250	4.57	-36	998	
1129		2.50	21.49	13.59	44.9	4.55	-36	1000	
1134		3.25	21.71	13.61	39.1	4.42	-35	992	
1139	↓	5.00	21.49	13.52	35.90	3.56	-28	1000	
		DRY	@	11 42	, wait	then	grab		

Gauging Time:	1108	**Sample Time:**	1240
Depth to Water (ft.):	17.27		
Well Depth (ft.):	21.75	**# of Containers:**	5

Well Number: MW 8

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1524	250	Start Purge (0)							
1529	↓	1.25	19.35	7.50	0.00	0.297	-6	320	
1534		2.50	19.59	7.46	0.00	0.305	-18	55	
1539		3.75	19.67	7.46	0.00	0.314	-23	58	
1544		5.00	19.76	7.48	0.00	0.320	-34	55	

Gauging Time:	1518	**Sample Time:**	1545
Depth to Water (ft.):	12.74		
Well Depth (ft.):	19.70	**# of Containers:**	5

Well Number: MW9R

Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1308	350	Start Purge (0)							
1313	↓	1.75	19.28	6.21	3.15	0.060	260	280	
1318	↓	3.50	19.68	6.00	3.75	0.060	286	291	
1323	↓	5.25	20.24	5.82	3.73	0.059	311	283	
1328	↓	7.00	20.44	5.75	3.90	0.059	320	288	
1331	↓	~~7.35~~ 8.05	20.50	5.72	3.82	0.059	328	281	

Gauging Time:	1302	**Sample Time:**	1332
Depth to Water (ft.):	26.44		
Well Depth (ft.):	30.10	**# of Containers:**	5

Well Number: MW 11R

DRUM 2.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1254	250	Start Purge (0)							
1259	↓	1.25	20.41	7.81	0.00	0.255	36	115	
1304		2.50	20.13	7.72	0.00	0.270	24	49	
1309		3.75	19.91	7.65	0.00	0.299	1	48	
1314		5.00	19.73	7.64	0.00	0.304	-14	47	

Gauging Time:	1249	**Sample Time:**	1315
Depth to Water (ft.):	13.20		
Well Depth (ft.):	19.90	**# of Containers:**	5

Well Number: MW12R DRUM 1.5 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1317	350	Start Purge (0)							
1322		1.75	19.20	7.45	6.50	0.076	100	198	
1327		3.50	20.11	6.31	8.50	0.066	244	11	
1332		5.25	20.30	6.05	8.34	0.066	273	10	
1337		7.00	19.62	6.06	7.31	0.066	276	8	
1340		8.05	19.75	5.94	6.95	0.066	277	9.9	
1343		9.10	19.71	5.90	6.87	0.065	276	4.8	
1346		10.15	19.75	5.86	6.84	0.065	281	5.8	

Gauging Time:	1256	**Sample Time:**	1347
Depth to Water (ft.):	38.02		
Well Depth (ft.):	75.20	**# of Containers:**	5

Well Number: MW12D DRUM 2.75 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1223	250	Start Purge (0)							
1228	|	1.25	20.11	8.25	0.08	0.306	40	~~710~~ 406	
1233	|	2.50	20.21	7.93	0.08	0.312	71	300	
1238									
			DRY	@	1234				
			Attempt grab @ 1515 → bailer full of bentonite - NO SAMPLE						

Gauging Time:	1200	**Sample Time:**	—
Depth to Water (ft.):	12.72		
Well Depth (ft.):	15.60	**# of Containers:**	5

Well Number: MW 13

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1640	350	Start Purge (0)							
1645		1.75	19.93	7.05	0.00	0.169	129	256	
1650		3.50	20.02	6.96	0.00	0.170	133	245	
1655		5.25	20.12	7.05	0.00	0.170	129	241	

Gauging Time:	1632	**Sample Time:**	1656
Depth to Water (ft.):	27.58		
Well Depth (ft.):	34.25	**# of Containers:**	5

Well Number: MW15R Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1122	350	Start Purge (0)							
1127	↓	1.75	19.18	5.06	0.06	0.167	357	467	
1132		3.50	19.95	5.16	0.36	0.177	371	152	
1137		5.25	19.90	5.20	0.30	0.181	380	146	
1142		7.00	19.82	5.19	0.31	0.180	389	142	

Gauging Time:	1114	**Sample Time:**	1143
Depth to Water (ft.):	27.42		
Well Depth (ft.):	34.85	**# of Containers:**	5

Well Number: MW16 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1035	350	Start Purge (0)							
1040	|	1.75	18.88	5.73	0.10	0.081	199	772	
1045	|	3.50	19.05	5.82	0.09	0.074	209	414	
1050	|	5.25	19.01	5.72	0.08	0.069	234	410	
1055		7.00	19.54	5.63	0.07	0.069	249	403	
1058		8.05	19.77	5.56	0.07	0.070	258	400	
1101		9.10	20.05	5.53	0.06	0.070	269	398	

Gauging Time:	1029	**Sample Time:**	1102
Depth to Water (ft.):	33.66		
Well Depth (ft.):	37.40	**# of Containers:**	5

Well Number: MW 17

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

Dupl

2.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C))	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1405	250	Start Purge (0)							
1410		1.25	19.23	6.40	0.00	0.120	225	70	
1415		3.50	19.26	6.34	0.00	0.123	237	16	
1420		5.25	19.27	6.31	0.00	0.124	242	9.1	
1425									

Gauging Time:	1400	**Sample Time:**	1421
Depth to Water (ft.):	19.23		
Well Depth (ft.):	29.70	**# of Containers:**	5

Well Number: MW 18 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1426	350	Start Purge (0)							
1431	|	1.75	19.98	7.25	0.00	0.136	25	8.5	
1436	|	3.50	19.71	7.49	0.00	0.132	21	7.1	
1441	|	5.25	19.45	7.57	0.00	0.132	27	4.2	
1446	|	7.00	19.59	7.63	0.00	0.133	42	10.0	
1449	|	8.05	19.70	7.63	0.00	0.134	56	9.2	

Gauging Time:	1408	**Sample Time:**	1450
Depth to Water (ft.):	8.07		
Well Depth (ft.):	50.00	**# of Containers:**	5

Well Number: MW 18D

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/30/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1600	350	Start Purge (0)							
1605	|	1.75	20.14	6.90	1.88	0.079	138	520	
1610	|	3.50	20.25	6.44	1.69	0.074	204	218	
1615	|	5.25	20.35	6.28	0.61	0.071	230	76	
1620	|	7.00	20.28	6.24	0.58	0.070	240	75	
1623	|	8.05	20.14	6.18	0.55	0.069	247	72	

Gauging Time:	1554	**Sample Time:**	1624
Depth to Water (ft.):	29.31		
Well Depth (ft.):	34.80	**# of Containers:**	5

Well Number: MW19 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
953	350	Start Purge (0)							
958		1.75	18.88	5.63	2.12	0.096	327	876	
1003		3.50	18.46	5.54	1.85	0.098	346	340	
1008		5.25	19.01	5.51	0.53	0.086	357	122	
1013		7.00	19.66	5.43	0.28	0.079	371	110	
1016		8.05	20.14	5.45	0.09	0.077	377	108	
1019		9.10	20.17	5.47	0.10	0.076	380	105	

Gauging Time:	945	**Sample Time:**	1020
Depth to Water (ft.):	27.77		
Well Depth (ft.):	33.85	**# of Containers:**	5

Well Number: MW20

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1427	350	Start Purge (0)							
1432	|	1.75	19.09	9.14	0.00	0.832	154	71000	pumped ~1 gal
1437	|	3.50	18.78	9.79	17.49	0.825	142	955	before low flow
1442	|	5.25	18.81	10.28	18.22	0.869	124	71000	to clear sediment
1447		7.00	18.66	10.50	18.78	0.885	121	948	from bottom
1450		8.05	18.54	10.55	20.89	0.888	118	953	

Gauging Time:	1410	**Sample Time:**	1451
Depth to Water (ft.):	15.50		
Well Depth (ft.):		**# of Containers:**	5

Well Number: MW21

DRUM

2.25 + 1 = 3.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (~~deep wells~~)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1404	350	Start Purge (0)							
1409	|	1.75	20.23	6.71	0.00	0.183	10	440	
1414	|	3.50	20.05	6.89	0.00	0.183	0	112	
1419		5.25	19.89	6.90	0.00	0.184	-2	109	
1424		7.00	20.17	6.88	0.00	0.184	-4	107	

Gauging Time:	1359	**Sample Time:**	1425
Depth to Water (ft.):	32.40		
Well Depth (ft.):	38.75	**# of Containers:**	

Well Number: DW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Drum 2 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1457	350	Start Purge (0)							
1502		1.75	19.16	14.00	>50	@5.02	-70	812	
1507		3.50	19.00	14.00	750	4.48	-67	>1000	
1512		5.25	19.13	14.00	750	4.29	-64	856	
1517		7.00	19.05	14.00	750	4.16	-65	968	
1520		8.05	18.91	14.00	>50	4.09	-65	851	

Gauging Time:	1412	**Sample Time:**	1521
Depth to Water (ft.):	15.31		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 3.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
		Grab	Sample		Under	LNAPL	@		1600

Gauging Time:	1503	**Sample Time:**	1600
Depth to Water (ft.):	15.28 / 15.35		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW-2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/31/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1530	350	Start Purge (0)							
1535	↓	1.75	19.57	14.00	750	2.21	-46	121	
1540	↓	3.50	19.20	14.00	750	2.07	-50	95	
1545	↓	5.25	19.26	14.00	750	2.09	-50	92	
1550		7.00	19.26	14.00	750	2.06	-52	91	

Gauging Time:	1515	**Sample Time:**	1551
Depth to Water (ft.):	15.50		
Well Depth (ft.):		**# of Containers:**	5

Well Number: RW-3

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 3 5-1

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

	Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
G/D	MW-1A		DRY								
G	MW-1R	—	15.45	—		1438	✓	✓	0/2	✓	✓
L	MW-1AR	—	31.51	—		1409	✓	✓	2/2	✓	✓
G/D	MW-2	—	29.74	—		1419	✓	✓	0/2	✓	✓
G	MW-5R	—	13.98	—		1637	✓	✓	0/2	✓	✓
L	MW-5D	—	42.46	—		1522	✓	✓	0/2	✓	✓
L	MW-5DD	—	51.46	—		1500	✓	✓	0/2	✓	✓
G	MW-7R	—	14.43	—		950	✓	✓	0/2	✓	✓
G	MW-8	—	15.70	—		1004	✓	✓	0/2	✓	✓
G	MW-9R	—	10.89	—		1050	✓	✓	1/2	✓	✓
G/D	MW-10R	—	28.55	—		1110	✓	✓	0/2	✓	✓
G	MW-11R	—	25.70	—		1123	✓	✓	0/2	✓	✓
G	MW-12R	—	11.31	—		1311	✓	✓	0/2	✓	✓
L	MW-12D	—	37.00	—		1245	✓	✓	0/2	✓	✓
G	MW-13	—	10.89	—		1018	✓	✓	2/2	✓	✓
G	MW-15	—	32.51	—		1204	✓	✓	1/2	✓	✓
G	MW-15R	—	26.16	—		1214	✓	✓	2/2	✓	✓
G	MW-16	—	26.79	—		1148	✓	✓	2/2	✓	✓
G	MW-17	—	32.70	—		1135	✓	✓	0/2	✓	✓
G	MW-18	—	18.00	—		1349	✓	✓	NA	✓	✓
L	MW-18D	—	36.80	—	48.50	1347	✓	✓	NA	✓	✓
G	MW-19	—	28.56	—		1102	✓	✓	1/2	✓	✓
G	MW-20	—	27.07	—		1038	✓	✓	0/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

No Sample - MW1BD, MW1A, MW2

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date: 4/24/24	**QES Associate(s):** A. Smith-Jones
Project Number: SC-015, UST #07680	**Others Present:**
Project Name: *Former Crown SC-015*	**QES Associate Signature:**

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
G MW-21	—	13.99	—		1632	✓	✓	0/2	✓	✓
G RW-1	—	13.95	—		1634	✓	✓	0/2	✓	✓
G RW-2	—	14.15	—		1706	✓	✓	0/2	✓	✓
G RW-3	—	14.00	—		1636	✓	✓	0/2	✓	✓
G L DW-1	—	31.54	—		1552	✓	✓	2/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1446		Start Purge (0)	22.47	6.14	2.40	0.29	11	3.0	

Gauging Time:	1438	**Sample Time:**	1446
Depth to Water (ft.):	15.45		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 1R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1413	350	Start Purge (0)							
1418	"	1.75	23.37	5.76	6.43	0.08	257	5.1	
1423	"	3.50	25.30	5.90	6.36	0.08	254	1.1	
1428	"	5.25	23.53	5.93	6.33	0.08	255	1.0	
1433	"	7.00	23.41	5.91	6.33	0.08	258	2.1	

Gauging Time:	1409	**Sample Time:**	1434
Depth to Water (ft.):	31.51		
Well Depth (ft.):		**# of Containers:**	

Well Number: MW 1 AR DRUM 2 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1713			21.84	8.77	2.70	0.91	2.9	6.2	

Gauging Time:	1637	**Sample Time:**	1713
Depth to Water (ft.):	13.98		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 5R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1541	350	Start Purge (0)							
1546		1.75	26.10	6.23	3.35	0.10	151	1070	
1551		3.50	23.62	6.22	3.63	0.09	159	444	
1556		5.25	24.26	6.16	3.80	0.02	164	196	
1601		7.00	23.63	6.31	3.69	0.09	155	170	
1604		8.05	24.00	6.31	3.66	0.09	162	165	
1607		9.10	24.55	6.29	3.68	0.09	170	162	

Gauging Time:	1522	**Sample Time:**	1608
Depth to Water (ft.):	42.46		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5D Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1509	350	Start Purge (0)							
1514		1.75	24.81	4.50	7.02	0.05	279	1352	
1519		3.50	25.11	3.30	7.02	0.05	363	1411	
1524		5.25	24.29	3.29	7.03	0.05	369	1258	
1529		7.00	24.38	3.28	7.02	0.05	375	1275	

Gauging Time:	1500	**Sample Time:**	1530
Depth to Water (ft.):	51.46		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5DD Ground Dup1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1000			20.59	6.91	2.21	0.68	-32	5.3	

Gauging Time:	950	**Sample Time:**	1000
Depth to Water (ft.):	14.43		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW7R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1012			21.48	12.04	24.06	2.59	5.0	28	

Gauging Time:	1004	**Sample Time:**	1012
Depth to Water (ft.):	15.70		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW8

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1059			21.50	6.32	2.20	0.31	17	62	

Gauging Time:	1050	**Sample Time:**	1059
Depth to Water (ft.):	10.89		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW9R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1120			21.63	5.02	6.96	0.07	231	140	

Gauging Time:	1110	**Sample Time:**	1120
Depth to Water (ft.):	28.55		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW10R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (~~Grab~~)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1130			22.97	5.01	6.79	0.06	244	34	

Gauging Time:	1123	**Sample Time:**	1130
Depth to Water (ft.):	25.70		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 11R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1325			20.72	6.03	2.42	0.26	167	82	

Gauging Time:	1311	**Sample Time:**	1325
Depth to Water (ft.):	11.31		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW12R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1255	350	Start Purge (0)							
1300		1.75	22.50	5.01	6.03	0.06	266	216	
1305		3.50	22.32	5.15	6.02	0.06	275	110	
1310		5.25	22.27	5.20	6.00	0.06	278	105	
1315		7.00	22.71	5.23	5.92	0.06	283	104	

Gauging Time:	1245	**Sample Time:**	1316
Depth to Water (ft.):	37.00		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW12D DRUM 2 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1028		Start Purge (0)	21.04	5.66	3.24	0.25	62	152	

Gauging Time:	1018	**Sample Time:**	1028
Depth to Water (ft.):	10.89		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW13

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1210			23.27	5.72	6.12	0.11	283	73	

Gauging Time:	1204	**Sample Time:**	1210
Depth to Water (ft.):	32.51		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW15

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1221			23.18	6.07	3.98	0.08	129	8.9	

Gauging Time:	1214	**Sample Time:**	1221
Depth to Water (ft.):	26.10		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW15R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)			5.55				
1157			20.95	4.74	~~6.10~~	0.18	249	4.0	

Gauging Time:	1148	**Sample Time:**	1157
Depth to Water (ft.):	26.79		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW16

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1144			23.06	5.04	4.44	0.04	232	4.4	

Gauging Time:	1135	**Sample Time:**	1144
Depth to Water (ft.):	32.70		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW17

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) ~~Ethanol (8015C)~~	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1358			21.63	5.44	4.00	0.15	211	7.3	

Gauging Time:	1347	**Sample Time:**	1358
Depth to Water (ft.):	18.00		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW18

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1111			21.95	5.23	6.60	0.07	186	1.2	

Gauging Time:	1102	**Sample Time:**	1111
Depth to Water (ft.):	28.56		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW17

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1045			22.48	5.23	5.93	0.02	175	3.2	

Gauging Time:	1038	**Sample Time:**	1045
Depth to Water (ft.):	27.07		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW20

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
		Start Purge (0)							
1654			22.11	6.97	0.88	1.17	-53	498	

Gauging Time:	1632	**Sample Time:**	1654
Depth to Water (ft.):	13.99		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW21

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1700		Start Purge (0)	21.72	12.11	15.77	2.95	-108	75	

Gauging Time:	1634	**Sample Time:**	1700
Depth to Water (ft.):	13.95		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
		Start Purge (0)							
1718			21.72	7.33	1.45	0.06	-55	24	

Gauging Time:	1706	**Sample Time:**	1718
Depth to Water (ft.):	14.15		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	**Purge Rate** *(ml/min)*	**Cum. Vol. Purged** *(Liters)*	**Temp.** *(Celsius)*	**pH**	**D.O.** *(mg/L)*	**Cond.** *(mS/cm)*	**ORP** *(mV)*	**Turbidity** *(NTU)*	**Comments:**
		Start Purge (0)							
1705			21.91	9.33	4.68	0.55	-25	40	

Gauging Time:	16.36	**Sample Time:**	1705
Depth to Water (ft.):	14.00		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-3

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	4/24/24	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1617	350	Start Purge (0)							
1622	|	1.75	24.45	5.84	0.22	0.20	-19	201	
1627	|	3.50	24.57	5.83	0.23	0.20	-50	106	
1632	|	5.25	24.54	5.84	0.20	0.21	-68	103	
1637	|	7.00	24.70	5.85	0.17	0.21	-85	101	

Gauging Time:	1552	**Sample Time:**	1638
Depth to Water (ft.):	31.54		
Well Depth (ft.):		**# of Containers:**	6 + 6

Well Number: DW-1 DRUM Dup 2 2 of 2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	533964
Created	4/24/2024

Serial Number	1057552
Last Calibrated	4/24/2024

Calibration Details

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	168.8 mV
Temperature	24.95 °C

Pre Measurement

pH	4.10 pH
pH mV	168.5 mV

Post Measurement

pH	4.00 pH
pH mV	168.8 mV

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-19.0 mV
Temperature	22.98 °C

Pre Measurement

pH	7.27 pH
pH mV	-18.9 mV

Post Measurement

pH	7.00 pH
pH mV	-18.9 mV

Slope and Offset 1

Slope	-62.61 mV/pH
Offset	-19.0 mV

ORP

ORP Solution	Quick Cal
Offset	31.3 mV
Temperature	18.57 °C
Pre Measurement	221.3 mV
Post Measurement	233.2 mV

[redacted]

Serial Number	916665
Last Calibrated	4/10/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.014
Offset	0.00 µS/cm
Reference Temperature	25.00 °C

Calibration Point 1

Pre Measurement

Actual Conductivity	6,404.6 µS/cm
Specific Conductivity	7,301.8 µS/cm

Post Measurement

Actual Conductivity	7,017.0 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	1100471
Last Calibrated	Factory Defaults

[redacted]

Serial Number	1084930
Last Calibrated	Factory Defaults

[redacted]

Serial Number	533964
Last Calibrated	Factory Defaults

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	533964
Created	4/24/2024

Serial Number	1057552
Last Calibrated	4/24/2024

Calibration Details

Calibration Point 1

pH of Buffer	7.00 pH
pH mV	-2.3 mV
Temperature	23.15 °C

Pre Measurement

pH	6.73 pH
pH mV	-2.3 mV

Post Measurement

pH	7.00 pH
pH mV	-2.3 mV

Slope and Offset 1

Slope	-58.79 mV/pH
Offset	-2.3 mV

ORP

ORP Solution	Quick Cal
Offset	38.3 mV
Temperature	23.15 °C
Pre Measurement	219.3 mV
Post Measurement	226.3 mV

[redacted]

Serial Number	916665
Last Calibrated	4/24/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.202
Offset	0.00 µS/cm
Reference Temperature	25.00 °C

Calibration Point 1

Pre Measurement

Actual Conductivity	6,512.7 µS/cm
Specific Conductivity	6,751.8 µS/cm

Post Measurement

Actual Conductivity	7,716.7 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	1100471
Last Calibrated	Factory Defaults

[redacted]

Serial Number	1084930
Last Calibrated	Factory Defaults

[redacted]

Serial Number	533964
Last Calibrated	Factory Defaults

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

February 09, 2024

Don Jones
Quality Environmental Solutions
2112 Loblolly Lane
Johns Island, SC 29455

RE: Project: SC-015 UST#07680
Pace Project No.: 92711329

Dear Don Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on February 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Jonathan W Biddix
jonathan.biddix@pacelabs.com
704-977-0978
Project Manager

Enclosures

cc: Austin Smith-Jones, Quality Environmental Solutions

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CERTIFICATIONS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SC-015 UST#07680
Pace Project No.: 92711329

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92711329001	**MW-1R**	Water	01/31/24 13:00	02/02/24 08:45
92711329002	**MW-1AR**	Water	01/31/24 12:25	02/02/24 08:45
92711329003	**MW-3R**	Water	01/31/24 16:17	02/02/24 08:45
92711329004	**MW-5D**	Water	01/30/24 17:56	02/02/24 08:45
92711329005	**MW-5DD**	Water	01/30/24 17:33	02/02/24 08:45
92711329006	**MW-7R**	Water	01/30/24 12:12	02/02/24 08:45
92711329007	**MW-8**	Water	01/30/24 12:40	02/02/24 08:45
92711329008	**MW-9R**	Water	01/30/24 15:45	02/02/24 08:45
92711329009	**MW-11R**	Water	01/31/24 13:32	02/02/24 08:45
92711329010	**MW-12R**	Water	01/30/24 13:15	02/02/24 08:45
92711329011	**MW-12D**	Water	01/30/24 13:47	02/02/24 08:45
92711329012	**MW-15R**	Water	01/30/24 16:56	02/02/24 08:45
92711329013	**MW-16**	Water	01/30/24 11:43	02/02/24 08:45
92711329014	**MW-17**	Water	01/30/24 11:02	02/02/24 08:45
92711329015	**MW-18**	Water	01/30/24 14:21	02/02/24 08:45
92711329016	**MW-18D**	Water	01/30/24 14:50	02/02/24 08:45
92711329017	**MW-19**	Water	01/30/24 16:24	02/02/24 08:45
92711329018	**MW-20**	Water	01/31/24 10:20	02/02/24 08:45
92711329019	**MW-21**	Water	01/31/24 14:51	02/02/24 08:45
92711329020	**DW-1**	Water	01/31/24 14:25	02/02/24 08:45
92711329021	**RW-1**	Water	01/31/24 15:21	02/02/24 08:45
92711329022	**RW-2**	Water	01/31/24 16:00	02/02/24 08:45
92711329023	**RW-3**	Water	01/31/24 15:51	02/02/24 08:45
92711329024	**DUP-1**	Water	01/31/24 12:00	02/02/24 08:45
92711329025	**DUP-2**	Water	01/31/24 12:00	02/02/24 08:45
92711329026	**FB1**	Water	01/30/24 12:00	02/02/24 08:45
92711329027	**FB2**	Water	01/31/24 12:00	02/02/24 08:45
92711329028	**TB1**	Water		02/02/24 08:45
92711329029	**TB2**	Water		02/02/24 08:45

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SAMPLE ANALYTE COUNT

Project: SC-015 UST#07680
Pace Project No.: 92711329

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92711329001	**MW-1R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329002	**MW-1AR**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329003	**MW-3R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92711329004	**MW-5D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329005	**MW-5DD**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329006	**MW-7R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329007	**MW-8**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92711329008	**MW-9R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92711329009	**MW-11R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329010	**MW-12R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329011	**MW-12D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329012	**MW-15R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329013	**MW-16**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329014	**MW-17**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329015	**MW-18**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329016	**MW-18D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329017	**MW-19**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329018	**MW-20**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329019	**MW-21**	EPA 8011	HH	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: SC-015 UST#07680
Pace Project No.: 92711329

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260D	SAS	18	PASI-C
92711329020	**DW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329021	**RW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92711329022	**RW-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92711329023	**RW-3**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92711329024	**DUP-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329025	**DUP-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92711329026	**FB1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	GAW	18	PASI-C
92711329027	**FB2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92711329028	**TB1**	EPA 8260D	SAS	18	PASI-C
92711329029	**TB2**	EPA 8260D	SAS	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-1R **Lab ID: 92711329001** Collected: 01/31/24 13:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 16:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	02/08/24 09:24	02/08/24 16:13	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 22:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 22:20	994-05-8	
Benzene	**15.0**	ug/L	1.0	0.34	1		02/02/24 22:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 22:20	624-95-3	
tert-Butyl Alcohol	**59.9J**	ug/L	100	26.8	1		02/02/24 22:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 22:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 22:20	107-06-2	
Diisopropyl ether	**0.46J**	ug/L	1.0	0.31	1		02/02/24 22:20	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 22:20	64-17-5	
Ethylbenzene	**136**	ug/L	1.0	0.30	1		02/02/24 22:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 22:20	637-92-3	
Methyl-tert-butyl ether	**33.6**	ug/L	1.0	0.42	1		02/02/24 22:20	1634-04-4	
Naphthalene	**146**	ug/L	1.0	0.64	1		02/02/24 22:20	91-20-3	
Toluene	**5.5**	ug/L	1.0	0.48	1		02/02/24 22:20	108-88-3	
Xylene (Total)	**25.1**	ug/L	1.0	0.34	1		02/02/24 22:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		02/02/24 22:20	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		02/02/24 22:20	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 22:20	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-1AR **Lab ID: 92711329002** Collected: 01/31/24 12:25 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	02/08/24 09:24	02/08/24 16:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	02/08/24 09:24	02/08/24 16:24	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 16:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 16:57	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 16:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 16:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 16:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 16:57	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 16:57	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 16:57	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 16:57	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 16:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 16:57	637-92-3	
Methyl-tert-butyl ether	**0.90J**	ug/L	1.0	0.42	1		02/02/24 16:57	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 16:57	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 16:57	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 16:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 16:57	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/02/24 16:57	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 16:57	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-3R **Lab ID: 92711329003** Collected: 01/31/24 16:17 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	02/08/24 09:24	02/08/24 16:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	119	%	60-140		1	02/08/24 09:24	02/08/24 16:34	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		02/06/24 00:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		02/06/24 00:25	994-05-8	
Benzene	**7880**	ug/L	250	86.2	250		02/06/24 00:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		02/06/24 00:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		02/06/24 00:25	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		02/06/24 00:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		02/06/24 00:25	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		02/06/24 00:25	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		02/06/24 00:25	64-17-5	
Ethylbenzene	**3900**	ug/L	250	76.0	250		02/06/24 00:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		02/06/24 00:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		02/06/24 00:25	1634-04-4	
Naphthalene	**724**	ug/L	250	161	250		02/06/24 00:25	91-20-3	
Toluene	**30300**	ug/L	250	121	250		02/06/24 00:25	108-88-3	
Xylene (Total)	**19500**	ug/L	250	84.5	250		02/06/24 00:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		250		02/06/24 00:25	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		250		02/06/24 00:25	17060-07-0	
Toluene-d8 (S)	99	%	70-130		250		02/06/24 00:25	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-5D **Lab ID: 92711329004** Collected: 01/30/24 17:56 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	02/08/24 09:24	02/08/24 16:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	02/08/24 09:24	02/08/24 16:45	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 17:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 17:15	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 17:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 17:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 17:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 17:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 17:15	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 17:15	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 17:15	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 17:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 17:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 17:15	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 17:15	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 17:15	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 17:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/02/24 17:15	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/02/24 17:15	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 17:15	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-5DD **Lab ID: 92711329005** Collected: 01/30/24 17:33 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 16:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	02/08/24 09:24	02/08/24 16:56	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 17:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 17:33	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 17:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 17:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 17:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 17:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 17:33	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 17:33	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 17:33	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 17:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 17:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 17:33	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 17:33	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 17:33	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 17:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/02/24 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/02/24 17:33	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 17:33	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-7R **Lab ID: 92711329006** Collected: 01/30/24 12:12 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0072	1	02/08/24 09:24	02/08/24 17:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	02/08/24 09:24	02/08/24 17:06	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 17:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 17:51	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 17:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 17:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 17:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 17:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 17:51	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 17:51	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 17:51	64-17-5	
Ethylbenzene	**12.0**	ug/L	1.0	0.30	1		02/02/24 17:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 17:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 17:51	1634-04-4	
Naphthalene	**11.6**	ug/L	1.0	0.64	1		02/02/24 17:51	91-20-3	
Toluene	**0.96J**	ug/L	1.0	0.48	1		02/02/24 17:51	108-88-3	
Xylene (Total)	**17.0**	ug/L	1.0	0.34	1		02/02/24 17:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		02/02/24 17:51	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/02/24 17:51	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 17:51	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-8 **Lab ID: 92711329007** Collected: 01/30/24 12:40 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 17:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	02/08/24 09:24	02/08/24 17:17	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**109J**	ug/L	250	91.0	2.5		02/06/24 22:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	6.6	2.5		02/06/24 22:59	994-05-8	
Benzene	**32.5**	ug/L	2.5	0.86	2.5		02/06/24 22:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	130	2.5		02/06/24 22:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	67.0	2.5		02/06/24 22:59	75-65-0	
tert-Butyl Formate	ND	ug/L	125	73.5	2.5		02/06/24 22:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	2.5	0.80	2.5		02/06/24 22:59	107-06-2	
Diisopropyl ether	ND	ug/L	2.5	0.77	2.5		02/06/24 22:59	108-20-3	
Ethanol	ND	ug/L	500	180	2.5		02/06/24 22:59	64-17-5	
Ethylbenzene	**88.6**	ug/L	2.5	0.76	2.5		02/06/24 22:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	8.1	2.5		02/06/24 22:59	637-92-3	
Methyl-tert-butyl ether	**2.0J**	ug/L	2.5	1.1	2.5		02/06/24 22:59	1634-04-4	C8
Naphthalene	**55.6**	ug/L	2.5	1.6	2.5		02/06/24 22:59	91-20-3	v3
Toluene	**305**	ug/L	2.5	1.2	2.5		02/06/24 22:59	108-88-3	
Xylene (Total)	**421**	ug/L	2.5	0.84	2.5		02/06/24 22:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		2.5		02/06/24 22:59	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		2.5		02/06/24 22:59	17060-07-0	
Toluene-d8 (S)	99	%	70-130		2.5		02/06/24 22:59	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-9R **Lab ID: 92711329008** Collected: 01/30/24 15:45 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0072	1	02/08/24 09:24	02/08/24 17:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	02/08/24 09:24	02/08/24 17:28	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/06/24 21:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/06/24 21:47	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/06/24 21:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/06/24 21:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/06/24 21:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/06/24 21:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/06/24 21:47	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/06/24 21:47	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/06/24 21:47	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/06/24 21:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/06/24 21:47	637-92-3	
Methyl-tert-butyl ether	**6.3**	ug/L	1.0	0.42	1		02/06/24 21:47	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/06/24 21:47	91-20-3	v2
Toluene	ND	ug/L	1.0	0.48	1		02/06/24 21:47	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/06/24 21:47	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		02/06/24 21:47	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/06/24 21:47	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/06/24 21:47	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-11R **Lab ID: 92711329009** Collected: 01/31/24 13:32 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	02/08/24 09:24	02/08/24 17:38	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	02/08/24 09:24	02/08/24 17:38	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 18:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 18:44	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 18:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 18:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 18:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 18:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 18:44	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 18:44	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 18:44	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 18:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 18:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 18:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 18:44	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 18:44	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 18:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 18:44	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		02/02/24 18:44	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/02/24 18:44	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-12R **Lab ID: 92711329010** Collected: 01/30/24 13:15 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 17:49	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	02/08/24 09:24	02/08/24 17:49	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 21:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 21:26	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 21:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 21:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 21:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 21:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 21:26	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 21:26	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 21:26	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 21:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 21:26	637-92-3	
Methyl-tert-butyl ether	**4.7**	ug/L	1.0	0.42	1		02/02/24 21:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 21:26	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 21:26	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 21:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 21:26	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/02/24 21:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 21:26	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-12D **Lab ID: 92711329011** Collected: 01/30/24 13:47 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 18:42	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	02/08/24 09:24	02/08/24 18:42	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 19:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 19:02	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 19:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 19:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 19:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 19:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 19:02	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 19:02	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 19:02	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 19:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 19:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 19:02	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 19:02	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 19:02	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 19:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 19:02	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/02/24 19:02	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 19:02	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-15R **Lab ID: 92711329012** Collected: 01/30/24 16:56 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 19:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	02/08/24 09:24	02/08/24 19:03	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 21:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 21:44	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 21:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 21:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 21:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 21:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 21:44	107-06-2	
Diisopropyl ether	**0.96J**	ug/L	1.0	0.31	1		02/02/24 21:44	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 21:44	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 21:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 21:44	637-92-3	
Methyl-tert-butyl ether	**14.6**	ug/L	1.0	0.42	1		02/02/24 21:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 21:44	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 21:44	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 21:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		02/02/24 21:44	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		02/02/24 21:44	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		02/02/24 21:44	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-16 **Lab ID: 92711329013** Collected: 01/30/24 11:43 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 19:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	02/08/24 09:24	02/08/24 19:35	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 19:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 19:20	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 19:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 19:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 19:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 19:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 19:20	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 19:20	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 19:20	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 19:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 19:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 19:20	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 19:20	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 19:20	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 19:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/02/24 19:20	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 19:20	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-17 **Lab ID: 92711329014** Collected: 01/30/24 11:02 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	02/08/24 09:24	02/08/24 19:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	02/08/24 09:24	02/08/24 19:46	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 19:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 19:39	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 19:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 19:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 19:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 19:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 19:39	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 19:39	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 19:39	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 19:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 19:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 19:39	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 19:39	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 19:39	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 19:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		02/02/24 19:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/02/24 19:39	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 19:39	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-18 **Lab ID: 92711329015** Collected: 01/30/24 14:21 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0072	1	02/08/24 09:24	02/08/24 19:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	02/08/24 09:24	02/08/24 19:57	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 19:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 19:56	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 19:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 19:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 19:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 19:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 19:56	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 19:56	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 19:56	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 19:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 19:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 19:56	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 19:56	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 19:56	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 19:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/02/24 19:56	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/02/24 19:56	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 19:56	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-18D **Lab ID: 92711329016** Collected: 01/30/24 14:50 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 20:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	02/08/24 09:24	02/08/24 20:07	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 20:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 20:14	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 20:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 20:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 20:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 20:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 20:14	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 20:14	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 20:14	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 20:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 20:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 20:14	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 20:14	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 20:14	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 20:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		02/02/24 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/02/24 20:14	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 20:14	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-19 **Lab ID: 92711329017** Collected: 01/30/24 16:24 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	02/08/24 09:24	02/08/24 20:18	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	02/08/24 09:24	02/08/24 20:18	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 20:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 20:32	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 20:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 20:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 20:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 20:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 20:32	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 20:32	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 20:32	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 20:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 20:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 20:32	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 20:32	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 20:32	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 20:32	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 20:32	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		02/02/24 20:32	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/02/24 20:32	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-20 **Lab ID: 92711329018** Collected: 01/31/24 10:20 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	02/08/24 09:24	02/08/24 20:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	02/08/24 09:24	02/08/24 20:29	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 22:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 22:02	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 22:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 22:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 22:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 22:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 22:02	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 22:02	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 22:02	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 22:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 22:02	637-92-3	
Methyl-tert-butyl ether	**1.0**	ug/L	1.0	0.42	1		02/02/24 22:02	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 22:02	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 22:02	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 22:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/02/24 22:02	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		02/02/24 22:02	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/02/24 22:02	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: MW-21 **Lab ID: 92711329019** Collected: 01/31/24 14:51 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	02/08/24 09:24	02/08/24 20:39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/08/24 09:24	02/08/24 20:39	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	20000	7280	200		02/03/24 03:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	532	200		02/03/24 03:36	994-05-8	
Benzene	**594**	ug/L	200	69.0	200		02/03/24 03:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	10400	200		02/03/24 03:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5360	200		02/03/24 03:36	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	5880	200		02/03/24 03:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	64.4	200		02/03/24 03:36	107-06-2	
Diisopropyl ether	ND	ug/L	200	61.6	200		02/03/24 03:36	108-20-3	
Ethanol	ND	ug/L	40000	14400	200		02/03/24 03:36	64-17-5	
Ethylbenzene	**2530**	ug/L	200	60.8	200		02/03/24 03:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	648	200		02/03/24 03:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	84.4	200		02/03/24 03:36	1634-04-4	
Naphthalene	**1210**	ug/L	200	129	200		02/03/24 03:36	91-20-3	
Toluene	**20200**	ug/L	200	97.0	200		02/03/24 03:36	108-88-3	
Xylene (Total)	**12600**	ug/L	200	67.6	200		02/03/24 03:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		200		02/03/24 03:36	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		200		02/03/24 03:36	17060-07-0	
Toluene-d8 (S)	108	%	70-130		200		02/03/24 03:36	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: DW-1 **Lab ID: 92711329020** Collected: 01/31/24 14:25 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	02/08/24 09:24	02/08/24 20:50	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	02/08/24 09:24	02/08/24 20:50	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 20:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 20:50	994-05-8	
Benzene	**2.6**	ug/L	1.0	0.34	1		02/02/24 20:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 20:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 20:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 20:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 20:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 20:50	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 20:50	64-17-5	
Ethylbenzene	**1.1**	ug/L	1.0	0.30	1		02/02/24 20:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 20:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 20:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 20:50	91-20-3	
Toluene	**5.4**	ug/L	1.0	0.48	1		02/02/24 20:50	108-88-3	
Xylene (Total)	**4.9**	ug/L	1.0	0.34	1		02/02/24 20:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		02/02/24 20:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/02/24 20:50	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/02/24 20:50	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: RW-1 **Lab ID: 92711329021** Collected: 01/31/24 15:21 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	02/08/24 09:24	02/08/24 21:00	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	77	%	60-140		1	02/08/24 09:24	02/08/24 21:00	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	12500	4550	125		02/06/24 00:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	332	125		02/06/24 00:07	994-05-8	
Benzene	**1690**	ug/L	125	43.1	125		02/06/24 00:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	6490	125		02/06/24 00:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	3350	125		02/06/24 00:07	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	3680	125		02/06/24 00:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	40.2	125		02/06/24 00:07	107-06-2	
Diisopropyl ether	ND	ug/L	125	38.5	125		02/06/24 00:07	108-20-3	
Ethanol	ND	ug/L	25000	9020	125		02/06/24 00:07	64-17-5	
Ethylbenzene	**1970**	ug/L	125	38.0	125		02/06/24 00:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	405	125		02/06/24 00:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	52.8	125		02/06/24 00:07	1634-04-4	
Naphthalene	**440**	ug/L	125	80.6	125		02/06/24 00:07	91-20-3	
Toluene	**15700**	ug/L	125	60.6	125		02/06/24 00:07	108-88-3	
Xylene (Total)	**8840**	ug/L	125	42.2	125		02/06/24 00:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		125		02/06/24 00:07	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		125		02/06/24 00:07	17060-07-0	
Toluene-d8 (S)	100	%	70-130		125		02/06/24 00:07	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: RW-2 **Lab ID: 92711329022** Collected: 01/31/24 16:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.27**	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 21:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	02/08/24 09:24	02/08/24 21:11	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		02/03/24 04:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		02/03/24 04:12	994-05-8	
Benzene	**12100**	ug/L	250	86.2	250		02/03/24 04:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		02/03/24 04:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		02/03/24 04:12	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		02/03/24 04:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		02/03/24 04:12	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		02/03/24 04:12	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		02/03/24 04:12	64-17-5	
Ethylbenzene	**3560**	ug/L	250	76.0	250		02/03/24 04:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		02/03/24 04:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		02/03/24 04:12	1634-04-4	
Naphthalene	**1120**	ug/L	250	161	250		02/03/24 04:12	91-20-3	
Toluene	**36000**	ug/L	250	121	250		02/03/24 04:12	108-88-3	
Xylene (Total)	**19800**	ug/L	250	84.5	250		02/03/24 04:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		250		02/03/24 04:12	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		250		02/03/24 04:12	17060-07-0	
Toluene-d8 (S)	101	%	70-130		250		02/03/24 04:12	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: RW-3 **Lab ID: 92711329023** Collected: 01/31/24 15:51 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**1.5**	ug/L	0.049	0.018	2.5	02/08/24 09:24	02/09/24 10:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		2.5	02/08/24 09:24	02/09/24 10:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		02/03/24 04:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		02/03/24 04:30	994-05-8	
Benzene	**9650**	ug/L	250	86.2	250		02/03/24 04:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		02/03/24 04:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		02/03/24 04:30	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		02/03/24 04:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		02/03/24 04:30	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		02/03/24 04:30	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		02/03/24 04:30	64-17-5	
Ethylbenzene	**3810**	ug/L	250	76.0	250		02/03/24 04:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		02/03/24 04:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		02/03/24 04:30	1634-04-4	
Naphthalene	**958**	ug/L	250	161	250		02/03/24 04:30	91-20-3	
Toluene	**39200**	ug/L	250	121	250		02/03/24 04:30	108-88-3	
Xylene (Total)	**19000**	ug/L	250	84.5	250		02/03/24 04:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		250		02/03/24 04:30	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		250		02/03/24 04:30	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		02/03/24 04:30	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: DUP-1 **Lab ID: 92711329024** Collected: 01/31/24 12:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 21:32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	02/08/24 09:24	02/08/24 21:32	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 21:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 21:08	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 21:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 21:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 21:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 21:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 21:08	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 21:08	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 21:08	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 21:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 21:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 21:08	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 21:08	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 21:08	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 21:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/02/24 21:08	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/02/24 21:08	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: DUP-2 **Lab ID: 92711329025** Collected: 01/31/24 12:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	02/08/24 09:24	02/08/24 21:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	77	%	60-140		1	02/08/24 09:24	02/08/24 21:43	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		02/03/24 04:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		02/03/24 04:48	994-05-8	
Benzene	**8220**	ug/L	250	86.2	250		02/03/24 04:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		02/03/24 04:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		02/03/24 04:48	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		02/03/24 04:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		02/03/24 04:48	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		02/03/24 04:48	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		02/03/24 04:48	64-17-5	
Ethylbenzene	**4040**	ug/L	250	76.0	250		02/03/24 04:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		02/03/24 04:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		02/03/24 04:48	1634-04-4	
Naphthalene	**962**	ug/L	250	161	250		02/03/24 04:48	91-20-3	
Toluene	**30700**	ug/L	250	121	250		02/03/24 04:48	108-88-3	
Xylene (Total)	**20100**	ug/L	250	84.5	250		02/03/24 04:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		250		02/03/24 04:48	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		250		02/03/24 04:48	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		02/03/24 04:48	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: FB1 **Lab ID: 92711329026** Collected: 01/30/24 12:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	02/08/24 09:24	02/08/24 21:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	02/08/24 09:24	02/08/24 21:53	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/02/24 16:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/02/24 16:39	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/02/24 16:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/02/24 16:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/02/24 16:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/02/24 16:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/02/24 16:39	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/02/24 16:39	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/02/24 16:39	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/02/24 16:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/02/24 16:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/02/24 16:39	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/02/24 16:39	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/02/24 16:39	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/02/24 16:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/02/24 16:39	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/02/24 16:39	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/02/24 16:39	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: FB2 **Lab ID: 92711329027** Collected: 01/31/24 12:00 Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	02/08/24 09:24	02/08/24 22:04	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	02/08/24 09:24	02/08/24 22:04	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/03/24 01:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/03/24 01:13	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/03/24 01:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/03/24 01:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/03/24 01:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/03/24 01:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/03/24 01:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/03/24 01:13	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/03/24 01:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/03/24 01:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/03/24 01:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/03/24 01:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/03/24 01:13	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/03/24 01:13	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/03/24 01:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/03/24 01:13	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/03/24 01:13	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		02/03/24 01:13	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: TB1 **Lab ID: 92711329028** Collected: Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/03/24 01:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/03/24 01:31	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/03/24 01:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/03/24 01:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/03/24 01:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/03/24 01:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/03/24 01:31	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/03/24 01:31	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/03/24 01:31	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/03/24 01:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/03/24 01:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/03/24 01:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/03/24 01:31	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/03/24 01:31	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/03/24 01:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		02/03/24 01:31	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/03/24 01:31	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/03/24 01:31	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92711329

Sample: TB2 **Lab ID: 92711329029** Collected: Received: 02/02/24 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		02/03/24 01:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		02/03/24 01:49	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		02/03/24 01:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		02/03/24 01:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		02/03/24 01:49	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		02/03/24 01:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		02/03/24 01:49	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		02/03/24 01:49	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		02/03/24 01:49	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/03/24 01:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		02/03/24 01:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		02/03/24 01:49	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		02/03/24 01:49	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		02/03/24 01:49	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		02/03/24 01:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/03/24 01:49	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		02/03/24 01:49	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		02/03/24 01:49	2037-26-5	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 829815 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329019, 92711329022, 92711329023, 92711329025, 92711329027, 92711329028, 92711329029

METHOD BLANK: 4288615 Matrix: Water
Associated Lab Samples: 92711329019, 92711329022, 92711329023, 92711329025, 92711329027, 92711329028, 92711329029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	02/03/24 00:55	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	02/03/24 00:55	
Benzene	ug/L	ND	1.0	0.34	02/03/24 00:55	
Diisopropyl ether	ug/L	ND	1.0	0.31	02/03/24 00:55	
Ethanol	ug/L	ND	200	72.2	02/03/24 00:55	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	02/03/24 00:55	
Ethylbenzene	ug/L	ND	1.0	0.30	02/03/24 00:55	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	02/03/24 00:55	
Naphthalene	ug/L	ND	1.0	0.64	02/03/24 00:55	
tert-Amyl Alcohol	ug/L	ND	100	36.4	02/03/24 00:55	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	02/03/24 00:55	
tert-Butyl Alcohol	ug/L	ND	100	26.8	02/03/24 00:55	
tert-Butyl Formate	ug/L	ND	50.0	29.4	02/03/24 00:55	
Toluene	ug/L	ND	1.0	0.48	02/03/24 00:55	
Xylene (Total)	ug/L	ND	1.0	0.34	02/03/24 00:55	
1,2-Dichloroethane-d4 (S)	%	99	70-130		02/03/24 00:55	
4-Bromofluorobenzene (S)	%	100	70-130		02/03/24 00:55	
Toluene-d8 (S)	%	101	70-130		02/03/24 00:55	

LABORATORY CONTROL SAMPLE: 4288616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.6	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	429	107	70-130	
Benzene	ug/L	20	20.5	102	70-130	
Diisopropyl ether	ug/L	20	20.1	101	70-130	
Ethanol	ug/L	800	892	111	70-130	
Ethyl-tert-butyl ether	ug/L	40	42.3	106	70-130	
Ethylbenzene	ug/L	20	21.0	105	70-130	
Methyl-tert-butyl ether	ug/L	20	19.6	98	70-130	
Naphthalene	ug/L	20	23.1	115	70-130	
tert-Amyl Alcohol	ug/L	400	442	111	70-130	
tert-Amylmethyl ether	ug/L	40	40.7	102	70-130	
tert-Butyl Alcohol	ug/L	200	195	97	70-130	
tert-Butyl Formate	ug/L	160	170	106	70-130	
Toluene	ug/L	20	20.4	102	70-130	
Xylene (Total)	ug/L	60	62.6	104	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

LABORATORY CONTROL SAMPLE: 4288616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 4288617

Parameter	Units	92711251014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	25.1	126	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	464	116	39-157	
Benzene	ug/L	ND	20	24.0	120	70-151	
Diisopropyl ether	ug/L	ND	20	24.6	123	63-144	
Ethanol	ug/L	ND	800	1010	127	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	47.3	118	66-137	
Ethylbenzene	ug/L	ND	20	24.3	121	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	22.8	114	54-156	
Naphthalene	ug/L	ND	20	20.4	102	61-148	
tert-Amyl Alcohol	ug/L	ND	400	453	113	54-153	
tert-Amylmethyl ether	ug/L	ND	40	46.9	117	69-139	
tert-Butyl Alcohol	ug/L	ND	200	302	151	43-188	
tert-Butyl Formate	ug/L	ND	160	50.3	31	10-170	
Toluene	ug/L	ND	20	23.5	117	59-148	
Xylene (Total)	ug/L	ND	60	73.0	122	63-158	
1,2-Dichloroethane-d4 (S)	%				111	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 4288618

Parameter	Units	92711251015 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)	%	96	111			
4-Bromofluorobenzene (S)	%	100	102			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

SAMPLE DUPLICATE: 4288618

Parameter	Units	92711251015 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	102	100			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 829818
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329001, 92711329002, 92711329004, 92711329005, 92711329006, 92711329009, 92711329010, 92711329011, 92711329012, 92711329013, 92711329014, 92711329015, 92711329016, 92711329017, 92711329018, 92711329020, 92711329024, 92711329026

METHOD BLANK: 4288627
Matrix: Water
Associated Lab Samples: 92711329001, 92711329002, 92711329004, 92711329005, 92711329006, 92711329009, 92711329010, 92711329011, 92711329012, 92711329013, 92711329014, 92711329015, 92711329016, 92711329017, 92711329018, 92711329020, 92711329024, 92711329026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	02/02/24 15:45	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	02/02/24 15:45	
Benzene	ug/L	ND	1.0	0.34	02/02/24 15:45	
Diisopropyl ether	ug/L	ND	1.0	0.31	02/02/24 15:45	
Ethanol	ug/L	ND	200	72.2	02/02/24 15:45	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	02/02/24 15:45	
Ethylbenzene	ug/L	ND	1.0	0.30	02/02/24 15:45	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	02/02/24 15:45	
Naphthalene	ug/L	ND	1.0	0.64	02/02/24 15:45	
tert-Amyl Alcohol	ug/L	ND	100	36.4	02/02/24 15:45	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	02/02/24 15:45	
tert-Butyl Alcohol	ug/L	ND	100	26.8	02/02/24 15:45	
tert-Butyl Formate	ug/L	ND	50.0	29.4	02/02/24 15:45	
Toluene	ug/L	ND	1.0	0.48	02/02/24 15:45	
Xylene (Total)	ug/L	ND	1.0	0.34	02/02/24 15:45	
1,2-Dichloroethane-d4 (S)	%	97	70-130		02/02/24 15:45	
4-Bromofluorobenzene (S)	%	97	70-130		02/02/24 15:45	
Toluene-d8 (S)	%	100	70-130		02/02/24 15:45	

LABORATORY CONTROL SAMPLE: 4288628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	19.6	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	441	110	70-130	
Benzene	ug/L	20	19.9	100	70-130	
Diisopropyl ether	ug/L	20	19.2	96	70-130	
Ethanol	ug/L	800	779	97	70-130	
Ethyl-tert-butyl ether	ug/L	40	39.1	98	70-130	
Ethylbenzene	ug/L	20	19.8	99	70-130	
Methyl-tert-butyl ether	ug/L	20	20.1	100	70-130	
Naphthalene	ug/L	20	22.3	111	70-130	
tert-Amyl Alcohol	ug/L	400	419	105	70-130	
tert-Amylmethyl ether	ug/L	40	39.5	99	70-130	
tert-Butyl Alcohol	ug/L	200	184	92	70-130	
tert-Butyl Formate	ug/L	160	190	119	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

LABORATORY CONTROL SAMPLE: 4288628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	19.3	96	70-130	
Xylene (Total)	ug/L	60	60.2	100	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4288629

Parameter	Units	92711329002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.9	105	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	357	89	39-157	
Benzene	ug/L	ND	20	21.5	108	70-151	
Diisopropyl ether	ug/L	ND	20	19.7	99	63-144	
Ethanol	ug/L	ND	800	794	99	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	39.0	97	66-137	
Ethylbenzene	ug/L	ND	20	20.5	102	66-153	
Methyl-tert-butyl ether	ug/L	0.90J	20	18.8	89	54-156	
Naphthalene	ug/L	ND	20	18.0	90	61-148	
tert-Amyl Alcohol	ug/L	ND	400	367	92	54-153	
tert-Amylmethyl ether	ug/L	ND	40	38.1	95	69-139	
tert-Butyl Alcohol	ug/L	ND	200	249	125	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	0	10-170	P5
Toluene	ug/L	ND	20	20.9	104	59-148	
Xylene (Total)	ug/L	ND	60	60.9	102	63-158	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 4288630

Parameter	Units	92711329004 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	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

SAMPLE DUPLICATE: 4288630

Parameter	Units	92711329004 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	100			
4-Bromofluorobenzene (S)	%	97	98			
Toluene-d8 (S)	%	101	104			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 830083
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329003, 92711329021

METHOD BLANK: 4290107 Matrix: Water
Associated Lab Samples: 92711329003, 92711329021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	02/05/24 15:39	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	02/05/24 15:39	
Benzene	ug/L	ND	1.0	0.34	02/05/24 15:39	
Diisopropyl ether	ug/L	ND	1.0	0.31	02/05/24 15:39	
Ethanol	ug/L	ND	200	72.2	02/05/24 15:39	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	02/05/24 15:39	
Ethylbenzene	ug/L	ND	1.0	0.30	02/05/24 15:39	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	02/05/24 15:39	
Naphthalene	ug/L	ND	1.0	0.64	02/05/24 15:39	
tert-Amyl Alcohol	ug/L	ND	100	36.4	02/05/24 15:39	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	02/05/24 15:39	
tert-Butyl Alcohol	ug/L	ND	100	26.8	02/05/24 15:39	
tert-Butyl Formate	ug/L	ND	50.0	29.4	02/05/24 15:39	
Toluene	ug/L	ND	1.0	0.48	02/05/24 15:39	
Xylene (Total)	ug/L	ND	1.0	0.34	02/05/24 15:39	
1,2-Dichloroethane-d4 (S)	%	101	70-130		02/05/24 15:39	
4-Bromofluorobenzene (S)	%	99	70-130		02/05/24 15:39	
Toluene-d8 (S)	%	99	70-130		02/05/24 15:39	

LABORATORY CONTROL SAMPLE: 4290108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.4	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	410	103	70-130	
Benzene	ug/L	20	20.6	103	70-130	
Diisopropyl ether	ug/L	20	20.5	102	70-130	
Ethanol	ug/L	800	881	110	70-130	
Ethyl-tert-butyl ether	ug/L	40	40.5	101	70-130	
Ethylbenzene	ug/L	20	20.6	103	70-130	
Methyl-tert-butyl ether	ug/L	20	19.7	99	70-130	
Naphthalene	ug/L	20	20.5	103	70-130	
tert-Amyl Alcohol	ug/L	400	461	115	70-130	
tert-Amylmethyl ether	ug/L	40	42.3	106	70-130	
tert-Butyl Alcohol	ug/L	200	214	107	70-130	
tert-Butyl Formate	ug/L	160	182	114	70-130	
Toluene	ug/L	20	20.5	102	70-130	
Xylene (Total)	ug/L	60	62.3	104	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

LABORATORY CONTROL SAMPLE: 4290108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4290109

Parameter	Units	92711505012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	23.9	120	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	470	117	39-157	
Benzene	ug/L	ND	20	24.1	120	70-151	
Diisopropyl ether	ug/L	ND	20	22.8	114	63-144	
Ethanol	ug/L	ND	800	991	124	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	45.8	115	66-137	
Ethylbenzene	ug/L	ND	20	23.9	120	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	22.5	112	54-156	
Naphthalene	ug/L	ND	20	23.6	118	61-148	
tert-Amyl Alcohol	ug/L	ND	400	461	115	54-153	
tert-Amylmethyl ether	ug/L	ND	40	44.2	110	69-139	
tert-Butyl Alcohol	ug/L	ND	200	323	162	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	9	10-170	M1
Toluene	ug/L	ND	20	23.5	116	59-148	
Xylene (Total)	ug/L	ND	60	71.1	118	63-158	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4290110

Parameter	Units	92711388002 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)	%	103	102			
4-Bromofluorobenzene (S)	%	98	98			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

SAMPLE DUPLICATE: 4290110

Parameter	Units	92711388002 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	99	100			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 830376
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329007, 92711329008

METHOD BLANK: 4291650 Matrix: Water
Associated Lab Samples: 92711329007, 92711329008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	02/06/24 15:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	02/06/24 15:26	
Benzene	ug/L	ND	1.0	0.34	02/06/24 15:26	
Diisopropyl ether	ug/L	ND	1.0	0.31	02/06/24 15:26	
Ethanol	ug/L	ND	200	72.2	02/06/24 15:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	02/06/24 15:26	
Ethylbenzene	ug/L	ND	1.0	0.30	02/06/24 15:26	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	02/06/24 15:26	
Naphthalene	ug/L	ND	1.0	0.64	02/06/24 15:26	v2
tert-Amyl Alcohol	ug/L	ND	100	36.4	02/06/24 15:26	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	02/06/24 15:26	
tert-Butyl Alcohol	ug/L	ND	100	26.8	02/06/24 15:26	
tert-Butyl Formate	ug/L	ND	50.0	29.4	02/06/24 15:26	
Toluene	ug/L	ND	1.0	0.48	02/06/24 15:26	
Xylene (Total)	ug/L	ND	1.0	0.34	02/06/24 15:26	
1,2-Dichloroethane-d4 (S)	%	99	70-130		02/06/24 15:26	
4-Bromofluorobenzene (S)	%	98	70-130		02/06/24 15:26	
Toluene-d8 (S)	%	99	70-130		02/06/24 15:26	

LABORATORY CONTROL SAMPLE: 4291651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.4	107	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	392	98	70-130	
Benzene	ug/L	20	22.4	112	70-130	
Diisopropyl ether	ug/L	20	22.1	110	70-130	
Ethanol	ug/L	800	813	102	70-130	
Ethyl-tert-butyl ether	ug/L	40	43.1	108	70-130	
Ethylbenzene	ug/L	20	22.5	112	70-130	
Methyl-tert-butyl ether	ug/L	20	20.9	104	70-130	
Naphthalene	ug/L	20	18.9	94	70-130	v3
tert-Amyl Alcohol	ug/L	400	426	107	70-130	
tert-Amylmethyl ether	ug/L	40	45.4	114	70-130	
tert-Butyl Alcohol	ug/L	200	212	106	70-130	
tert-Butyl Formate	ug/L	160	185	116	70-130	
Toluene	ug/L	20	22.2	111	70-130	
Xylene (Total)	ug/L	60	68.0	113	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

LABORATORY CONTROL SAMPLE: 4291651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4291652

Parameter	Units	92711658019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.8	109	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	431	108	39-157	
Benzene	ug/L	1.4	20	23.4	110	70-151	
Diisopropyl ether	ug/L	ND	20	21.4	103	63-144	
Ethanol	ug/L	ND	800	1060	132	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	41.2	103	66-137	
Ethylbenzene	ug/L	ND	20	21.1	106	66-153	
Methyl-tert-butyl ether	ug/L	13.6	20	36.4	114	54-156	
Naphthalene	ug/L	ND	20	20.7	103	61-148	
tert-Amyl Alcohol	ug/L	ND	400	414	102	54-153	
tert-Amylmethyl ether	ug/L	ND	40	40.3	100	69-139	
tert-Butyl Alcohol	ug/L	ND	200	304	151	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	17	10-170	
Toluene	ug/L	ND	20	21.6	108	59-148	
Xylene (Total)	ug/L	ND	60	62.5	104	63-158	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				95	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4291653

Parameter	Units	92711658020 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)	%	99	98			
4-Bromofluorobenzene (S)	%	98	97			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

SAMPLE DUPLICATE: 4291653

Parameter	Units	92711658020 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	98	101			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 830884
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329001, 92711329002, 92711329003, 92711329004, 92711329005, 92711329006, 92711329007, 92711329008, 92711329009, 92711329010

METHOD BLANK: 4294306 Matrix: Water
Associated Lab Samples: 92711329001, 92711329002, 92711329003, 92711329004, 92711329005, 92711329006, 92711329007, 92711329008, 92711329009, 92711329010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	02/08/24 13:23	
1-Chloro-2-bromopropane (S)	%	94	60-140		02/08/24 13:23	

LABORATORY CONTROL SAMPLE & LCSD: 4294307 4294308

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.29	0.28	116	112	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				108	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4294310 4294311

Parameter	Units	92711658018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.27	0.28	109	112	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						104	107	60-140			

SAMPLE DUPLICATE: 4294309

Parameter	Units	92711658017 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	100	105			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92711329

QC Batch: 830885
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92711329011, 92711329012, 92711329013, 92711329014, 92711329015, 92711329016, 92711329017, 92711329018, 92711329019, 92711329020, 92711329021, 92711329022, 92711329023, 92711329024, 92711329025, 92711329026, 92711329027

METHOD BLANK: 4294312 Matrix: Water
Associated Lab Samples: 92711329011, 92711329012, 92711329013, 92711329014, 92711329015, 92711329016, 92711329017, 92711329018, 92711329019, 92711329020, 92711329021, 92711329022, 92711329023, 92711329024, 92711329025, 92711329026, 92711329027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	02/08/24 18:10	
1-Chloro-2-bromopropane (S)	%	101	60-140		02/08/24 18:10	

LABORATORY CONTROL SAMPLE & LCSD: 4294313 4294314

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.25	0.26	101	104	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				99	100	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4294316 4294317

Parameter	Units	92711329012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.24	0.24	0.25	0.25	103	101	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						100	96	60-140			

SAMPLE DUPLICATE: 4294315

Parameter	Units	92711329011 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	97	89			

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QUALIFIERS

Project: SC-015 UST#07680
Pace Project No.: 92711329

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C8	Result may be biased high due to carryover from previously analyzed sample.
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.
v2	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
v3	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have low bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST#07680
Pace Project No.: 92711329

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92711329001	**MW-1R**	EPA 8011	830884	EPA 8011	831002
92711329002	**MW-1AR**	EPA 8011	830884	EPA 8011	831002
92711329003	**MW-3R**	EPA 8011	830884	EPA 8011	831002
92711329004	**MW-5D**	EPA 8011	830884	EPA 8011	831002
92711329005	**MW-5DD**	EPA 8011	830884	EPA 8011	831002
92711329006	**MW-7R**	EPA 8011	830884	EPA 8011	831002
92711329007	**MW-8**	EPA 8011	830884	EPA 8011	831002
92711329008	**MW-9R**	EPA 8011	830884	EPA 8011	831002
92711329009	**MW-11R**	EPA 8011	830884	EPA 8011	831002
92711329010	**MW-12R**	EPA 8011	830884	EPA 8011	831002
92711329011	**MW-12D**	EPA 8011	830885	EPA 8011	831003
92711329012	**MW-15R**	EPA 8011	830885	EPA 8011	831003
92711329013	**MW-16**	EPA 8011	830885	EPA 8011	831003
92711329014	**MW-17**	EPA 8011	830885	EPA 8011	831003
92711329015	**MW-18**	EPA 8011	830885	EPA 8011	831003
92711329016	**MW-18D**	EPA 8011	830885	EPA 8011	831003
92711329017	**MW-19**	EPA 8011	830885	EPA 8011	831003
92711329018	**MW-20**	EPA 8011	830885	EPA 8011	831003
92711329019	**MW-21**	EPA 8011	830885	EPA 8011	831003
92711329020	**DW-1**	EPA 8011	830885	EPA 8011	831003
92711329021	**RW-1**	EPA 8011	830885	EPA 8011	831003
92711329022	**RW-2**	EPA 8011	830885	EPA 8011	831003
92711329023	**RW-3**	EPA 8011	830885	EPA 8011	831003
92711329024	**DUP-1**	EPA 8011	830885	EPA 8011	831003
92711329025	**DUP-2**	EPA 8011	830885	EPA 8011	831003
92711329026	**FB1**	EPA 8011	830885	EPA 8011	831003
92711329027	**FB2**	EPA 8011	830885	EPA 8011	831003
92711329001	**MW-1R**	EPA 8260D	829818		
92711329002	**MW-1AR**	EPA 8260D	829818		
92711329003	**MW-3R**	EPA 8260D	830083		
92711329004	**MW-5D**	EPA 8260D	829818		
92711329005	**MW-5DD**	EPA 8260D	829818		
92711329006	**MW-7R**	EPA 8260D	829818		
92711329007	**MW-8**	EPA 8260D	830376		
92711329008	**MW-9R**	EPA 8260D	830376		
92711329009	**MW-11R**	EPA 8260D	829818		
92711329010	**MW-12R**	EPA 8260D	829818		
92711329011	**MW-12D**	EPA 8260D	829818		
92711329012	**MW-15R**	EPA 8260D	829818		
92711329013	**MW-16**	EPA 8260D	829818		
92711329014	**MW-17**	EPA 8260D	829818		
92711329015	**MW-18**	EPA 8260D	829818		
92711329016	**MW-18D**	EPA 8260D	829818		
92711329017	**MW-19**	EPA 8260D	829818		
92711329018	**MW-20**	EPA 8260D	829818		

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST#07680
Pace Project No.: 92711329

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92711329019	**MW-21**	EPA 8260D	829815		
92711329020	**DW-1**	EPA 8260D	829818		
92711329021	**RW-1**	EPA 8260D	830083		
92711329022	**RW-2**	EPA 8260D	829815		
92711329023	**RW-3**	EPA 8260D	829815		
92711329024	**DUP-1**	EPA 8260D	829818		
92711329025	**DUP-2**	EPA 8260D	829815		
92711329026	**FB1**	EPA 8260D	829818		
92711329027	**FB2**	EPA 8260D	829815		
92711329028	**TB1**	EPA 8260D	829815		
92711329029	**TB2**	EPA 8260D	829815		

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Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: QES

Project # **WO#: 92711329**

92711329

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No ☑ N/A

Date/Initials Person Examining Contents: 2/2/24 UMY

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 97008

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.8 **Correction Factor:** Add/Subtract (°C) 0.1

Cooler Temp Corrected (°C): 2.9

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

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

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

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

*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 bottles

***Check all unpreserved Nitrates for chlorine

Project # **WO#: 92711329**

PM: JWB **Due Date: 02/13/24**

CLIENT: 92-QualEnv

(1)

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																5													
2																5													
3																5													
4																5													
5																5													
6																5													
7																5													
8																5													
9																5													
10																5													
11																													
12																													

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project # **WO#: 92711329**

PM: JWB **Due Date: 02/13/24**
CLIENT: 92-QualEnv

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																5													
2																													
3																5													
4																5													
5																5													
6																5													
7																5													
8																5													
9																5													
10																5													
11																													
12																													

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project # (3)

WO#: 92711329

PM: JWB Due Date: 02/13/24
CLIENT: 92-QualEnv

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																5													
2																5													
3																5													
4																5													
5																5													
6																5													
7																5													
8																5													
9																2													
10																2													
11																													
12																													

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

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Number 155371

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 1 of 3
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		Lot # Bar Code (lab use only): 92711329
Project Name: SC-015 UST# 07680			
Project No.: SC-015	P.O. No.:		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX + MNDCA + OXY	EDB 8011	Remarks / Cooler I.D.
MW-1R	1/31	1300	G	X						5				X	X	001
MW-1AR	1/31	1225	G	X						5				X	X	002
MW-5R	1/31	1617	G	X						5				X	X	003
MW-5D	1/30	1756	G	X						5				X	X	004
MW-5DD	1/30	1733	G	X						5				X	X	005
MW-7R	1/30	1212	G	X						5				X	X	006
MW-8	1/30	1240	G	X						5				X	X	007
MW-9R	1/30	1545	G	X						5				X	X	008
MW-11R	1/31	1332	G	X						5				X	X	009
MW-12R	1/30	1315	G	X						5				X	X	010

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]	1/31/24		1. Received by GMH Pace Hu	2/2/24	~~0940~~ 0845
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by [signature]	1/31/24	1747

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. 2.8 °C
Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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Number 155368

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 2 of 3
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		Lot # Bar Code (lab use only): 1271329
Project Name: SC-015 UST#07680			
Project No.: SC-015	P.O. No.:		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MNDLA +OXY	EDB 8011	Remarks / Cooler I.D.
MW-12D	1/30	1347	G	X						5				X	X	011
~~MW-13~~			~~G~~													
MW-15R	1/30	1656	G	X						5				X	X	012
MW-16	1/30	1143	G	X						5				X	X	013
MW-17	1/30	1102	G	X						5				X	X	014
MW-18	1/30	1421	G	X						5				X	X	015
MW-18D	1/30	1450	G	X						5				X	X	016
MW-19	1/30	1624	G	X						5				X	X	017
MW-20	1/31	1020	G	X						5				X	X	018
MW-21	1/31	1451	G	X						5				X	X	019

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]	1/31/24		1. Received by Gene Pace Hu	2/2/24	~~0845~~ 0845
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by [signature]	1/31/24	1747

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. ____ °C
Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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Number 155369

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 3 of 3
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: Austin Smith-Jones		Lot # Bar Code (lab use only): 92711329
Project Name: SC-015 UST # 07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MTN DCA + OXY	EDB 8011	Remarks / Cooler I.D.
DW-1	1/31	1425	G	X						5				X	X	020
RW-1	1/31	1521	G	X						5				X	X	021
RW-2	1/31	1600	G	X						5				X	X	022
RW-3	1/31	1551	G	X						5				X	X	023
Dup1	1/31	1200	G	X						5				X	X	024
Dup2	1/31	1200	G	X						5				X	X	025
FB1	1/30	1200	G	X						5				X	X	026
FB2	1/31	1200	G	X						5				X	X	027
TB1	Lab Provided		G	X						2				X		028
TB2	Lab Provided		G	X						2				X		029

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]	1/31/24		1. Received by Carrie Pace Hrn	2/2/24	~~0940~~ 0845
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by [signature]	1/31/24	1747

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. ____ °C
Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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

May 07, 2024

Don Jones
Quality Environmental Solutions
2112 Loblolly Lane
Johns Island, SC 29455

RE: Project: SC-015 UST#07680
Pace Project No.: 92727401

Dear Don Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on April 26, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Jonathan W Biddix
jonathan.biddix@pacelabs.com
704-977-0978
Project Manager

Enclosures

cc: Austin Smith-Jones, Quality Environmental Solutions

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CERTIFICATIONS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

SAMPLE SUMMARY

Project: SC-015 UST#07680
Pace Project No.: 92727401

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92727401001	**MW1R**	Water	04/24/24 14:46	04/26/24 08:00
92727401002	**MW1AR**	Water	04/24/24 14:34	04/26/24 08:00
92727401003	**MW5R**	Water	04/24/24 17:13	04/26/24 08:00
92727401004	**MW5D**	Water	04/24/24 16:08	04/26/24 08:00
92727401005	**MW5DD**	Water	04/24/24 15:30	04/26/24 08:00
92727401006	**MW7R**	Water	04/24/24 10:00	04/26/24 08:00
92727401007	**MW8**	Water	04/24/24 10:12	04/26/24 08:00
92727401008	**MW9R**	Water	04/24/24 10:59	04/26/24 08:00
92727401009	**MW10R**	Water	04/24/24 11:20	04/26/24 08:00
92727401010	**MW11R**	Water	04/24/24 11:30	04/26/24 08:00
92727401011	**MW12R**	Water	04/24/24 13:25	04/26/24 08:00
92727401012	**MW12D**	Water	04/24/24 13:16	04/26/24 08:00
92727401013	**MW13**	Water	04/24/24 10:28	04/26/24 08:00
92727401014	**MW15**	Water	04/24/24 12:10	04/26/24 08:00
92727401015	**MW15R**	Water	04/24/24 12:21	04/26/24 08:00
92727401016	**MW16**	Water	04/24/24 11:57	04/26/24 08:00
92727401017	**MW17**	Water	04/24/24 11:44	04/26/24 08:00
92727401018	**MW18**	Water	04/24/24 13:58	04/26/24 08:00
92727401019	**MW19**	Water	04/24/24 11:11	04/26/24 08:00
92727401020	**MW20**	Water	04/24/24 10:45	04/26/24 08:00
92727401021	**MW21**	Water	04/24/24 16:54	04/26/24 08:00
92727401022	**RW1**	Water	04/24/24 17:00	04/26/24 08:00
92727401023	**RW2**	Water	04/24/24 17:18	04/26/24 08:00
92727401024	**RW3**	Water	04/24/24 17:05	04/26/24 08:00
92727401025	**DW1**	Water	04/24/24 16:38	04/26/24 08:00
92727401026	**DUP1**	Water	04/24/24 12:00	04/26/24 08:00
92727401027	**DUP2**	Water	04/24/24 12:00	04/26/24 08:00
92727401028	**FB**	Water	04/24/24 12:00	04/26/24 08:00
92727401029	**EQUIP**	Water	04/24/24 12:00	04/26/24 08:00
92727401030	**TB**	Water	04/24/24 09:00	04/26/24 08:00
92727401031	**TB2**	Water	04/24/24 09:00	04/26/24 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SC-015 UST#07680
Pace Project No.: 92727401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92727401001	**MW1R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92727401002	**MW1AR**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92727401003	**MW5R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92727401004	**MW5D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92727401005	**MW5DD**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92727401006	**MW7R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401007	**MW8**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401008	**MW9R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401009	**MW10R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401010	**MW11R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401011	**MW12R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401012	**MW12D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401013	**MW13**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401014	**MW15**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401015	**MW15R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401016	**MW16**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401017	**MW17**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401018	**MW18**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401019	**MW19**	EPA 8011	HH	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: SC-015 UST#07680
Pace Project No.: 92727401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260D	JJK	18	PASI-C
92727401020	**MW20**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401021	**MW21**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401022	**RW1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401023	**RW2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401024	**RW3**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401025	**DW1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JJK	18	PASI-C
92727401026	**DUP1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401027	**DUP2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401028	**FB**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401029	**EQUIP**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92727401030	**TB**	EPA 8260D	TMH	18	PASI-C
92727401031	**TB2**	EPA 8260D	TMH	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW1R **Lab ID: 92727401001** Collected: 04/24/24 14:46 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 22:00	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/01/24 10:04	05/01/24 22:00	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	200	72.8	2		05/01/24 20:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	5.3	2		05/01/24 20:11	994-05-8	
Benzene	**27.4**	ug/L	2.0	0.69	2		05/01/24 20:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	104	2		05/01/24 20:11	624-95-3	
tert-Butyl Alcohol	**165J**	ug/L	200	53.6	2		05/01/24 20:11	75-65-0	
tert-Butyl Formate	ND	ug/L	100	58.8	2		05/01/24 20:11	762-75-4	
1,2-Dichloroethane	**0.73J**	ug/L	2.0	0.64	2		05/01/24 20:11	107-06-2	
Diisopropyl ether	**1.4J**	ug/L	2.0	0.62	2		05/01/24 20:11	108-20-3	
Ethanol	ND	ug/L	400	144	2		05/01/24 20:11	64-17-5	
Ethylbenzene	**232**	ug/L	2.0	0.61	2		05/01/24 20:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	6.5	2		05/01/24 20:11	637-92-3	
Methyl-tert-butyl ether	**72.0**	ug/L	2.0	0.84	2		05/01/24 20:11	1634-04-4	
Naphthalene	**288**	ug/L	2.0	1.3	2		05/01/24 20:11	91-20-3	
Toluene	**3.3**	ug/L	2.0	0.97	2		05/01/24 20:11	108-88-3	
Xylene (Total)	**16.4**	ug/L	2.0	0.68	2		05/01/24 20:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		2		05/01/24 20:11	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		2		05/01/24 20:11	17060-07-0	
Toluene-d8 (S)	97	%	70-130		2		05/01/24 20:11	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW1AR **Lab ID: 92727401002** Collected: 04/24/24 14:34 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	05/01/24 10:04	05/01/24 22:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	05/01/24 10:04	05/01/24 22:10	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/30/24 06:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/30/24 06:08	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/30/24 06:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/30/24 06:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/30/24 06:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/30/24 06:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/30/24 06:08	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/30/24 06:08	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/30/24 06:08	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/30/24 06:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/30/24 06:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/30/24 06:08	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/30/24 06:08	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/30/24 06:08	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/30/24 06:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		04/30/24 06:08	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		04/30/24 06:08	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		04/30/24 06:08	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW5R **Lab ID: 92727401003** Collected: 04/24/24 17:13 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.14**	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 22:21	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	05/01/24 10:04	05/01/24 22:21	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		04/30/24 07:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		04/30/24 07:56	994-05-8	
Benzene	**7060**	ug/L	250	86.2	250		04/30/24 07:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		04/30/24 07:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		04/30/24 07:56	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		04/30/24 07:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		04/30/24 07:56	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		04/30/24 07:56	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		04/30/24 07:56	64-17-5	
Ethylbenzene	**3700**	ug/L	250	76.0	250		04/30/24 07:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		04/30/24 07:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		04/30/24 07:56	1634-04-4	
Naphthalene	**1520**	ug/L	250	161	250		04/30/24 07:56	91-20-3	
Toluene	**37500**	ug/L	250	121	250		04/30/24 07:56	108-88-3	
Xylene (Total)	**18900**	ug/L	250	84.5	250		04/30/24 07:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		250		04/30/24 07:56	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		250		04/30/24 07:56	17060-07-0	
Toluene-d8 (S)	103	%	70-130		250		04/30/24 07:56	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW5D **Lab ID: 92727401004** Collected: 04/24/24 16:08 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 22:32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	05/01/24 10:04	05/01/24 22:32	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		05/02/24 16:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		05/02/24 16:12	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		05/02/24 16:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		05/02/24 16:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		05/02/24 16:12	75-65-0	v2
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		05/02/24 16:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		05/02/24 16:12	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		05/02/24 16:12	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		05/02/24 16:12	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		05/02/24 16:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		05/02/24 16:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		05/02/24 16:12	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		05/02/24 16:12	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		05/02/24 16:12	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		05/02/24 16:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		05/02/24 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/02/24 16:12	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		05/02/24 16:12	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW5DD **Lab ID: 92727401005** Collected: 04/24/24 15:30 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	05/01/24 10:04	05/01/24 22:42	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	67	%	60-140		1	05/01/24 10:04	05/01/24 22:42	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/30/24 06:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/30/24 06:44	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/30/24 06:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/30/24 06:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/30/24 06:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/30/24 06:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/30/24 06:44	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/30/24 06:44	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/30/24 06:44	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/30/24 06:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/30/24 06:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/30/24 06:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/30/24 06:44	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/30/24 06:44	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/30/24 06:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/30/24 06:44	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/30/24 06:44	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		04/30/24 06:44	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW7R **Lab ID: 92727401006** Collected: 04/24/24 10:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/01/24 10:04	05/01/24 22:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	05/01/24 10:04	05/01/24 22:53	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 10:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 10:41	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 10:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 10:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 10:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 10:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 10:41	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 10:41	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 10:41	64-17-5	
Ethylbenzene	**2.6**	ug/L	1.0	0.30	1		04/29/24 10:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 10:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 10:41	1634-04-4	
Naphthalene	**3.9**	ug/L	1.0	0.64	1		04/29/24 10:41	91-20-3	
Toluene	**0.51J**	ug/L	1.0	0.48	1		04/29/24 10:41	108-88-3	
Xylene (Total)	**0.78J**	ug/L	1.0	0.34	1		04/29/24 10:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 10:41	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		04/29/24 10:41	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 10:41	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW8 **Lab ID: 92727401007** Collected: 04/24/24 10:12 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 23:04	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	71	%	60-140		1	05/01/24 10:04	05/01/24 23:04	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 23:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 23:55	994-05-8	
Benzene	**2.7**	ug/L	1.0	0.34	1		04/29/24 23:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 23:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 23:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 23:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 23:55	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 23:55	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 23:55	64-17-5	
Ethylbenzene	**13.6**	ug/L	1.0	0.30	1		04/29/24 23:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 23:55	637-92-3	
Methyl-tert-butyl ether	**0.55J**	ug/L	1.0	0.42	1		04/29/24 23:55	1634-04-4	
Naphthalene	**15.0**	ug/L	1.0	0.64	1		04/29/24 23:55	91-20-3	
Toluene	**24.0**	ug/L	1.0	0.48	1		04/29/24 23:55	108-88-3	
Xylene (Total)	**60.2**	ug/L	1.0	0.34	1		04/29/24 23:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		04/29/24 23:55	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		04/29/24 23:55	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		04/29/24 23:55	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW9R **Lab ID: 92727401008** Collected: 04/24/24 10:59 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 23:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	81	%	60-140		1	05/01/24 10:04	05/01/24 23:15	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 06:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 06:45	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 06:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 06:45	624-95-3	
tert-Butyl Alcohol	**64.5J**	ug/L	100	26.8	1		04/29/24 06:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 06:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 06:45	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 06:45	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 06:45	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 06:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 06:45	637-92-3	
Methyl-tert-butyl ether	**4.1**	ug/L	1.0	0.42	1		04/29/24 06:45	1634-04-4	
Naphthalene	**1.9**	ug/L	1.0	0.64	1		04/29/24 06:45	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 06:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 06:45	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		04/29/24 06:45	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		04/29/24 06:45	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 06:45	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW10R **Lab ID: 92727401009** Collected: 04/24/24 11:20 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/01/24 10:04	05/01/24 23:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	05/01/24 10:04	05/01/24 23:26	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 07:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 07:03	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 07:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 07:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 07:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 07:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 07:03	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 07:03	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 07:03	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 07:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 07:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 07:03	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 07:03	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 07:03	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 07:03	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 07:03	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		04/29/24 07:03	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 07:03	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW11R **Lab ID: 92727401010** Collected: 04/24/24 11:30 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/01/24 10:04	05/01/24 23:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	05/01/24 10:04	05/01/24 23:37	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 07:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 07:21	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 07:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 07:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 07:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 07:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 07:21	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 07:21	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 07:21	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 07:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 07:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 07:21	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 07:21	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 07:21	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 07:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/29/24 07:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		04/29/24 07:21	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 07:21	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW12R **Lab ID: 92727401011** Collected: 04/24/24 13:25 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/01/24 10:04	05/01/24 23:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	05/01/24 10:04	05/01/24 23:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**80.2J**	ug/L	100	36.4	1		04/29/24 07:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 07:39	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 07:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 07:39	624-95-3	
tert-Butyl Alcohol	**62.8J**	ug/L	100	26.8	1		04/29/24 07:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 07:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 07:39	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 07:39	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 07:39	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 07:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 07:39	637-92-3	
Methyl-tert-butyl ether	**2.8**	ug/L	1.0	0.42	1		04/29/24 07:39	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 07:39	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 07:39	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 07:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/29/24 07:39	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		04/29/24 07:39	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 07:39	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW12D **Lab ID: 92727401012** Collected: 04/24/24 13:16 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 11:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	05/02/24 08:58	05/02/24 11:54	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 07:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 07:57	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 07:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 07:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 07:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 07:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 07:57	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 07:57	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 07:57	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 07:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 07:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 07:57	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 07:57	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 07:57	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 07:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		04/29/24 07:57	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		04/29/24 07:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		04/29/24 07:57	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW13 **Lab ID: 92727401013** Collected: 04/24/24 10:28 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.0078	1	05/02/24 08:58	05/02/24 12:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/02/24 08:58	05/02/24 12:15	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 10:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 10:59	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 10:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 10:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 10:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 10:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 10:59	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 10:59	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 10:59	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 10:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 10:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 10:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 10:59	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 10:59	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 10:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 10:59	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		04/29/24 10:59	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		04/29/24 10:59	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW15 **Lab ID: 92727401014** Collected: 04/24/24 12:10 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/02/24 08:58	05/02/24 12:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/02/24 08:58	05/02/24 12:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 08:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 08:16	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 08:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 08:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 08:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 08:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 08:16	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 08:16	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 08:16	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 08:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 08:16	637-92-3	
Methyl-tert-butyl ether	**1.8**	ug/L	1.0	0.42	1		04/29/24 08:16	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 08:16	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 08:16	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 08:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 08:16	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		04/29/24 08:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 08:16	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW15R **Lab ID: 92727401015** Collected: 04/24/24 12:21 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/02/24 08:58	05/02/24 12:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	05/02/24 08:58	05/02/24 12:58	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**69.0J**	ug/L	100	36.4	1		04/29/24 08:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 08:34	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 08:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 08:34	624-95-3	
tert-Butyl Alcohol	**68.8J**	ug/L	100	26.8	1		04/29/24 08:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 08:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 08:34	107-06-2	
Diisopropyl ether	**1.1**	ug/L	1.0	0.31	1		04/29/24 08:34	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 08:34	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 08:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 08:34	637-92-3	
Methyl-tert-butyl ether	**14.3**	ug/L	1.0	0.42	1		04/29/24 08:34	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 08:34	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 08:34	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 08:34	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 08:34	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		04/29/24 08:34	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		04/29/24 08:34	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW16 **Lab ID: 92727401016** Collected: 04/24/24 11:57 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 13:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/02/24 08:58	05/02/24 13:08	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 08:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 08:52	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 08:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 08:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 08:52	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 08:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 08:52	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 08:52	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 08:52	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 08:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 08:52	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 08:52	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 08:52	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 08:52	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 08:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 08:52	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		04/29/24 08:52	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		04/29/24 08:52	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW17 **Lab ID: 92727401017** Collected: 04/24/24 11:44 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 13:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/02/24 08:58	05/02/24 13:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 09:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 09:10	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 09:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 09:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 09:10	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 09:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 09:10	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 09:10	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 09:10	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 09:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 09:10	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 09:10	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 09:10	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 09:10	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 09:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/29/24 09:10	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		04/29/24 09:10	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		04/29/24 09:10	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW18 **Lab ID: 92727401018** Collected: 04/24/24 13:58 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 13:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	05/02/24 08:58	05/02/24 13:30	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 09:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 09:28	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 09:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 09:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 09:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 09:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 09:28	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 09:28	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 09:28	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 09:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 09:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 09:28	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 09:28	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 09:28	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 09:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/29/24 09:28	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		04/29/24 09:28	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		04/29/24 09:28	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW19 **Lab ID: 92727401019** Collected: 04/24/24 11:11 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 13:40	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	05/02/24 08:58	05/02/24 13:40	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 09:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 09:46	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 09:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 09:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 09:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 09:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 09:46	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 09:46	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 09:46	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 09:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 09:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 09:46	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 09:46	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 09:46	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 09:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/29/24 09:46	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		04/29/24 09:46	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		04/29/24 09:46	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW20 **Lab ID: 92727401020** Collected: 04/24/24 10:45 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	05/02/24 08:58	05/02/24 13:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	05/02/24 08:58	05/02/24 13:51	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 10:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 10:05	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/29/24 10:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 10:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 10:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 10:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 10:05	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 10:05	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 10:05	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/29/24 10:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 10:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 10:05	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/29/24 10:05	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/29/24 10:05	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/29/24 10:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 10:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		04/29/24 10:05	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		04/29/24 10:05	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: MW21 **Lab ID: 92727401021** Collected: 04/24/24 16:54 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	05/02/24 08:58	05/02/24 14:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	05/02/24 08:58	05/02/24 14:02	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	5000	1820	50		04/30/24 02:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	133	50		04/30/24 02:24	994-05-8	
Benzene	**131**	ug/L	50.0	17.2	50		04/30/24 02:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2600	50		04/30/24 02:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1340	50		04/30/24 02:24	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	1470	50		04/30/24 02:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	16.1	50		04/30/24 02:24	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	15.4	50		04/30/24 02:24	108-20-3	
Ethanol	ND	ug/L	10000	3610	50		04/30/24 02:24	64-17-5	
Ethylbenzene	**1720**	ug/L	50.0	15.2	50		04/30/24 02:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	162	50		04/30/24 02:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	21.1	50		04/30/24 02:24	1634-04-4	
Naphthalene	**1300**	ug/L	50.0	32.2	50		04/30/24 02:24	91-20-3	
Toluene	**8740**	ug/L	50.0	24.2	50		04/30/24 02:24	108-88-3	
Xylene (Total)	**10100**	ug/L	50.0	16.9	50		04/30/24 02:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		50		04/30/24 02:24	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		50		04/30/24 02:24	17060-07-0	
Toluene-d8 (S)	98	%	70-130		50		04/30/24 02:24	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: RW1 **Lab ID: 92727401022** Collected: 04/24/24 17:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 14:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	05/02/24 08:58	05/02/24 14:12	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	5000	1820	50		04/30/24 03:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	133	50		04/30/24 03:01	994-05-8	
Benzene	**731**	ug/L	50.0	17.2	50		04/30/24 03:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2600	50		04/30/24 03:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1340	50		04/30/24 03:01	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	1470	50		04/30/24 03:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	16.1	50		04/30/24 03:01	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	15.4	50		04/30/24 03:01	108-20-3	
Ethanol	ND	ug/L	10000	3610	50		04/30/24 03:01	64-17-5	
Ethylbenzene	**1030**	ug/L	50.0	15.2	50		04/30/24 03:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	162	50		04/30/24 03:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	21.1	50		04/30/24 03:01	1634-04-4	
Naphthalene	**555**	ug/L	50.0	32.2	50		04/30/24 03:01	91-20-3	
Toluene	**8220**	ug/L	50.0	24.2	50		04/30/24 03:01	108-88-3	
Xylene (Total)	**8140**	ug/L	50.0	16.9	50		04/30/24 03:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		50		04/30/24 03:01	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		50		04/30/24 03:01	17060-07-0	
Toluene-d8 (S)	99	%	70-130		50		04/30/24 03:01	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: RW2 **Lab ID: 92727401023** Collected: 04/24/24 17:18 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 14:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	05/02/24 08:58	05/02/24 14:23	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		04/30/24 03:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		04/30/24 03:38	994-05-8	
Benzene	**12500**	ug/L	250	86.2	250		04/30/24 03:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		04/30/24 03:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		04/30/24 03:38	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		04/30/24 03:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		04/30/24 03:38	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		04/30/24 03:38	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		04/30/24 03:38	64-17-5	
Ethylbenzene	**2680**	ug/L	250	76.0	250		04/30/24 03:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		04/30/24 03:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		04/30/24 03:38	1634-04-4	
Naphthalene	**884**	ug/L	250	161	250		04/30/24 03:38	91-20-3	
Toluene	**34000**	ug/L	250	121	250		04/30/24 03:38	108-88-3	
Xylene (Total)	**14600**	ug/L	250	84.5	250		04/30/24 03:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		250		04/30/24 03:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		250		04/30/24 03:38	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		04/30/24 03:38	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: RW3 **Lab ID: 92727401024** Collected: 04/24/24 17:05 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**1.7**	ug/L	0.050	0.019	2.5	05/02/24 08:58	05/03/24 11:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		2.5	05/02/24 08:58	05/03/24 11:12	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		04/30/24 04:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		04/30/24 04:16	994-05-8	
Benzene	**8120**	ug/L	250	86.2	250		04/30/24 04:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		04/30/24 04:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		04/30/24 04:16	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		04/30/24 04:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		04/30/24 04:16	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		04/30/24 04:16	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		04/30/24 04:16	64-17-5	
Ethylbenzene	**2580**	ug/L	250	76.0	250		04/30/24 04:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		04/30/24 04:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		04/30/24 04:16	1634-04-4	
Naphthalene	**844**	ug/L	250	161	250		04/30/24 04:16	91-20-3	
Toluene	**33900**	ug/L	250	121	250		04/30/24 04:16	108-88-3	
Xylene (Total)	**21600**	ug/L	250	84.5	250		04/30/24 04:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		250		04/30/24 04:16	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		250		04/30/24 04:16	17060-07-0	
Toluene-d8 (S)	98	%	70-130		250		04/30/24 04:16	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: DW1 **Lab ID: 92727401025** Collected: 04/24/24 16:38 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	05/02/24 08:58	05/02/24 14:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	05/02/24 08:58	05/02/24 14:44	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/29/24 10:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/29/24 10:23	994-05-8	
Benzene	**3.5**	ug/L	1.0	0.34	1		04/29/24 10:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/29/24 10:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/29/24 10:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/29/24 10:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/29/24 10:23	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/29/24 10:23	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/29/24 10:23	64-17-5	
Ethylbenzene	**2.7**	ug/L	1.0	0.30	1		04/29/24 10:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/29/24 10:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/29/24 10:23	1634-04-4	
Naphthalene	**3.5**	ug/L	1.0	0.64	1		04/29/24 10:23	91-20-3	
Toluene	**5.5**	ug/L	1.0	0.48	1		04/29/24 10:23	108-88-3	
Xylene (Total)	**10.6**	ug/L	1.0	0.34	1		04/29/24 10:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/29/24 10:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		04/29/24 10:23	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		04/29/24 10:23	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: DUP1 **Lab ID: 92727401026** Collected: 04/24/24 12:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 14:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	05/02/24 08:58	05/02/24 14:55	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	200	72.8	2		04/30/24 04:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	5.3	2		04/30/24 04:53	994-05-8	
Benzene	ND	ug/L	2.0	0.69	2		04/30/24 04:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	104	2		04/30/24 04:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	53.6	2		04/30/24 04:53	75-65-0	
tert-Butyl Formate	ND	ug/L	100	58.8	2		04/30/24 04:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	2.0	0.64	2		04/30/24 04:53	107-06-2	
Diisopropyl ether	ND	ug/L	2.0	0.62	2		04/30/24 04:53	108-20-3	
Ethanol	ND	ug/L	400	144	2		04/30/24 04:53	64-17-5	
Ethylbenzene	ND	ug/L	2.0	0.61	2		04/30/24 04:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	6.5	2		04/30/24 04:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	2.0	0.84	2		04/30/24 04:53	1634-04-4	
Naphthalene	ND	ug/L	2.0	1.3	2		04/30/24 04:53	91-20-3	
Toluene	ND	ug/L	2.0	0.97	2		04/30/24 04:53	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.68	2		04/30/24 04:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		2		04/30/24 04:53	460-00-4	D3
1,2-Dichloroethane-d4 (S)	98	%	70-130		2		04/30/24 04:53	17060-07-0	
Toluene-d8 (S)	99	%	70-130		2		04/30/24 04:53	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: DUP2 **Lab ID: 92727401027** Collected: 04/24/24 12:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 15:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	05/02/24 08:58	05/02/24 15:06	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/30/24 00:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/30/24 00:32	994-05-8	
Benzene	**3.5**	ug/L	1.0	0.34	1		04/30/24 00:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/30/24 00:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/30/24 00:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/30/24 00:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/30/24 00:32	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/30/24 00:32	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/30/24 00:32	64-17-5	
Ethylbenzene	**2.8**	ug/L	1.0	0.30	1		04/30/24 00:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/30/24 00:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/30/24 00:32	1634-04-4	
Naphthalene	**3.9**	ug/L	1.0	0.64	1		04/30/24 00:32	91-20-3	
Toluene	**5.7**	ug/L	1.0	0.48	1		04/30/24 00:32	108-88-3	
Xylene (Total)	**11.7**	ug/L	1.0	0.34	1		04/30/24 00:32	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		04/30/24 00:32	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		04/30/24 00:32	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		04/30/24 00:32	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: FB **Lab ID: 92727401028** Collected: 04/24/24 12:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 15:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/02/24 08:58	05/02/24 15:16	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/26/24 22:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/26/24 22:23	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/26/24 22:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/26/24 22:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/26/24 22:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/26/24 22:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/26/24 22:23	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/26/24 22:23	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/26/24 22:23	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/26/24 22:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/26/24 22:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/26/24 22:23	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/26/24 22:23	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/26/24 22:23	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/26/24 22:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		04/26/24 22:23	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		04/26/24 22:23	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		04/26/24 22:23	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: EQUIP **Lab ID: 92727401029** Collected: 04/24/24 12:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	05/02/24 08:58	05/02/24 15:27	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	05/02/24 08:58	05/02/24 15:27	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/26/24 22:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/26/24 22:40	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/26/24 22:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/26/24 22:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/26/24 22:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/26/24 22:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/26/24 22:40	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/26/24 22:40	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/26/24 22:40	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/26/24 22:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/26/24 22:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/26/24 22:40	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/26/24 22:40	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/26/24 22:40	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/26/24 22:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		04/26/24 22:40	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/26/24 22:40	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		04/26/24 22:40	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: TB **Lab ID: 92727401030** Collected: 04/24/24 09:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/26/24 22:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/26/24 22:58	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/26/24 22:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/26/24 22:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/26/24 22:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/26/24 22:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/26/24 22:58	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/26/24 22:58	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/26/24 22:58	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/26/24 22:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/26/24 22:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/26/24 22:58	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/26/24 22:58	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/26/24 22:58	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/26/24 22:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		04/26/24 22:58	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		04/26/24 22:58	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		04/26/24 22:58	2037-26-5	

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ANALYTICAL RESULTS

Project: SC-015 UST#07680
Pace Project No.: 92727401

Sample: TB2 **Lab ID: 92727401031** Collected: 04/24/24 09:00 Received: 04/26/24 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		04/26/24 23:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		04/26/24 23:16	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		04/26/24 23:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		04/26/24 23:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		04/26/24 23:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		04/26/24 23:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		04/26/24 23:16	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		04/26/24 23:16	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		04/26/24 23:16	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/26/24 23:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		04/26/24 23:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		04/26/24 23:16	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		04/26/24 23:16	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		04/26/24 23:16	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		04/26/24 23:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		04/26/24 23:16	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/26/24 23:16	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		04/26/24 23:16	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 850219
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401002, 92727401003, 92727401005

METHOD BLANK: 4389046 Matrix: Water
Associated Lab Samples: 92727401002, 92727401003, 92727401005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	04/29/24 22:58	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	04/29/24 22:58	
Benzene	ug/L	ND	1.0	0.34	04/29/24 22:58	
Diisopropyl ether	ug/L	ND	1.0	0.31	04/29/24 22:58	
Ethanol	ug/L	ND	200	72.2	04/29/24 22:58	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	04/29/24 22:58	
Ethylbenzene	ug/L	ND	1.0	0.30	04/29/24 22:58	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	04/29/24 22:58	
Naphthalene	ug/L	ND	1.0	0.64	04/29/24 22:58	
tert-Amyl Alcohol	ug/L	ND	100	36.4	04/29/24 22:58	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	04/29/24 22:58	
tert-Butyl Alcohol	ug/L	ND	100	26.8	04/29/24 22:58	
tert-Butyl Formate	ug/L	ND	50.0	29.4	04/29/24 22:58	
Toluene	ug/L	ND	1.0	0.48	04/29/24 22:58	
Xylene (Total)	ug/L	ND	1.0	0.34	04/29/24 22:58	
1,2-Dichloroethane-d4 (S)	%	102	70-130		04/29/24 22:58	
4-Bromofluorobenzene (S)	%	95	70-130		04/29/24 22:58	
Toluene-d8 (S)	%	103	70-130		04/29/24 22:58	

LABORATORY CONTROL SAMPLE: 4389047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	418	105	70-130	
Benzene	ug/L	20	23.2	116	70-130	
Diisopropyl ether	ug/L	20	17.6	88	70-130	
Ethanol	ug/L	800	778	97	70-130	
Ethyl-tert-butyl ether	ug/L	40	35.6	89	70-130	
Ethylbenzene	ug/L	20	20.1	100	70-130	
Methyl-tert-butyl ether	ug/L	20	18.8	94	70-130	
Naphthalene	ug/L	20	20.2	101	70-130	
tert-Amyl Alcohol	ug/L	400	382	96	70-130	
tert-Amylmethyl ether	ug/L	40	40.9	102	70-130	
tert-Butyl Alcohol	ug/L	200	166	83	70-130	
tert-Butyl Formate	ug/L	160	151	95	70-130	
Toluene	ug/L	20	21.8	109	70-130	
Xylene (Total)	ug/L	60	61.9	103	70-130	
1,2-Dichloroethane-d4 (S)	%			83	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4389047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4389048 4389049

Parameter	Units	92726318008 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	20	20	20.1J	23.4J	100	117	70-137		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	ND	ND	62	57	39-157		30	
Benzene	ug/L	ND	20	20	24.4J	27.8J	122	139	70-151		30	
Diisopropyl ether	ug/L	ND	20	20	20.2J	20.1J	101	100	63-144		30	
Ethanol	ug/L	ND	800	800	ND	ND	66	80	39-176		30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	ND	ND	83	84	66-137		30	
Ethylbenzene	ug/L	ND	20	20	26.5J	24.0J	133	120	66-153		30	
Methyl-tert-butyl ether	ug/L	ND	20	20	ND	ND	88	79	54-156		30	
Naphthalene	ug/L	ND	20	20	204	87.1	1020	436	61-148	80	30	M1,R1
tert-Amyl Alcohol	ug/L	ND	400	400	3310J	3300J	828	825	54-153		30	M1
tert-Amylmethyl ether	ug/L	ND	40	40	ND	ND	99	82	69-139		30	
tert-Butyl Alcohol	ug/L	ND	200	200	ND	ND	81	87	43-188		30	
tert-Butyl Formate	ug/L	ND	160	160	ND	ND	56	62	10-170		30	
Toluene	ug/L	ND	20	20	28.0J	25.4J	140	127	59-148		30	
Xylene (Total)	ug/L	ND	60	60	ND	ND	0	0	63-158		30	
1,2-Dichloroethane-d4 (S)	%						95	93	70-130			
4-Bromofluorobenzene (S)	%						100	102	70-130			
Toluene-d8 (S)	%						106	107	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 850224
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401006, 92727401008, 92727401009, 92727401010, 92727401011, 92727401012, 92727401013, 92727401014, 92727401015, 92727401016, 92727401017, 92727401018, 92727401019, 92727401020, 92727401025

METHOD BLANK: 4389072 Matrix: Water
Associated Lab Samples: 92727401006, 92727401008, 92727401009, 92727401010, 92727401011, 92727401012, 92727401013, 92727401014, 92727401015, 92727401016, 92727401017, 92727401018, 92727401019, 92727401020, 92727401025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	04/29/24 02:31	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	04/29/24 02:31	
Benzene	ug/L	ND	1.0	0.34	04/29/24 02:31	
Diisopropyl ether	ug/L	ND	1.0	0.31	04/29/24 02:31	
Ethanol	ug/L	ND	200	72.2	04/29/24 02:31	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	04/29/24 02:31	
Ethylbenzene	ug/L	ND	1.0	0.30	04/29/24 02:31	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	04/29/24 02:31	
Naphthalene	ug/L	ND	1.0	0.64	04/29/24 02:31	
tert-Amyl Alcohol	ug/L	ND	100	36.4	04/29/24 02:31	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	04/29/24 02:31	
tert-Butyl Alcohol	ug/L	ND	100	26.8	04/29/24 02:31	
tert-Butyl Formate	ug/L	ND	50.0	29.4	04/29/24 02:31	
Toluene	ug/L	ND	1.0	0.48	04/29/24 02:31	
Xylene (Total)	ug/L	ND	1.0	0.34	04/29/24 02:31	
1,2-Dichloroethane-d4 (S)	%	96	70-130		04/29/24 02:31	
4-Bromofluorobenzene (S)	%	100	70-130		04/29/24 02:31	
Toluene-d8 (S)	%	101	70-130		04/29/24 02:31	

LABORATORY CONTROL SAMPLE: 4389073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	22.0	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	375	94	70-130	
Benzene	ug/L	20	22.2	111	70-130	
Diisopropyl ether	ug/L	20	20.7	103	70-130	
Ethanol	ug/L	800	821	103	70-130	
Ethyl-tert-butyl ether	ug/L	40	41.7	104	70-130	
Ethylbenzene	ug/L	20	21.5	108	70-130	
Methyl-tert-butyl ether	ug/L	20	21.3	107	70-130	
Naphthalene	ug/L	20	22.5	113	70-130	
tert-Amyl Alcohol	ug/L	400	387	97	70-130	
tert-Amylmethyl ether	ug/L	40	42.6	107	70-130	
tert-Butyl Alcohol	ug/L	200	199	99	70-130	
tert-Butyl Formate	ug/L	160	161	101	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4389073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	21.9	110	70-130	
Xylene (Total)	ug/L	60	65.8	110	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4389074

Parameter	Units	92727401008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	24.6	123	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	371	93	39-157	
Benzene	ug/L	ND	20	24.8	124	70-151	
Diisopropyl ether	ug/L	ND	20	23.7	118	63-144	
Ethanol	ug/L	ND	800	874	109	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	47.1	118	66-137	
Ethylbenzene	ug/L	ND	20	24.6	123	66-153	
Methyl-tert-butyl ether	ug/L	4.1	20	28.7	123	54-156	
Naphthalene	ug/L	1.9	20	25.7	119	61-148	
tert-Amyl Alcohol	ug/L	ND	400	399	100	54-153	
tert-Amylmethyl ether	ug/L	ND	40	46.1	115	69-139	
tert-Butyl Alcohol	ug/L	64.5J	200	284	110	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	18	10-170	
Toluene	ug/L	ND	20	24.3	121	59-148	
Xylene (Total)	ug/L	ND	60	74.9	125	63-158	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 4389075

Parameter	Units	92727401009 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	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

SAMPLE DUPLICATE: 4389075

Parameter	Units	92727401009 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	95	94			
4-Bromofluorobenzene (S)	%	97	99			
Toluene-d8 (S)	%	101	101			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 850255
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401028, 92727401029, 92727401030, 92727401031

METHOD BLANK: 4389292 Matrix: Water
Associated Lab Samples: 92727401028, 92727401029, 92727401030, 92727401031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	04/26/24 19:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	04/26/24 19:26	
Benzene	ug/L	ND	1.0	0.34	04/26/24 19:26	
Diisopropyl ether	ug/L	ND	1.0	0.31	04/26/24 19:26	
Ethanol	ug/L	ND	200	72.2	04/26/24 19:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	04/26/24 19:26	
Ethylbenzene	ug/L	ND	1.0	0.30	04/26/24 19:26	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	04/26/24 19:26	
Naphthalene	ug/L	ND	1.0	0.64	04/26/24 19:26	
tert-Amyl Alcohol	ug/L	ND	100	36.4	04/26/24 19:26	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	04/26/24 19:26	
tert-Butyl Alcohol	ug/L	ND	100	26.8	04/26/24 19:26	
tert-Butyl Formate	ug/L	ND	50.0	29.4	04/26/24 19:26	
Toluene	ug/L	ND	1.0	0.48	04/26/24 19:26	
Xylene (Total)	ug/L	ND	1.0	0.34	04/26/24 19:26	
1,2-Dichloroethane-d4 (S)	%	102	70-130		04/26/24 19:26	
4-Bromofluorobenzene (S)	%	101	70-130		04/26/24 19:26	
Toluene-d8 (S)	%	99	70-130		04/26/24 19:26	

LABORATORY CONTROL SAMPLE: 4389293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.4	107	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	355	89	70-130	
Benzene	ug/L	20	21.1	106	70-130	
Diisopropyl ether	ug/L	20	21.5	107	70-130	
Ethanol	ug/L	800	758	95	70-130	
Ethyl-tert-butyl ether	ug/L	40	42.1	105	70-130	
Ethylbenzene	ug/L	20	21.0	105	70-130	
Methyl-tert-butyl ether	ug/L	20	20.8	104	70-130	
Naphthalene	ug/L	20	20.5	102	70-130	
tert-Amyl Alcohol	ug/L	400	396	99	70-130	
tert-Amylmethyl ether	ug/L	40	41.0	102	70-130	
tert-Butyl Alcohol	ug/L	200	175	87	70-130	
tert-Butyl Formate	ug/L	160	177	111	70-130	
Toluene	ug/L	20	21.2	106	70-130	
Xylene (Total)	ug/L	60	62.6	104	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4389293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4389294

Parameter	Units	92727410002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	24.1	121	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	366	92	39-157	
Benzene	ug/L	ND	20	24.2	121	70-151	
Diisopropyl ether	ug/L	ND	20	25.3	126	63-144	
Ethanol	ug/L	ND	800	843	105	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	48.2	121	66-137	
Ethylbenzene	ug/L	ND	20	22.8	114	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	23.7	118	54-156	
Naphthalene	ug/L	ND	20	20.0	100	61-148	
tert-Amyl Alcohol	ug/L	ND	400	393	98	54-153	
tert-Amylmethyl ether	ug/L	ND	40	44.3	111	69-139	
tert-Butyl Alcohol	ug/L	ND	200	250	125	43-188	
tert-Butyl Formate	ug/L	ND	160	48.1J	30	10-170	
Toluene	ug/L	ND	20	23.3	117	59-148	
Xylene (Total)	ug/L	ND	60	68.3	114	63-158	
1,2-Dichloroethane-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4389295

Parameter	Units	92727410003 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)	%	102	103			
4-Bromofluorobenzene (S)	%	101	99			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

SAMPLE DUPLICATE: 4389295

Parameter	Units	92727410003 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	97	100			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 850621 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401007, 92727401021, 92727401022, 92727401023, 92727401024, 92727401026, 92727401027

METHOD BLANK: 4390814 Matrix: Water
Associated Lab Samples: 92727401007, 92727401021, 92727401022, 92727401023, 92727401024, 92727401026, 92727401027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	04/29/24 19:53	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	04/29/24 19:53	
Benzene	ug/L	ND	1.0	0.34	04/29/24 19:53	
Diisopropyl ether	ug/L	ND	1.0	0.31	04/29/24 19:53	
Ethanol	ug/L	ND	200	72.2	04/29/24 19:53	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	04/29/24 19:53	
Ethylbenzene	ug/L	ND	1.0	0.30	04/29/24 19:53	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	04/29/24 19:53	
Naphthalene	ug/L	ND	1.0	0.64	04/29/24 19:53	
tert-Amyl Alcohol	ug/L	ND	100	36.4	04/29/24 19:53	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	04/29/24 19:53	
tert-Butyl Alcohol	ug/L	ND	100	26.8	04/29/24 19:53	
tert-Butyl Formate	ug/L	ND	50.0	29.4	04/29/24 19:53	
Toluene	ug/L	ND	1.0	0.48	04/29/24 19:53	
Xylene (Total)	ug/L	ND	1.0	0.34	04/29/24 19:53	
1,2-Dichloroethane-d4 (S)	%	104	70-130		04/29/24 19:53	
4-Bromofluorobenzene (S)	%	100	70-130		04/29/24 19:53	
Toluene-d8 (S)	%	101	70-130		04/29/24 19:53	

LABORATORY CONTROL SAMPLE: 4390815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	22.3	112	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	430	108	70-130	
Benzene	ug/L	20	21.4	107	70-130	
Diisopropyl ether	ug/L	20	21.9	110	70-130	
Ethanol	ug/L	800	855	107	70-130	
Ethyl-tert-butyl ether	ug/L	40	42.5	106	70-130	
Ethylbenzene	ug/L	20	21.9	109	70-130	
Methyl-tert-butyl ether	ug/L	20	21.6	108	70-130	
Naphthalene	ug/L	20	22.9	114	70-130	
tert-Amyl Alcohol	ug/L	400	431	108	70-130	
tert-Amylmethyl ether	ug/L	40	42.2	105	70-130	
tert-Butyl Alcohol	ug/L	200	211	106	70-130	
tert-Butyl Formate	ug/L	160	187	117	70-130	
Toluene	ug/L	20	21.2	106	70-130	
Xylene (Total)	ug/L	60	65.5	109	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4390815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 4390816

Parameter	Units	92727371011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.2	106	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	334	84	39-157	
Benzene	ug/L	ND	20	21.6	108	70-151	
Diisopropyl ether	ug/L	ND	20	22.1	110	63-144	
Ethanol	ug/L	ND	800	743	93	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	42.6	106	66-137	
Ethylbenzene	ug/L	ND	20	20.3	101	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	20.4	102	54-156	
Naphthalene	ug/L	ND	20	20.3	101	61-148	
tert-Amyl Alcohol	ug/L	ND	400	351	88	54-153	
tert-Amylmethyl ether	ug/L	ND	40	38.9	97	69-139	
tert-Butyl Alcohol	ug/L	ND	200	230	115	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	10	10-170	
Toluene	ug/L	ND	20	20.4	102	59-148	
Xylene (Total)	ug/L	ND	60	61.0	102	63-158	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4390817

Parameter	Units	92727403014 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	0.97J	0.84J		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)	%	107	105			
4-Bromofluorobenzene (S)	%	100	96			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

SAMPLE DUPLICATE: 4390817

Parameter	Units	92727403014 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	100	101			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 850786
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92727401001

METHOD BLANK: 4391450 Matrix: Water
Associated Lab Samples: 92727401001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	05/01/24 10:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	05/01/24 10:09	
Benzene	ug/L	ND	1.0	0.34	05/01/24 10:09	
Diisopropyl ether	ug/L	ND	1.0	0.31	05/01/24 10:09	
Ethanol	ug/L	ND	200	72.2	05/01/24 10:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	05/01/24 10:09	
Ethylbenzene	ug/L	ND	1.0	0.30	05/01/24 10:09	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	05/01/24 10:09	
Naphthalene	ug/L	ND	1.0	0.64	05/01/24 10:09	
tert-Amyl Alcohol	ug/L	ND	100	36.4	05/01/24 10:09	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	05/01/24 10:09	
tert-Butyl Alcohol	ug/L	ND	100	26.8	05/01/24 10:09	
tert-Butyl Formate	ug/L	ND	50.0	29.4	05/01/24 10:09	
Toluene	ug/L	ND	1.0	0.48	05/01/24 10:09	
Xylene (Total)	ug/L	ND	1.0	0.34	05/01/24 10:09	
1,2-Dichloroethane-d4 (S)	%	98	70-130		05/01/24 10:09	
4-Bromofluorobenzene (S)	%	94	70-130		05/01/24 10:09	
Toluene-d8 (S)	%	100	70-130		05/01/24 10:09	

LABORATORY CONTROL SAMPLE: 4391451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.8	104	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	369	92	70-130	
Benzene	ug/L	20	22.4	112	70-130	
Diisopropyl ether	ug/L	20	22.5	113	70-130	
Ethanol	ug/L	800	817	102	70-130	
Ethyl-tert-butyl ether	ug/L	40	43.7	109	70-130	
Ethylbenzene	ug/L	20	22.0	110	70-130	
Methyl-tert-butyl ether	ug/L	20	21.8	109	70-130	
Naphthalene	ug/L	20	22.3	111	70-130	
tert-Amyl Alcohol	ug/L	400	403	101	70-130	
tert-Amylmethyl ether	ug/L	40	41.4	103	70-130	
tert-Butyl Alcohol	ug/L	200	187	94	70-130	
tert-Butyl Formate	ug/L	160	179	112	70-130	
Toluene	ug/L	20	21.5	108	70-130	
Xylene (Total)	ug/L	60	65.4	109	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4391451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4391452

Parameter	Units	92727502018 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.4	112	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	368	92	39-157	
Benzene	ug/L	ND	20	24.9	124	70-151	
Diisopropyl ether	ug/L	ND	20	24.4	122	63-144	
Ethanol	ug/L	ND	800	853	107	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	46.9	117	66-137	
Ethylbenzene	ug/L	ND	20	24.1	121	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	22.9	114	54-156	
Naphthalene	ug/L	ND	20	22.8	114	61-148	
tert-Amyl Alcohol	ug/L	ND	400	417	104	54-153	
tert-Amylmethyl ether	ug/L	ND	40	44.4	111	69-139	
tert-Butyl Alcohol	ug/L	ND	200	254	127	43-188	v3
tert-Butyl Formate	ug/L	ND	160	48.5J	30	10-170	
Toluene	ug/L	ND	20	23.7	118	59-148	
Xylene (Total)	ug/L	ND	60	72.1	120	63-158	
1,2-Dichloroethane-d4 (S)	%				91	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 4391453

Parameter	Units	92727502019 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	v2
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)	%	96	96			
4-Bromofluorobenzene (S)	%	95	96			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

SAMPLE DUPLICATE: 4391453

Parameter	Units	92727502019 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	99	100			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 851238
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92727401004

METHOD BLANK: 4393608 Matrix: Water
Associated Lab Samples: 92727401004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	05/02/24 12:57	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	05/02/24 12:57	
Benzene	ug/L	ND	1.0	0.34	05/02/24 12:57	
Diisopropyl ether	ug/L	ND	1.0	0.31	05/02/24 12:57	
Ethanol	ug/L	ND	200	72.2	05/02/24 12:57	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	05/02/24 12:57	
Ethylbenzene	ug/L	ND	1.0	0.30	05/02/24 12:57	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	05/02/24 12:57	
Naphthalene	ug/L	ND	1.0	0.64	05/02/24 12:57	
tert-Amyl Alcohol	ug/L	ND	100	36.4	05/02/24 12:57	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	05/02/24 12:57	
tert-Butyl Alcohol	ug/L	ND	100	26.8	05/02/24 12:57	v2
tert-Butyl Formate	ug/L	ND	50.0	29.4	05/02/24 12:57	
Toluene	ug/L	ND	1.0	0.48	05/02/24 12:57	
Xylene (Total)	ug/L	ND	1.0	0.34	05/02/24 12:57	
1,2-Dichloroethane-d4 (S)	%	96	70-130		05/02/24 12:57	
4-Bromofluorobenzene (S)	%	97	70-130		05/02/24 12:57	
Toluene-d8 (S)	%	98	70-130		05/02/24 12:57	

LABORATORY CONTROL SAMPLE: 4393609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.8	109	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	356	89	70-130	
Benzene	ug/L	20	23.4	117	70-130	
Diisopropyl ether	ug/L	20	22.8	114	70-130	
Ethanol	ug/L	800	834	104	70-130	
Ethyl-tert-butyl ether	ug/L	40	44.0	110	70-130	
Ethylbenzene	ug/L	20	22.7	113	70-130	
Methyl-tert-butyl ether	ug/L	20	21.8	109	70-130	
Naphthalene	ug/L	20	21.4	107	70-130	
tert-Amyl Alcohol	ug/L	400	383	96	70-130	
tert-Amylmethyl ether	ug/L	40	42.0	105	70-130	
tert-Butyl Alcohol	ug/L	200	164	82	70-130	v3
tert-Butyl Formate	ug/L	160	179	112	70-130	
Toluene	ug/L	20	22.7	113	70-130	
Xylene (Total)	ug/L	60	66.7	111	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

LABORATORY CONTROL SAMPLE: 4393609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4396521 4396522

Parameter	Units	92727401004 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	20	20	21.4	22.2	107	111	70-137	3	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	396	402	99	101	39-157	2	30	
Benzene	ug/L	ND	20	20	24.6	24.7	123	123	70-151	0	30	
Diisopropyl ether	ug/L	ND	20	20	23.6	23.8	118	119	63-144	1	30	
Ethanol	ug/L	ND	800	800	931	885	116	111	39-176	5	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	45.2	45.6	113	114	66-137	1	30	
Ethylbenzene	ug/L	ND	20	20	23.8	24.2	119	121	66-153	2	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	22.2	22.1	111	111	54-156	0	30	
Naphthalene	ug/L	ND	20	20	24.3	24.4	121	122	61-148	1	30	
tert-Amyl Alcohol	ug/L	ND	400	400	445	432	111	108	54-153	3	30	
tert-Amylmethyl ether	ug/L	ND	40	40	42.9	44.2	107	110	69-139	3	30	
tert-Butyl Alcohol	ug/L	ND	200	200	217	233	108	117	43-188	7	30	
tert-Butyl Formate	ug/L	ND	160	160	130	106	81	66	10-170	21	30	
Toluene	ug/L	ND	20	20	23.9	24.7	119	124	59-148	4	30	
Xylene (Total)	ug/L	ND	60	60	70.3	73.0	117	122	63-158	4	30	
1,2-Dichloroethane-d4 (S)	%						91	87	70-130			
4-Bromofluorobenzene (S)	%						95	96	70-130			
Toluene-d8 (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 851057
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401001, 92727401002, 92727401003, 92727401004, 92727401005, 92727401006, 92727401007, 92727401008, 92727401009, 92727401010, 92727401011

METHOD BLANK: 4392660 Matrix: Water
Associated Lab Samples: 92727401001, 92727401002, 92727401003, 92727401004, 92727401005, 92727401006, 92727401007, 92727401008, 92727401009, 92727401010, 92727401011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	05/01/24 19:18	
1-Chloro-2-bromopropane (S)	%	93	60-140		05/01/24 19:18	

LABORATORY CONTROL SAMPLE & LCSD: 4392661 4392662

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.23	0.24	94	95	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				99	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4392664 4392665

Parameter	Units	92727714011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.057	0.25	0.25	0.32	0.33	105	110	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						116	117	60-140			

SAMPLE DUPLICATE: 4392663

Parameter	Units	92727714010 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0073	ND		20	
1-Chloro-2-bromopropane (S)	%	100	104			

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QUALITY CONTROL DATA

Project: SC-015 UST#07680
Pace Project No.: 92727401

QC Batch: 851398
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92727401012, 92727401013, 92727401014, 92727401015, 92727401016, 92727401017, 92727401018, 92727401019, 92727401020, 92727401021, 92727401022, 92727401023, 92727401024, 92727401025, 92727401026, 92727401027, 92727401028, 92727401029

METHOD BLANK: 4394547 Matrix: Water
Associated Lab Samples: 92727401012, 92727401013, 92727401014, 92727401015, 92727401016, 92727401017, 92727401018, 92727401019, 92727401020, 92727401021, 92727401022, 92727401023, 92727401024, 92727401025, 92727401026, 92727401027, 92727401028, 92727401029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	05/02/24 11:22	
1-Chloro-2-bromopropane (S)	%	90	60-140		05/02/24 11:22	

LABORATORY CONTROL SAMPLE & LCSD: 4394548 4394549

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.32	0.26	129	104	60-140	21	20	R1
1-Chloro-2-bromopropane (S)	%				122	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4394551 4394552

Parameter	Units	92727401013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.26	0.26	0.25	0.25	98	97	60-140	1	20	
1-Chloro-2-bromopropane (S)	%						96	95	60-140			

SAMPLE DUPLICATE: 4394550

Parameter	Units	92727401012 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	96	94			

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: SC-015 UST#07680
Pace Project No.: 92727401

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
v2	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
v3	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have low bias.

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Huntersville, NC 28078
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST#07680
Pace Project No.: 92727401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92727401001	**MW1R**	EPA 8011	851057	EPA 8011	851144
92727401002	**MW1AR**	EPA 8011	851057	EPA 8011	851144
92727401003	**MW5R**	EPA 8011	851057	EPA 8011	851144
92727401004	**MW5D**	EPA 8011	851057	EPA 8011	851144
92727401005	**MW5DD**	EPA 8011	851057	EPA 8011	851144
92727401006	**MW7R**	EPA 8011	851057	EPA 8011	851144
92727401007	**MW8**	EPA 8011	851057	EPA 8011	851144
92727401008	**MW9R**	EPA 8011	851057	EPA 8011	851144
92727401009	**MW10R**	EPA 8011	851057	EPA 8011	851144
92727401010	**MW11R**	EPA 8011	851057	EPA 8011	851144
92727401011	**MW12R**	EPA 8011	851057	EPA 8011	851144
92727401012	**MW12D**	EPA 8011	851398	EPA 8011	851448
92727401013	**MW13**	EPA 8011	851398	EPA 8011	851448
92727401014	**MW15**	EPA 8011	851398	EPA 8011	851448
92727401015	**MW15R**	EPA 8011	851398	EPA 8011	851448
92727401016	**MW16**	EPA 8011	851398	EPA 8011	851448
92727401017	**MW17**	EPA 8011	851398	EPA 8011	851448
92727401018	**MW18**	EPA 8011	851398	EPA 8011	851448
92727401019	**MW19**	EPA 8011	851398	EPA 8011	851448
92727401020	**MW20**	EPA 8011	851398	EPA 8011	851448
92727401021	**MW21**	EPA 8011	851398	EPA 8011	851448
92727401022	**RW1**	EPA 8011	851398	EPA 8011	851448
92727401023	**RW2**	EPA 8011	851398	EPA 8011	851448
92727401024	**RW3**	EPA 8011	851398	EPA 8011	851448
92727401025	**DW1**	EPA 8011	851398	EPA 8011	851448
92727401026	**DUP1**	EPA 8011	851398	EPA 8011	851448
92727401027	**DUP2**	EPA 8011	851398	EPA 8011	851448
92727401028	**FB**	EPA 8011	851398	EPA 8011	851448
92727401029	**EQUIP**	EPA 8011	851398	EPA 8011	851448
92727401001	**MW1R**	EPA 8260D	850786		
92727401002	**MW1AR**	EPA 8260D	850219		
92727401003	**MW5R**	EPA 8260D	850219		
92727401004	**MW5D**	EPA 8260D	851238		
92727401005	**MW5DD**	EPA 8260D	850219		
92727401006	**MW7R**	EPA 8260D	850224		
92727401007	**MW8**	EPA 8260D	850621		
92727401008	**MW9R**	EPA 8260D	850224		
92727401009	**MW10R**	EPA 8260D	850224		
92727401010	**MW11R**	EPA 8260D	850224		
92727401011	**MW12R**	EPA 8260D	850224		
92727401012	**MW12D**	EPA 8260D	850224		
92727401013	**MW13**	EPA 8260D	850224		
92727401014	**MW15**	EPA 8260D	850224		
92727401015	**MW15R**	EPA 8260D	850224		
92727401016	**MW16**	EPA 8260D	850224		

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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SC-015 UST#07680
Pace Project No.: 92727401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92727401017	**MW17**	EPA 8260D	850224		
92727401018	**MW18**	EPA 8260D	850224		
92727401019	**MW19**	EPA 8260D	850224		
92727401020	**MW20**	EPA 8260D	850224		
92727401021	**MW21**	EPA 8260D	850621		
92727401022	**RW1**	EPA 8260D	850621		
92727401023	**RW2**	EPA 8260D	850621		
92727401024	**RW3**	EPA 8260D	850621		
92727401025	**DW1**	EPA 8260D	850224		
92727401026	**DUP1**	EPA 8260D	850621		
92727401027	**DUP2**	EPA 8260D	850621		
92727401028	**FB**	EPA 8260D	850255		
92727401029	**EQUIP**	EPA 8260D	850255		
92727401030	**TB**	EPA 8260D	850255		
92727401031	**TB2**	EPA 8260D	850255		

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Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: QES

Project #: WO# : 92727401

92727401

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No ☑ N/A

Date/Initials Person Examining Contents: 4/24/24

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer:
☑ IR Gun ID: 97078

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.7, 3.1 **Correction Factor:** Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.7, 3.1

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

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

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

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

*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 bottles

***Check all unpreserved Nitrates for chlorine

Project #

WO#: 92727401

PM: JWB Due Date: 05/07/24

CLIENT: 92-QualEnv

(1)

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)	BP4B-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)	DG9A-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3B-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project #

(2)

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

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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 bottles
***Check all unpreserved Nitrates for chlorine

Project #

(3)

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project #

(4)

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical®

PACE ANALYTICAL SERVICES, LLC

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Telephone No. 803-791-9700 Fax No. 803-791-9111
www.pacelabs.com

Number 154984

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 1 of 4
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: A. Smith-Jones		Lot # Bar Code (lab use only): 92727401
Project Name: SC-015 USI# 07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	Unpres.	No of Containers by Preservative Type: H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MNDCA+OXY	EDB 8011	Remarks / Cooler I.D.
MW1R	4/24/24	1446	G	X						6				X	X	001
MW1AR	4/24/24	1434	G	X						6				X	X	002
MW5R	4/24/24	1713	G	X						6				X	X	003
MW5D	4/24/24	1698	G	X						6				X	X	004
MW5DD	4/24/24	1530	G	X						6				X	X	005
MW7R	4/24/24	1000	G	X						6				X	X	006
MW8	4/24/24	1012	G	X						6				X	X	007
MW9R	4/24/24	1059	G	X						6				X	X	008
MW10R	4/24/24	1120	G	X						6				X	X	009
MW11R	4/24/24	1130	G	X						6				X	X	010

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	Date: 4/24/24	Time	1. Received by	Date: 4/24/24	Time: 1814
2. Relinquished by	Date: 4/25/24	Time: 1530	2. Received by	Date: 4/26/24	Time: 0800
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by	Date	Time

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. 1.7 °C 3.1

Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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www.pacelabs.com

Number 154985

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 2 of 4
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: A. Smith-Jones		Lot # Bar Code (lab use only)
Project Name: SC-015 UST# 07680			
Project No.: SC-015	P.O. No.		92727401

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	Unpres.	No of Containers by Preservative Type: H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MNDCA+OXY	FDB 8011	Remarks / Cooler I.D.
MW12R	4/24/24	1325	G	X						6				X	X	011
MW12D	4/24/24	1316	G	X						6				X	X	012
MW13	4/24/24	1028	G	X						6				X	X	013
MW15	4/24/24	1210	G	X						6				X	X	014
MW15R	4/24/24	1221	G	X						6				X	X	015
MW16	4/24/24	1157	G	X						6				X	X	016
MW17	4/24/24	1144	G	X						6				X	X	017
MW18	4/24/24	1358	G	X						6				X	X	018
MW19	4/24/24	1111	G	X						6				X	X	019
MW20	4/24/24	1045	G	X						6				X	X	020

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	4/24/24		1. Received by	4/24/24	1814
2. Relinquished by	4/25/24	1530	2. Received by GMU Pace Hub	4/26/24	0820
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by	Date	Time

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._____ °C
Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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www.pacelabs.com

Number 154986

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X	Analysis (Attach list if more space is needed)	Page 3 of 4
City: Johns Island; State: SC; Zip Code: 29455	Printed Name: A. Smith-Jones		Lot # Bar Code (lab use only): 92727401
Project Name: SC-015 UST # 07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	Unpres.	No of Containers by Preservative Type: H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MNDCA+EDB 8011								Remarks / Cooler I.D.
MW21	4/24/24	1654	G	X						6				X	X							021
RW1	4/24/24	1700	G	X						6				X	X							022
RW2	4/24/24	1718	G	X						6				X	X							023
RW3	4/24/24	1705	G	X						6				X	X							024
DW1	4/24/24	1635 ADJ	G	X						6				X	X							025
Dup1	4/24/24	1200	G	X						6				X	X							026
Dup2	4/24/24	1200	G	X						6				X	X							027
FB	4/24/24	1200	G	X						6				X	X							028
Equip	4/24/24	1200	G	X						6				X	X							029
TB	4/24/24	900	G	X						6				X								030

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	4/24/24		1. Received by	4/24/24	1614
2. Relinquished by	4/25/24	15 26	2. Received by GMH Pace Htn	4/26/24	0820
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by		

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._____ °C
Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

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www.pacelabs.com

Number 154987

Client: QES	Report to Contact: Don Jones	Telephone No. / E-mail: 410-841-5552	Quote No.: 19802
Address: 2010 Long Bend Dr	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 4 of 4
City: Johns Island; State: SC; Zip Code: 21455	Printed Name: A. Smith-Jones		Lot # Bar Code (lab use only): 92727401
Project Name: SC-015 UST # 07680			
Project No.: SC-015	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Collection Date(s)	Collection Time (Military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	Matrix: Unpres.	No of Containers by Preservative Type: H2SO4	HNO3	HCl	NaOH	5035 Kit	Field Filtered	BTEX+MNDCA TOXY								Remarks / Cooler I.D.
TB2	4/24/24	900	G	X						2				X								031

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]	4/24/24		1. Received by [signature]	4/24/24	1814
2. Relinquished by [signature]	4/25/24	1520	2. Received by Omni Pace HM	4/26/24	0800
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by		

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._____°C

Temp Blank ☐ Y ☐ N

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

Document Number: ME003N2-01

APPENDIX E

Disposal Manifests

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. CC-1

2. Page 1 of

3. Generator's Name and Mailing Address: Crown Central LLC Various sites

4. Generator's Phone ( )

5. Transporter 1 Company Name: ARM

6. US EPA ID Number

A. State Transorter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: Tk Tank Services 425 Boulevard Rd Sumter, S.C

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	102.25	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

site	UST#	Gallons
SC011	07685	16.25
SC528	06547	13
SC015	07680	26.75
SC668	03700	4
SC596	00554	8.5
SC576	06443	14.5

~~H. Handling Codes for Wastes Listed Above~~

site	UST#	Gallons
SC553	15089	9
SC501	09277	10.25

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

(B. material shipped as part of a consolidated shipment received via tanker at TK Tank from transporter 2.)

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Billy Pittenger Agent for Crown Central LLC

Signature: Billy Pittenger

Date: Month 4 Day 22 Year 24

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Josh Doe

Signature: x Josh Register

Date: Month 4 Day 22 Year 24

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Brittany Boykin

Signature: Brittany Boykin

Date: Month 4 Day 23 Year 24

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. QES

2. Page 1 of

3. Generator's Name and Mailing Address

QES

4. Generator's Phone ( ) Various Sites

5. Transporter 1 Company Name: ARM

6. US EPA ID Number

A. State Transorter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address

TK Tank Services
425 Boulevard Rd
Sumter, S.C

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL				
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	48	Gal
c.				
d.				

G. Additonal Descriptions for Materials Listed Above

Site	UST #	Gallons
SC 669	07891	19.25
SC 008	08579	20.25
SC 015	07680	6
SC 011	07685	2.5

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ARM ENVIRONMENTAL SERVICES, INC.
P.O. BOX 50285
COLUMBIA, SC 29250

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date (Month Day Year)
Billy Pittenger Agent for QES	Billy Pittenger	5 20 24

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
Josh Register	Josh Register for Josh Register	5 2024

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this maifest, except as noted in item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
Brittany Boykin	Brittany Boykin	5 20 24

APPENDIX F

Data Verification Checklist

Contractor Checklist

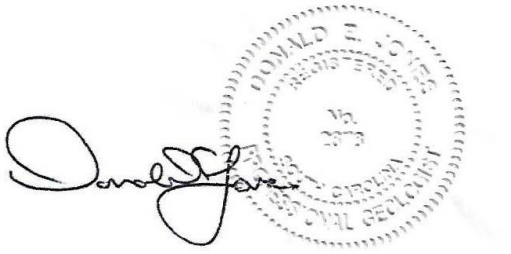
Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	X		
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 includes all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix D)	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, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix C)	X		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix E)		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 provided? (Appendix F)	X		

Explanation for missing and incomplete information? NONE

Project Verifier:



Date: June 10, 2024

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

July 14, 2023

Mr. Matt Wykel, Hydrogeologist
South Carolina Department of Health & Environmental Control
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708



SUBJECT: **Injection Corrective Action Plan Addendum (CAPA)**
Former Crown Fast Fare SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680

Dear Mr. Wykel:

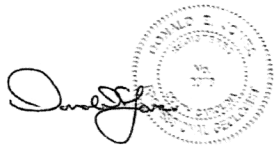
Quality Environmental Solutions, Inc. (QES) is pleased to submit this *Injection Corrective Action Plan Addendum (CAPA)* for the above-listed facility ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Permit #07680. The subject property is currently a vacant former Long's Drugstore; the USTs associated with the former Crown service station were removed in July 1991.

QES submitted an Injection CAP to SCDHEC dated January 31, 2023. QES and the SCDHEC Project Manager previously agreed that continued aggressive fluid-vapor recovery (AFVR) events was not proving to be a cost-effective remedial alternative. As an alternative, QES evaluated the possibility of impacted soil over-excavation and determined that this approach was not feasible due to possible damage to the existing structure as the impacted area is close to the building, asphalt and concrete restoration costs and the overall project cost. The submitted CAP included a cost estimate for injection of reagents to effectively destroy the light non-aqueous phase liquid (LNAPL) and reduce dissolved hydrocarbon concentrations to levels below the SSTLs. The injection remedial approach should result in sufficient contaminant reductions leading to Eventual SCDHEC issuance of a Conditional No Further Action (CNFA) determination.

Should this not be the case, the Site hydrogeology, contaminant distribution, injection data and post-injection groundwater results will be evaluated to propose additional remedial actions likely to include additional post-injection AFVR and groundwater sampling events. The feasibility of targeted impacted soil excavation may also be considered depending on the status of the property development and use.

Please contact the undersigned at 410-841-5552 with any questions or comments.

Sincerely,



Donald E. Jones
SCRPG #2676
Vice President

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
QES File: 201-189-SC-015

SC DEPARTMENT *of*
ENVIRONMENTAL SERVICES

Matt Wykel
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201

CROWN CENTRAL LLC
CAROL BOEMMEL
100 LIGHT ST 25TH FLOOR
BALTIMORE MARYLAND 21202

SEP 25 2024



Re: **Site Specific Work Plan Request for Groundwater Sampling**
SC 015, 3800 Devine St, Columbia, SC
UST Permit #07680
Release reported August 15, 1989
CAP Implementation Report received August 15, 1989
Richland County

Dear Carol Boemmel:

The Underground Storage Tank Management Division (UST Division) of the S.C. Department of Environmental Services (SCDES) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the soil and/or groundwater above Risk-Based Screening Levels.

Pursuant to S.C. Code Ann. Section 44-2-40(D), "The SUPERB Account and the SUPERB Financial Responsibility Fund shall provide combined coverage for site rehabilitation and third party claims, respectively, not to exceed one million dollars per occurrence". **According to UST Division records, approximately $540,501.09 has been expended from the SUPERB Account to date.**

Your selected contractor has proposed groundwater sampling as the next appropriate scope of work. To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the S.C. UST Control Regulations R.61-92, submittal of the Site Specific Work Plan (SSWP) for groundwater sampling may proceed. All work must be conducted in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and all applicable regulations. The QAPP is available at des.sc.gov/programs/bureau-land-waste-management/underground-storage-tanks/ust-quality-assurance-program-plan-qapp.

Groundwater samples should be collected from all monitoring wells associated with this release along with all water supply wells and surface waters within a 1,000 foot radius of the site.

Your contractor must complete the SSWP and submit it 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 SCDES must be issued before work begins.**

If the plan cannot be submitted by the required due date, an extension must be requested by submitting a written request, either via postal mail or email, to my attention prior to the due

date. The Department will issue a Notice of Alleged Violation if the report/plan is not submitted by the required due date.

On all correspondence concerning this site, please reference UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-7705, by fax at (803) 898-0673, or by email at james.wykel@des.sc.gov.

Sincerely,

Matt Wykel, Hydrogeologist

cc: QES, PO Box 44, Bridgewater, VT 05034 (w/o enc)
Technical file

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

RECEIVED OCT 24 2024 UST DIVISION

To: Matt Wykel (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: PO Box 44, Bridgewater, VT
Property Owner (if different): WHLR
Property Owner Address: 2529 Virginia Beach BLVD., Virginia Beach, VA 23452
Current Use of Property: Vacant (previously a drug store)

UST 129 DOCKETING

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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	2 Field Blank
27 Monitoring Wells	_____ Surface Water	2 Duplicate	1 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: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Comments, if warranted:

_____

_____

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 15 Field Work Completion: 30

Report Submittal: 60 # of Copies Provided to Property Owners: 2

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal

Soil: _____ Tons Purge Water: 25+25=50 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.

Low-flow sample all accessible monitoring wells.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification Number: _____

Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments

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	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

3. Assessment Component Cost Agreement, SCDHEC Form D-3664

ASSESSMENT COMPONENT COST AGREEMENT

South Carolina Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 9, 2023

Facility Name: Former Crown SC-015

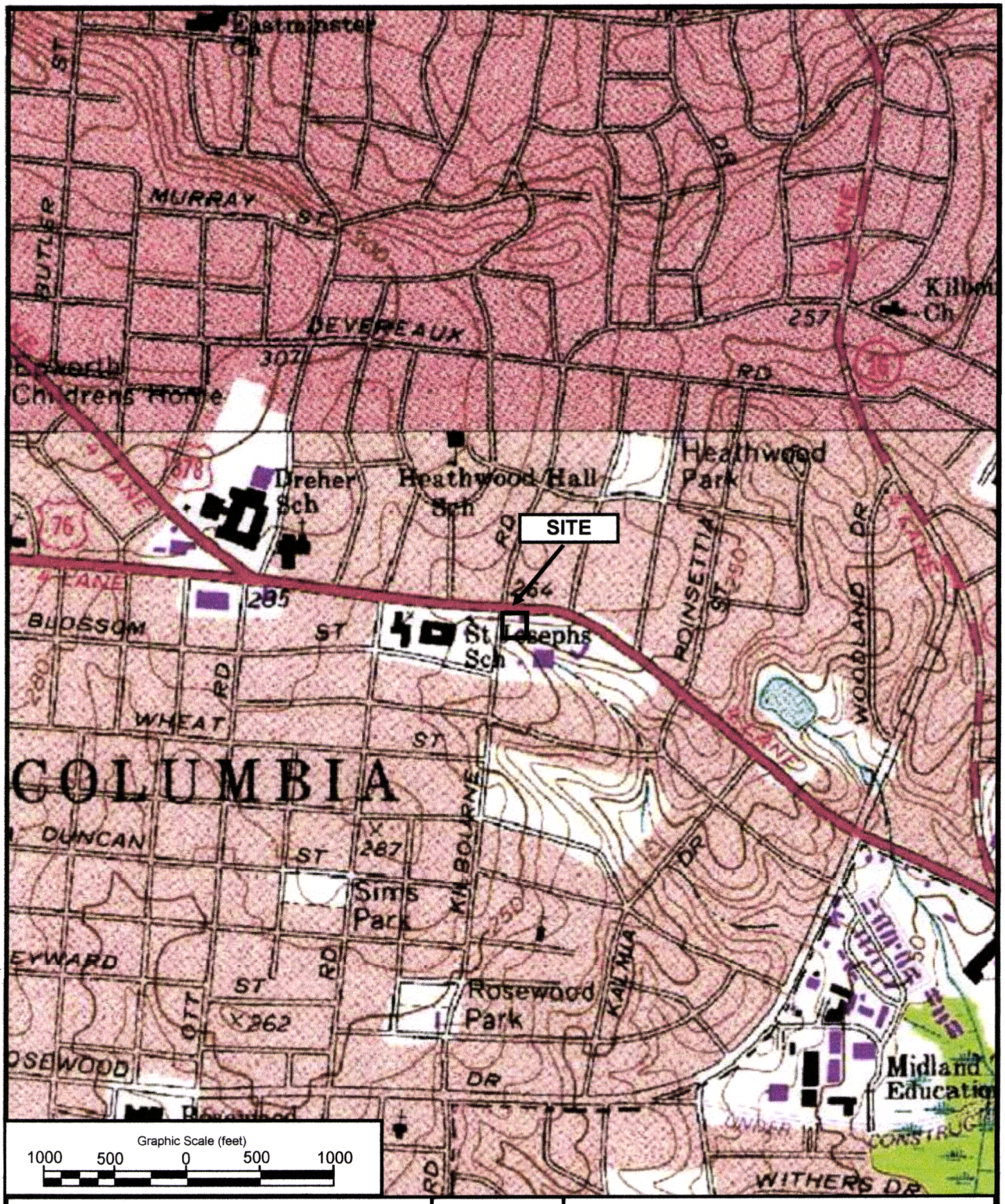
UST Permit #: 07680 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. Plan Preparation					
1.2 Site-specific Work Plan	1	each	$183.22		$183.22
2.2 Tax Map		each	$85.50		$0.00
3.2 QAPP Contractor Addendum (App B)		each	$250.00		$0.00
B. Survey					
1.1 Receptor Survey		each	$673.06		$0.00
C. Survey					
1.2 Comprehensive Survey		each	$1,270.36		$0.00
5.1 Ground Penetrating Radar Survey (100 x 100)		each	$1,111.57		$0.00
D. Mob/Demob					
1.2 Equipment		each	$1,245.93		$0.00
2.2 Personnel	2	each	$516.69		$1,033.38
3.2 Adverse Terrain Vehicle		each	$610.75		$0.00
E. Soil Borings					
1.1 Soil Borings (hand auger)		foot	$21.80		$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)					
1.2 Standard		per foot	$33.50		$0.00
2.2 Fractured Rock		per foot	$41.40		$0.00
G.					
H. Well Abandonment					
1.2 2" diameter or less		per foot	$3.79		$0.00
2.2 Greater than 2" to 6" diameter		per foot	$5.50		$0.00
3.2 Dug/Bored well (up to 6 feet diameter)		per foot	$18.32		$0.00
I. Well Installation (In accordance with R.61-71)					
1.2 Water Table (hand augered)		per foot	$31.40		$0.00
2.B Water Table (drill rig) 2" Diameter		per foot	$54.90		$0.00
2.2 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$59.80		$0.00
3.2 Telescoping		per foot	$84.70		$0.00
4.2 Rock Drilling		per foot	$81.80		$0.00
5.2 2" Rock Coring		per foot	$88.50		$0.00
6.2 Multi-sampling ports/screens		per foot	$59.40		$0.00
7.2 Recovery Well (4" diameter)		per foot	$69.60		$0.00
9.2 Rotosonic (2" diameter)		per foot	$119.00		$0.00
10.2 Re-develop Existing Well		per foot	$13.44		$0.00

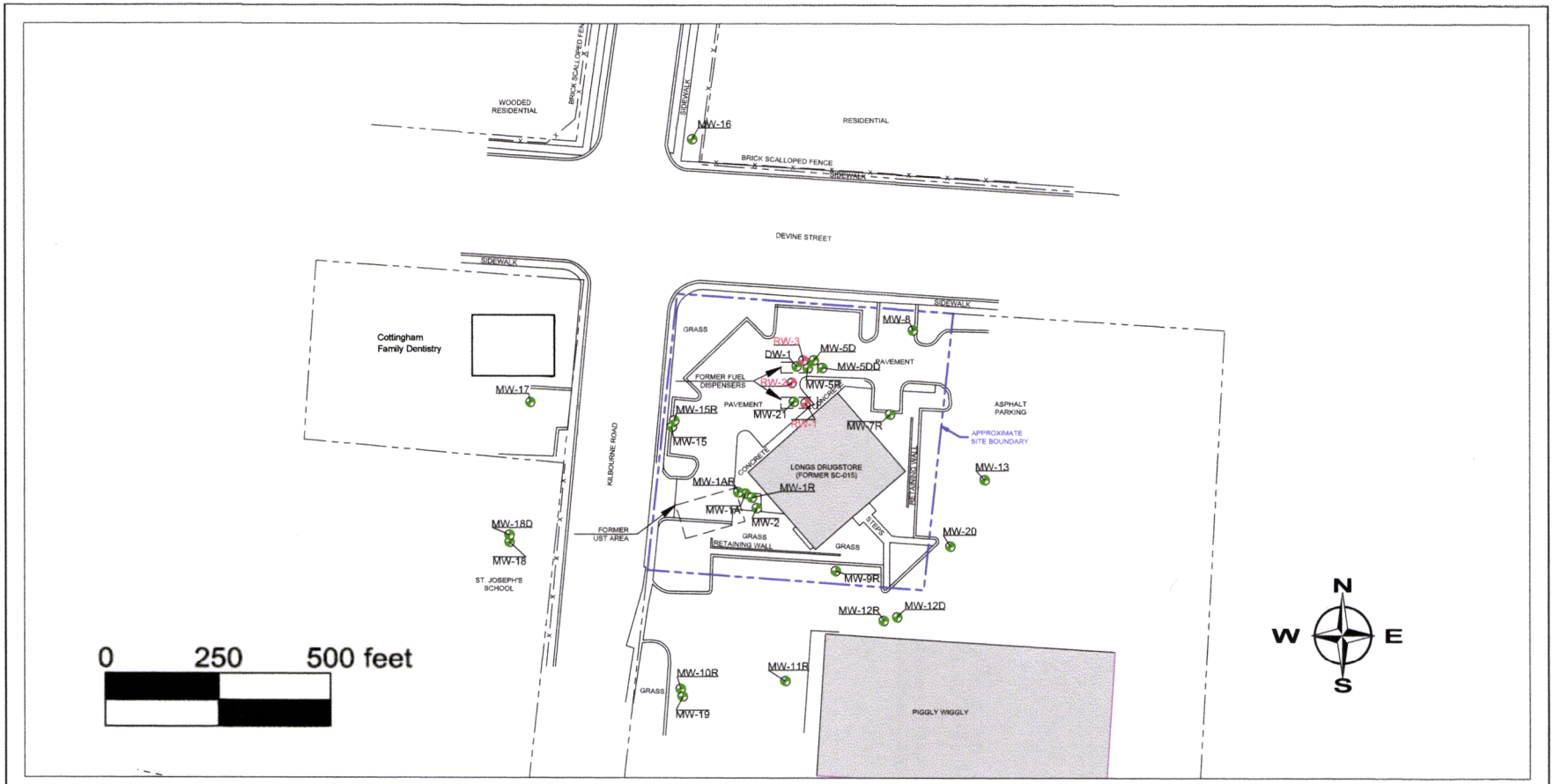
J. Groundwater Sample Collection / Gauging Depth to Water/Product					
1.2 Groundwater Purge		per well	$73.29		$0.00
2.2 Air or Vapors		sample	$14.66		$0.00
3.2 Water Supply Sample		sample	$26.87		$0.00
4.1A HydraSleeve		sample	$34.20		$0.00
4.2B No-purge Groundwater Sample/Surface water		sample	$57.24		$0.00
5.2 Gauge Well only		sample	$8.55		$0.00
6.2 Sample Below Product		sample	$14.66		$0.00
7.2 Passive Diffusion Bag		sample	$31.75		$0.00
8.2 Field Duplicates (MWs & WSWs) and Field Blanks	4	sample	$30.06		$120.24
9.2 Groundwater (low flow purge)	27	sample	$111.16		$3,001.32
10.2 Equipment Blank	1	sample	$30.06		$30.06
11.1 Sample Product		per well	$52.66		$0.00
K. Laboratory Analyses-Groundwater					
1.2 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	33	per sample	$149.02		$4,917.66
2.2 Lead, Filtered		per sample	$16.85		$0.00
3.2 Rush EPA Method 8260B		per sample	$187.62		$0.00
4.2 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$34.20		$0.00
5.2 PAH's		per sample	$74.02		$0.00
6.2 Lead		per sample	$19.54		$0.00
7.2 EDB by EPA 8011	32	per sample	$55.21		$1,766.72
8.2 EDB by EPA Method 8011 Rush		per sample	$83.31		$0.00
9.2 8 RCRA Metals		per sample	$77.45		$0.00
10.2 TPH (9070)		per sample	$50.09		$0.00
11.2 PH		per sample	$6.35		$0.00
12.2 BOD		per sample	$24.42		$0.00
13.2 Ethanol		per sample	$18.08		$0.00
K. Analyses-Drinking Water					
14.2 BTEXNM+1,2 DCA (524.2)		per sample	$151.52		$0.00
15.2 7-OXYGENATES & ETHANOL (8260D)		per sample	$112.07		$0.00
16.2 EDB (504.1)		per sample	$97.11		$0.00
17.2 RCRA METALS (200.8)		per sample	$122.15		$0.00
K. Analyses-Soil					
18.2 BTEX + Naphth.		per sample	$78.18		$0.00
19.2 PAH's		per sample	$78.22		$0.00
20.2 8 RCRA Metals		per sample	$68.89		$0.00
21.2 TPH-DRO (3550C/8015C)		per sample	$48.86		$0.00
22.2 TPH-GRO (5035B/8015C)		per sample	$43.92		$0.00
23.2 Grain size/hydrometer		per sample	$127.04		$0.00
24.2 Total Organic Carbon		per sample	$37.38		$0.00
K. Analyses-Air					
25.2 BTEX + Naphthalene		per sample	$263.84		$0.00
K. Hydrocarbon Fuel Identification					
27.1 C3-C44 Whole Oil (ASTM D3328)		per sample	$465.93		$0.00
28.1 Fuel Oxygenates (1624 Mod)		per sample	$398.39		$0.00
29.1 ALKYL Leads, EDB MMT (8080)		per sample	$398.39		$0.00
30.1 C8-C40 Full Scan (ASTM 5739)		per sample	$629.64		$0.00
31.1 Simulated Distillation (ASTM 2887)		per sample	$398.39		$0.00

32.1 Parent & Alk. PAH Com. (8270 SIM)		per sample	$723.63		$0.00
33.1 C3-C10 Piano (8260 MOD)		per sample	$599.88		$0.00
34.1 C10+Alkane Fingerprints		per sample	$599.88		$0.00
35.1 Expert Data Interpretation & Report		each	$595.30		$0.00
L. Aquifer Characterization					
1.2 Pumping Test		per hour	$28.09		$0.00
2.2 Slug Test		per test	$233.31		$0.00
3.2 Fractured Rock		per test	$122.15		$0.00
M. Free Product					
1.1 Free Product Recovery Rate Test		each	$46.42		$0.00
N.					
O. Risk Evaluation					
1.2 Tier I Risk Evaluation		each	$366.45		$0.00
2.2 Tier II Risk Evaluation		each	$122.15		$0.00
P. Survey					
1.1 Subsequent Survey		each	$297.65		$0.00
Q. Disposal (gallons or tons)					
1.2 Wastewater	50	gallon	$1.19		$59.50
2.2 Free Product		gallon	$1.63		$0.00
3.2 Soil Treatment/Disposal		ton	$156.25		$0.00
4.2 Drilling fluids		gallon	$1.25		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.2 Southeast Region		standard	$12,622.56		$0.00
2.2 All Other Counties		standard	$13,844.06		$0.00
U. IGWA (Use DHEC 3666 form)					
1.2 Southeast Region		standard	$4,353.67		$0.00
2.2 All Other Counties		standard	$4,720.01		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.2 8-hour Event		per event	$1,787.40		$0.00
2.1 24-hour Event		per event	$4,407.78		$0.00
3.1 48-hour Event		per event	$7,242.29		$0.00
4.1 96-hour Event		per event	$14,482.28		$0.00
5.1 Off-gas Treatment 8 hour		per event	$141.17		$0.00
6.2 Off-gas Treatment 24 hour		per event	$294.30		$0.00
7.2 Off-gas Treatment 48 hour		per event	$386.10		$0.00
8.1 Off-gas Treatment 96 hour		per event	$898.84		$0.00
9.1 Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$464.40		$0.00
10.1 Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$540.00		$0.00
11.1 Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,080.00		$0.00
12.1 Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,160.00		$0.00
13.2 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.64		$0.00
14.2 AFVR Site Reconnaissance		each	$302.40		$0.00
15.1 Additional Hook-ups		each	$29.68		$0.00

16.2 AFVR Effluent Disposal		gallon	$0.53		$0.00
17.2 AFVR Mobilization/Demobilization		each	$777.60		$0.00
18.1 Mobilization for absorbents/skimmers		each	$516.69		$0.00
19.1 Well sock 2" ID well		each	$36.94		$0.00
20.1 Well sock 4" ID well		each	$49.03		$0.00
21.1 pad (per pad)		each	$49.95		$0.00
22.1 3" diameter x 10' length boom		each	$108.00		$0.00
23.1 5" diameter x 10' length boom		each	$132.84		$0.00
24.1 New FPP recovery skimmer (2" wells)		each	$791.10		$0.00
25.1 New FPP recovery skimmer (4" wells)		each	$1,247.40		$0.00
26.1 Refurbished FPP recovery skimmer (2" or 4" wells)		each	$760.32		$0.00
27.1 Disposal of Absorbents		pound	$4.10		$0.00
28.1 Disposal of product from skimmers		gallon	$0.50		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.2 New GAC System Installation		each	$2,320.86		$0.00
2.2 Refurbished GAC Sys. Install		each	$1,099.35		$0.00
3.2 Filter replacement/removal		each	$427.53		$0.00
4.2 GAC System removal, cleaning, & refurbishment		each	$335.92		$0.00
5.2 GAC System housing		each	$305.38		$0.00
6.2 In-line particulate filter		each	$183.22		$0.00
7.2 Additional piping & fittings		foot	$1.84		$0.00
Y. Well Repair					
1.2 Additional Copies of the Report Delivered	2	each	$61.07		$122.14
2.2 Repair 2x2 MW pad		each	$61.07		$0.00
3.2 Repair 4x4 MW pad		each	$107.49		$0.00
4.2 Replace well vault		each	$144.14		$0.00
5.2 Replace well cover bolts		each	$3.18		$0.00
6.2 Replace locking well cap & lock		each	$18.32		$0.00
7.2 Replace/Repair stick-up		each	$163.68		$0.00
8.2 Convert Flush-mount to Stick-up		each	$183.22		$0.00
9.2 Convert Stick-up to Flush-mount		each	$158.79		$0.00
10.2 Replace missing/illegible well ID plate		each	$14.66		$0.00
11.1 Down-hole Camera		per foot	$29.25		$0.00
Z. High Resolution Site Characterization					
1.1 HRSC Screening Equipment Mobilization		each	$1,468.80		$0.00
2.1 HRSC Drilling Category 1		per foot	$31.32		$0.00
3.1 HRSC Drilling Category 2		per foot	$36.18		$0.00
4.1 HRSC Drilling Category 3		per foot	$29.16		$0.00
5.1 HRSC 3-D Model		each	$4,363.20		$0.00
S. Report Prep & Project Management	12%	percent	$11,234.24		$1,348.11
TOTAL					$12,582.35



USGS TOPOGRAPHIC QUADRANGLE MAP FORT JACKSON SOUTH, SOUTH CAROLINA	QES	**SITE LOCATION MAP** FORMER CROWN SC-015 3800 DEVINE STREET COLUMBIA, SOUTH CAROLINA UST PERMIT NO. 07680
DATE: 1982 SCALE: 1 INCH = 1000 FEET PROJECT NO. SC-015	N	**Figure 1: Topographic Map**



Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

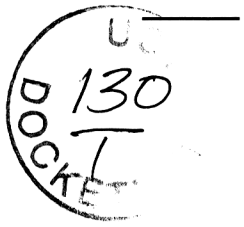
Drawn By: QES

SC DEPARTMENT *of*
ENVIRONMENTAL SERVICES

Matt Wykel
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201

CAROL BOEMMEL
CROWN CENTRAL LLC
100 LIGHT ST 25TH FLOOR
BALTIMORE MD 21202

NOV 22 2024



Re: **Site Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680; CA #69389
Release #1 reported August 15, 1989
Site Specific Work Plan received October 24, 2024
Richland County

Dear Mrs. Boemmel:

The Underground Storage Tank Management Division (UST Division) of the S.C. Department of Environmental Services has reviewed and approved the referenced Site Specific Work Plan (SSWP) submitted by your contractor. The groundwater sampling event should begin immediately upon receipt of this letter. All work should be conducted in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and all applicable regulations. The QAPP is available at des.sc.gov/programs/bureau-land-waste-management/underground-storage-tanks/ust-quality-assurance-program-plan-qapp.

Pursuant to S.C. Code Ann. Section 44-2-40(D), "The SUPERB Account and the SUPERB Financial Responsibility Fund shall provide combined coverage for site rehabilitation and third party claims, respectively, not to exceed one million dollars per occurrence". **According to UST Division records, approximately $540,501.09 has been expended from the SUPERB Account to date.** This scope of work, as recommended by your contractor, is anticipated to cost approximately $12,582.35.

The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.

In accordance with Section IV.A.4.c of the SUPERB Site Rehabilitation & Fund Access Regulation (R.61-98), the contractor shall be required to indemnify the property owner, underground storage tank owner/operator and the State of South Carolina from and against all claims, damages, losses and expenses arising out of or resulting from activity conducted by the contractor, its agents, employees or subcontractors.

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the UST Division within sixty (60) days of the date of this correspondence.** 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.

If the report cannot be submitted by the required due date, an extension may be requested by submitting a written request, either via postal mail or email, to my attention prior to the due date. The Department will issue a Notice of Alleged Violation if the report is not submitted by the required due date.

Please note that sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that the SUPERB Account cannot compensate any costs that are not pre-approved. If for any reason additional tasks will be completed, these additional tasks, and the associated cost, must be pre-approved by the UST Division for the cost to be paid. The UST 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 UST 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. **Per Section III.3.b of the SUPERB Site Rehabilitation and Fund Access Regulations (R.61-98), reimbursement for site rehabilitation activities shall in no event exceed the actual costs incurred.**

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 SCDES-certified site rehabilitation contractor as required by the SUPERB Site Rehabilitation and Fund Access Regulation, R.61-98.

The UST 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.

The contractor will be responsible for keeping and preserving suitable records of hydrological and other site assessments, site plans, contracts, accounts, invoices, or other transactions related to the cleanup and rehabilitation and the records must be accessible to the department during regular business hours. In addition, this includes all subcontractor agreements, invoices, correspondence, plans, reports, records, including electronic and paper formats. All records must be maintained for 10 years after project completion.

On all correspondence regarding this site, please reference the UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-7705, by fax at (803) 898-0673, or by email at wykeljm@des.sc.gov.

Sincerely,

Matt Wykel, Hydrogeologist

enc: Approved Cost Agreement

cc: QES, PO Box 44, Bridgewater, VT 05034 (w/ enc)
Technical file (w/ enc)

Approved Cost Agreement 69389

Facility: 07680 SC015
WYKELJM
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
A PLAN PREPARATION						
		1.2	SITE SPECIFIC WORK PLAN	1.0000	$183.220	183.22
D MOB/DEMOB						
		2.2	PERSONNEL	2.0000	$516.690	1,033.38
J SAMPLE COLLECTION						
		10.2	EQUIPMENT BLANK	1.0000	$30.060	30.06
		8.2	FIELD DUPL. (MWS & WSWS) & FB	4.0000	$30.060	120.24
		9.2	GROUNDWATER (LOW FLOW PURGE)	27.0000	$111.160	3,001.32
K ANALYSES						
	GW GROUNDWATER	1.2	BTEXNM+OXYGS+1,2 DCA+ETH 8260D	33.0000	$149.020	4,917.66
		7.2	EDB BY EPA 8011	32.0000	$55.210	1,766.72
Q DISPOSAL						
		1.2	WASTEWATER	50.0000	$1.190	59.50
S REPORT PROJECT MANAGEMENT						
		S	REPORT PREP & PROJ. MANAGEMENT	0.1200	$11,234.240	1,348.11
Y WELL REPAIR						
		1.2	ADDITIONAL COPIES OF REPORT	2.0000	$61.070	122.14
				Total Amount		12,582.35

SC DEPARTMENT *of*
ENVIRONMENTAL SERVICES

JAN 28 2025

UST DOCKETING 131T

FRANK DOUGHERTY
CASON DEVELOPMENT GROUP
1514 BRENTWOOD DRIVE SUITE 201
COLUMBIA SC 29206

Re: Site History Summary
SC015, 3800 Devine Street, Columbia, SC
Richland County
UST Permit #07680
Request for Site History Summary received January 13, 2025

Dear Mr. Dougherty,

In response to your request for information about the compliance status and environmental conditions associated with the referenced facility, the following is provided.

The Underground Storage Tank (UST) Management Division (Division) records indicate three (3) USTs are registered with the South Carolina Department of Environmental Services (DES). UST's 1 through 3 are registered to Crown Central LLC and were removed on July 30, 1991.

On August 15, 1989, a petroleum release was reported at the facility assigned the UST permit number referenced above. Division records indicate that Crown Central LLC, the tank owner at the time of the above referenced release, complied with the regulatory requirements and performed the initial response actions outlined in R.61-92, Section 280.61. Crown Central LLC is actively cleaning up the petroleum chemicals of concern.

The release of petroleum products from the facility assigned the UST permit number referenced above is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. This means that reasonable costs can be paid by the SUPERB Account for a combined coverage of $1,000,000 for site rehabilitation actions and third-party claims associated with the release. Crown Central LLC, as the tank owner at the time of the above referenced release, retains responsibility under state and federal law for any additional actions and associated costs for the release should site rehabilitation cost exceed $1,000,000.

The SUPERB Act does not preclude or restrict the use or redevelopment of property on which a petroleum release has occurred. However, DES advises against installing a water supply well for drinking, cooking, or bathing purposes until rehabilitation activities are completed to achieve no further action status or as otherwise approved by DES.

To obtain a better understanding of the statutory and regulatory framework regarding releases and/or UST systems, please use the following links:

South Carolina UST Control Regulations R.61-92
https://des.sc.gov/sites/des/files/Library/Regulations/R.61-92.pdf

State Underground Petroleum Environmental Response Bank Act
https://www.scstatehouse.gov/code/t44c002.php

If you have any questions, please contact me at (803) 898-7988. I can also be reached by email at preston.mousseau@des.sc.gov or by fax at 803-898-0673.

Sincerely,

Preston Mousseau

Preston Mousseau, Customer Service Liaison
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Technical File

Outlook

RE: SC-015 UST #07680 CA Addendum

From Austin Smith-Jones <austin@qualityenvironmental.net>
Date Fri 1/31/2025 11:43 AM
To James M. Wykel <James.Wykel@des.sc.gov>
Cc djones@qualityenvironmental.net <djones@qualityenvironmental.net>



1 attachment (74 KB)
SC-015 CA Addendum 1-31-25_updated.pdf;

Matt,

I miscounted EDB analysis on the addendum. Attached is the corrected addendum. Thank you,

--
Austin Smith-Jones, P.G.
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
www.qesweb.com

From: Austin Smith-Jones <austin@qualityenvironmental.net>
Sent: Friday, January 31, 2025 11:30 AM
To: 'james.wykel@des.sc.gov' <james.wykel@des.sc.gov>
Cc: Don Jones <djones@qualityenvironmental.net>
Subject: SC-015 UST #07680 CA Addendum

Good morning Matt,

Please see the attached Cost Agreement Addendum for the groundwater sampling event at the UST #07680 site.

I went back to the Site on January 29th to gauge MW-5R, RW-2 and RW-3. To refresh, these wells had an LNAPL film when they were gauged during the sampling event earlier this month. I had installed a wick to remove the film then proceeded to low-flow sample the wells. A film was again present in only RW-2 during the follow-up gauging this week. We believe a combination of desorption from injections and mobilization from this past fall's records rains have freed a small amount of previously trapped LNAPL. We are recommending an AFVR event to remove this mobilized LNAPL. The dissolved concentrations continue to significantly decrease in the source area, indicating the Cool-Ox injections are continuing to reduce hydrocarbon impacts. The report will be submitted early next week and present the full findings and recommendations. We are going to preemptively submit an AFVR and

subsequent sampling event work plan with the report. Please feel free to give me a call if you'd like to discuss the results when they are received.

Thank you,

--
Austin Smith-Jones, P.G.
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
www.qesweb.com

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ASSESSMENT COMPONENT COST AGREEMENT

South Carolina Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 9, 2023

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:** 69389

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. Plan Preparation					
1.2 Site-specific Work Plan		each	$183.22		$0.00
2.2 Tax Map		each	$85.50		$0.00
3.2 QAPP Contractor Addendum (App B)		each	$250.00		$0.00
B. Survey					
1.1 Receptor Survey		each	$673.06		$0.00
C. Survey					
1.2 Comprehensive Survey		each	$1,270.36		$0.00
5.1 Ground Penetrating Radar Survey (100 x 100)		each	$1,111.57		$0.00
D. Mob/Demob					
1.2 Equipment		each	$1,245.93		$0.00
2.2 Personnel		each	$516.69		$0.00
3.2 Adverse Terrain Vehicle		each	$610.75		$0.00
E. Soil Borings					
1.1 Soil Borings (hand auger)		foot	$21.80		$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)					
1.2 Standard		per foot	$33.50		$0.00
2.2 Fractured Rock		per foot	$41.40		$0.00
G.					
H. Well Abandonment					
1.2 2" diameter or less		per foot	$3.79		$0.00
2.2 Greater than 2" to 6" diameter		per foot	$5.50		$0.00
3.2 Dug/Bored well (up to 6 feet diameter)		per foot	$18.32		$0.00
I. Well Installation (In accordance with R.61-71)					
1.2 Water Table (hand augered)		per foot	$31.40		$0.00
2.B Water Table (drill rig) 2" Diameter		per foot	$54.90		$0.00
2.2 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$59.80		$0.00
3.2 Telescoping		per foot	$84.70		$0.00
4.2 Rock Drilling		per foot	$81.80		$0.00
5.2 2" Rock Coring		per foot	$88.50		$0.00
6.2 Multi-sampling ports/screens		per foot	$59.40		$0.00
7.2 Recovery Well (4" diameter)		per foot	$69.60		$0.00
9.2 Rotosonic (2" diameter)		per foot	$119.00		$0.00
10.2 Re-develop Existing Well		per foot	$13.44		$0.00
J. Groundwater Sample Collection / Gauging Depth to Water/Product					
1.2 Groundwater Purge		per well	$73.29		$0.00
2.2 Air or Vapors		sample	$14.66		$0.00
3.2 Water Supply Sample		sample	$26.87		$0.00
4.1A HydraSleeve		sample	$34.20		$0.00
4.2B No-purge Groundwater Sample/Surface water		sample	$57.24		$0.00
5.2 Gauge Well only	3	sample	$8.55		$25.65
6.2 Sample Below Product		sample	$14.66		$0.00
7.2 Passive Diffusion Bag		sample	$31.75		$0.00
8.2 Field Duplicates (MWs & WSWs) and Field Blanks		sample	$30.06		$0.00
9.2 Groundwater (low flow purge)	-3	sample	$111.16		($333.48)
10.2 Equipment Blank		sample	$30.06		$0.00
11.1 Sample Product		per well	$52.66		$0.00
K. Laboratory Analyses-Groundwater					
1.2 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	-2	per sample	$149.02		($298.04)
2.2 Lead, Filtered		per sample	$16.85		$0.00
3.2 Rush EPA Method 8260B		per sample	$187.62		$0.00
4.2 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$34.20		$0.00
5.2 PAH's		per sample	$74.02		$0.00
6.2 Lead		per sample	$19.54		$0.00

Addendum

Previously Approved:	$12,582.35
Increase:	($930.72)
New Approved Total:	**$11,651.63**
Project Manager:	[signature]
Section Manager:	
Finance:	
Date:	1/31/2025

# of pages ___	
	From:
	UST/SCDHEC
fax # ( )	
Phone # ( )	

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria.

7.2 EDB by EPA 8011	-3	per sample	$55.21		($165.63)
8.2 EDB by EPA Method 8011 Rush		per sample	$83.31		$0.00
9.2 8 RCRA Metals		per sample	$77.45		$0.00
10.2 TPH (9070)		per sample	$50.09		$0.00
11.2 PH		per sample	$6.35		$0.00
12.2 BOD		per sample	$24.42		$0.00
13.2 Ethanol		per sample	$18.08		$0.00
K. Analyses-Drinking Water					
14.2 BTEXNM+1,2 DCA (524.2)		per sample	$151.52		$0.00
15.2 7-OXYGENATES & ETHANOL (8260D)		per sample	$112.07		$0.00
16.2 EDB (504.1)		per sample	$97.11		$0.00
17.2 RCRA METALS (200.8)		per sample	$122.15		$0.00
K. Analyses-Soil					
18.2 BTEX + Naphth.		per sample	$78.18		$0.00
19.2 PAH's		per sample	$78.22		$0.00
20.2 8 RCRA Metals		per sample	$68.89		$0.00
21.2 TPH-DRO (3550C/8015C)		per sample	$48.86		$0.00
22.2 TPH-GRO (5035B/8015C)		per sample	$43.92		$0.00
23.2 Grain size/hydrometer		per sample	$127.04		$0.00
24.2 Total Organic Carbon		per sample	$37.38		$0.00
K. Analyses-Air					
25.2 BTEX + Naphthalene		per sample	$263.84		$0.00
K. Hydrocarbon Fuel Identification					
27.1 C3-C44 Whole Oil (ASTM D3328)		per sample	$465.93		$0.00
28.1 Fuel Oxygenates (1624 Mod)		per sample	$398.39		$0.00
29.1 ALKYL Leads, EDB MMT (8080)		per sample	$398.39		$0.00
30.1 C8-C40 Full Scan (ASTM 5739)		per sample	$629.64		$0.00
31.1 Simulated Distillation (ASTM 2887)		per sample	$398.39		$0.00
32.1 Parent & Alk. PAH Com. (8270 SIM)		per sample	$723.63		$0.00
33.1 C3-C10 Piano (8260 MOD)		per sample	$599.88		$0.00
34.1 C10+Alkane Fingerprints		per sample	$599.88		$0.00
35.1 Expert Data Interpretation & Report		each	$595.30		$0.00
L. Aquifer Characterization					
1.2 Pumping Test		per hour	$28.09		$0.00
2.2 Slug Test		per test	$233.31		$0.00
3.2 Fractured Rock		per test	$122.15		$0.00
M. Free Product					
1.1 Free Product Recovery Rate Test		each	$46.42		$0.00
N.					
O. Risk Evaluation					
1.2 Tier I Risk Evaluation		each	$366.45		$0.00
2.2 Tier II Risk Evaluation		each	$122.15		$0.00
P. Survey					
1.1 Subsequent Survey		each	$297.65		$0.00
Q. Disposal (gallons or tons)					
1.2 Wastewater	-50	gallon	$1.19		($59.50)
2.2 Free Product		gallon	$1.63		$0.00
3.2 Soil Treatment/Disposal		ton	$156.25		$0.00
4.2 Drilling fluids		gallon	$1.25		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.2 Southeast Region		standard	$12,622.56		$0.00
2.2 All Other Counties		standard	$13,844.06		$0.00
U. IGWA (Use DHEC 3666 form)					
1.2 Southeast Region		standard	$4,353.67		$0.00
2.2 All Other Counties		standard	$4,720.01		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.2 8-hour Event		per event	$1,787.40		$0.00
2.1 24-hour Event		per event	$4,407.78		$0.00
3.1 48-hour Event		per event	$7,242.29		$0.00
4.1 96-hour Event		per event	$14,482.28		$0.00
5.1 Off-gas Treatment 8 hour		per event	$141.17		$0.00
6.2 Off-gas Treatment 24 hour		per event	$294.30		$0.00
7.2 Off-gas Treatment 48 hour		per event	$386.10		$0.00
8.1 Off-gas Treatment 96 hour		per event	$898.84		$0.00
9.1 Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$464.40		$0.00

10.1 Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$540.00		$0.00
11.1 Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,080.00		$0.00
12.1 Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,160.00		$0.00
13.2 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.64		$0.00
14.2 AFVR Site Reconnaissance		each	$302.40		$0.00
15.1 Additional Hook-ups		each	$29.68		$0.00
16.2 AFVR Effluent Disposal		gallon	$0.53		$0.00
17.2 AFVR Mobilization/Demobilization		each	$777.60		$0.00
18.1 Mobilization for absorbents/skimmers		each	$516.69		$0.00
19.1 Well sock 2" ID well		each	$36.94		$0.00
20.1 Well sock 4" ID well		each	$49.03		$0.00
21.1 pad (per pad)		each	$49.95		$0.00
22.1 3" diameter x 10' length boom		each	$108.00		$0.00
23.1 5" diameter x 10' length boom		each	$132.84		$0.00
24.1 New FPP recovery skimmer (2" wells)		each	$791.10		$0.00
25.1 New FPP recovery skimmer (4" wells)		each	$1,247.40		$0.00
26.1 Refurbished FPP recovery skimmer (2" or 4" wells)		each	$760.32		$0.00
27.1 Disposal of Absorbents		pound	$4.10		$0.00
28.1 Disposal of product from skimmers		gallon	$0.50		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.2 New GAC System Installation		each	$2,320.86		$0.00
2.2 Refurbished GAC Sys. Install		each	$1,099.35		$0.00
3.2 Filter replacement/removal		each	$427.53		$0.00
4.2 GAC System removal, cleaning, & refurbishment		each	$335.92		$0.00
5.2 GAC System housing		each	$305.38		$0.00
6.2 In-line particulate filter		each	$183.22		$0.00
7.2 Additional piping & fittings		foot	$1.84		$0.00
Y. Well Repair					
1.2 Additional Copies of the Report Delivered		each	$61.07		$0.00
2.2 Repair 2x2 MW pad		each	$61.07		$0.00
3.2 Repair 4x4 MW pad		each	$107.49		$0.00
4.2 Replace well vault		each	$144.14		$0.00
5.2 Replace well cover bolts		each	$3.18		$0.00
6.2 Replace locking well cap & lock		each	$18.32		$0.00
7.2 Replace/Repair stick-up		each	$163.68		$0.00
8.2 Convert Flush-mount to Stick-up		each	$183.22		$0.00
9.2 Convert Stick-up to Flush-mount		each	$158.79		$0.00
10.2 Replace missing/illegible well ID plate		each	$14.66		$0.00
11.1 Down-hole Camera		per foot	$29.25		$0.00
Z. High Resolution Site Characterization					
1.1 HRSC Screening Equipment Mobilization		each	$1,468.80		$0.00
2.1 HRSC Drilling Category 1		per foot	$31.32		$0.00
3.1 HRSC Drilling Category 2		per foot	$36.18		$0.00
4.1 HRSC Drilling Category 3		per foot	$29.16		$0.00
5.1 HRSC 3-D Model		each	$4,363.20		$0.00
S. Report Prep & Project Management	12%	percent	($831.00)		($99.72)
TOTAL					($930.72)

Document Receipt Information

[X] Hard Copy [redacted] CD [ ] Email

Date Received 02/05/2025

Permit Number 07680

Project Manager Matt Wykel

Name of Contractor QES

Description 2025 Groundwater Assessment Report

Docket Number 133T

Scanned _____

Verified _____

Q_{E_S}

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

January 31, 2025

Matt Wykel, Hydrogeologist
South Carolina Department of Environmental Services
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: 2025 Groundwater Assessment Report
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2025 Groundwater Assessment Report* for the former Crown Fast Fare location at 3800 Devine Street in Columbia, South Carolina ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Environmental Services (SCDES) Underground Storage Tank (UST) Permit #07680. The Site is currently a vacant former Long's Drugstore; the USTs associated with the former Crown fueling facility were removed in July 1991.

Sixteen Aggressive Fluid-Vapor Recovery (AFVR) events were completed at the Site between April 2010 and July 2018. The last two AFVR events were completed following the installation of three recovery wells (RW's) in June 2018. Light non-aqueous phase liquid (LNAPL) was still periodically present in MW-5R and recovery wells RW-2 and RW-3 following the AFVR events. Despite the AFVR events, residual LNAPL remained present in a smear zone beneath the two former dispensers, in the vicinity of MW-5R, MW-21 and the recovery wells.

SCDES modeled the site and developed Site-Specific Target Levels (SSTLs) in 2020 for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. SSTL exceedances have historically occurred with toluene and ethylbenzene in the same vicinity as LNAPL occurrence.

QES submitted a 2023 *Corrective Action Plan Addendum* (CAPA) with plans for in-situ chemical oxidation through direct-push technology (DPT) injections. The CAPA was approved and injections were completed in December 2023. Prior to injection activities, LNAPL was detected in MW-5R (0.48'), RW-2 (0.30') and RW-3 (0.38'). A total of 7,521 gallons of *Cool-Ox*® were injected into 69 DPT points over a 2,500 square foot area.

QES completed two post-injection groundwater sampling events in January and April 2024. LNAPL was detected during the first sampling event in RW-2 (0.44') and was not detected during the second event. SSTL exceedances were present in MW-5R (toluene and ethylbenzene for both sampling events), RW-2 (toluene for both events) and RW-3 (toluene for both events and ethylbenzene in January). A *Targeted Scope CAP Report* was submitted to SCDES on June 12, 2024.

A Notice to Proceed was issued by SCDES for an additional groundwater sampling event on November 22, 2024. The Site monitoring wells were gauged and sampled on January 14 and 15, 2025.

An LNAPL film with a nominal thickness of 0.01 feet was detected in MW-5R, RW-2 and RW-3. A wick was installed to remove the film to allow groundwater sampling. QES notified SCDES of the LNAPL film occurrence and wick installation prior to sample collection in a January 16, 2025 email. QES believes the LNAPL occurrence is a result of the record rains in fall 2024 infiltrating the subsurface and freeing LNAPL that was trapped in previously isolated pore spaces.

Dissolved hydrocarbon concentrations continue to exhibit significantly decreasing trends in MW-21 and RW-1. Despite the LNAPL film occurrence, total dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations continue to decrease in MW-5R (BTEX reduction of 31% compared to 2022 baseline) and RW-3 (BTEX reduction of 44% compared to 2022 baseline). BTEX reductions in RW-2 are 17% when compared to the 2022 baseline, however, the RW-2 duplicate sample exhibited a BTEX increase of 25% when compared to the same baseline.

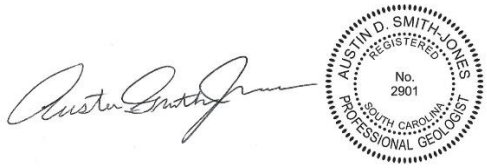
SSTL exceedances occurred during the January 2025 sampling event in MW-5R (toluene concentration of 26,600 ug/L compared to the SSTL of 26,540 ug/L). This toluene concentration is a 29% reduction from the April 2024 result and a 42% reduction from the 2022 baseline. The RW-2 sample exhibited a toluene concentration of 22,200 ug/L, but the duplicate exhibited an SSTL exceeding concentration of 33,200 ug/L (SSTL of 26,540 ug/L).

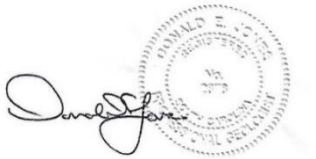
The decreasing dissolved hydrocarbon concentrations in MW-5R, MW-21, RW-1 and RW-3 indicate the plume source area is continuing to decrease in size as the *Cool-Ox*® injectate continues to promote hydrocarbon degradation. Elevated pH continues to be present in the injection area (MW-21, RW-1, RW-2 and RW-3) indicating the aquifer is still returning to equilibrium following the disruption caused by the injections.

The SCDES-approved CAPA included a provision for an additional AFVR event as an alternative remedial approach should the injections not sufficiently reduce the hydrocarbon mass. Subsurface disruptions caused by the injections and record rains have mobilized previously trapped LNAPL. QES recommends an additional AFVR event to remove residual LNAPL mobilized by rainfall and subsurface injections. QES recommends an additional sampling event following the AFVR event A Site-Specific Work Plan for the AFVR event and subsequent sampling event is being submitted under separate cover.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDES's response to the data presented in the report.

Sincerely,





Austin D. Smith-Jones
SCRPG #2901
Project Manager

Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2025 Groundwater Assessment Report*

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
Ms. Camila Lezama – WHLR Real Estate Company (clezama@whlr.us)

QES File 201-189-SC-015

2025 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Matt Wykel, Hydrogeologist
South Carolina Department of Environmental Service
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central LLC
Mailing Address: PO Box 44, Bridgewater, VT 05034

Prepared by:

Mr. Austin Smith-Jones, SCRPG
Quality Environmental Solutions, Inc.
Mailing Address: PO Box 44, Bridgewater, VT 05034
Contractor Certification Number 461
410-841-5552

January 31, 2025

2025 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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Figure 4: COC Concentration Map
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Appendices

Appendix B: Sampling Logs, Equipment Calibration, Laboratory Data Sheets & Chain-of-Custody
Appendix G: Disposal Manifest
Appendix K: Data Verification Checklist

2025 GROUNDWATER ASSESSMENT REPORT
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2025 Groundwater Assessment Report* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report presents the results of the January 2025 groundwater monitoring well gauging and sampling event.

The groundwater sampling event was conducted in accordance with the SCDES *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDES 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #5* (QES 2024), and the November 22, 2024 SCDES *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed* (NTP) and Approved Cost Agreement No. 69389 (SCDES 2024).

1.1 Site Description

Site Name	Former Crown Fast Fare SC-015 (Long's Drugstore) Former UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	WHLR-Devine Street LLC 2529 Virginia Beach Blvd Virginia Beach, VA 23452 757-627-9088
Current Property Use	Long's Drugstore (now vacant)

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline USTs. The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDES in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen aggressive fluid-vapor recovery (AFVR) events were completed at the Site between April 2010 and July 2018.
- Three recovery wells were installed at the Site in June 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater impacts.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the November 2021 sampling event. LNAPL was detected in RW-2 and RW-3 during the May 2022 sampling event.
- Site-Specific Target Levels (SSTLs) were established by SCDES in 2020 for five monitoring wells and the three recovery wells. Historical SSTL exceedances included MW-5R (toluene, ethylbenzene and xylenes), MW-21 (toluene, ethylbenzene and xylenes), RW-1 (toluene), RW-2 (toluene) and RW-3 (toluene and ethylbenzene).
- QES submitted a 2023 *Corrective Action Plan Addendum* (CAPA) with plans for in-situ chemical oxidation through direct-push technology (DPT) injections. The CAPA was approved and injections were completed in December 2023. Prior to injection activities, LNAPL was detected in MW-5R (0.48'), RW-2 (0.30') and RW-3 (0.38'). A total of 7,521 gallons of *Cool-Ox*® were injected into 69 DPT points over a 2,500 square foot area.

- QES completed two post-injection groundwater sampling events in January and April 2024. LNAPL was detected during the first sampling event in RW-2 (0.44') and was not detected during the second event. SSTL exceedances were present in MW-5R (toluene and ethylbenzene for both sampling events), RW-2 (toluene for both events) and RW-3 (toluene for both events and ethylbenzene in January). A *Targeted Scope CAP Report* was submitted to SCDES on June 12, 2024.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

The NTP for the groundwater sampling event was issued by SCDES on November 22, 2024. Groundwater levels were measured in the monitoring wells on January 14 and 15, 2025 using a Solinst 122 Interface Meter. A LNAPL film (nominal thickness of 0.01 feet) was detected in MW-5R, RW-2 and RW-3. A sorbent wick was installed in each well to remove the film followed by groundwater sample collection. QES notified SCDES of the LNAPL film occurrence and wick installation prior to sample collection in a January 16, 2025 email. The following monitoring wells could not be sampled, as was the case during previous sampling events:

- MW-1A was dry - the well has been dry since 2003 and since the original well depth was 45 feet, this well is no longer viable. Monitoring well MW-1AR was installed as a replacement well in 2018.
- MW-2 and MW-13 had insufficient water.
- MW-18D - The St. Joseph's School completed construction of a new field and damaged the monitoring well. The total depth was gauged to be 50' but the well is screened 57-62'.

A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Forms are included in **Appendix B**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the southwest in the shallow perched zone and to the east-southeast in the deeper intermediate zone. **Figure 5 and Figure 5A** depict the potentiometric surface contours for the January 2025 gauging date in both the upper and intermediate zones of the shallow aquifer, respectively. A potentiometric surface map based on the deeper monitoring wells is not included as there are only two data points, however historical groundwater flow in the deeper portion of the shallow aquifer is to the east.

Groundwater samples were collected from the Site monitoring wells on January 14 and 15, 2025. A peristaltic pump was utilized to complete low-flow purging of the shallow monitoring wells prior to sample collection. The deeper screened monitoring wells were low-flow purged with a submersible pump. Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. The 16.75 gallons of purge water generated during the sampling event were stored in a 55-gallon drum for transport to ARM Environmental Services of Columbia, SC for proper disposal. A copy of the disposal manifest will be forwarded upon receipt for inclusion in **Appendix G**.

Water quality parameters, including temperature, pH, conductivity, turbidity and dissolved oxygen were measured in the field with an Aqua Troll 500 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The water quality meter was calibrated prior to use and this documentation is included in **Appendix B**. The samples were placed on ice in coolers and hand delivered along with the chain-of-custody to Pace Analytical in West Columbia, South Carolina. The groundwater monitoring well samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

Field duplicate samples were collected from monitoring wells MW-15R (DUP1) and RW-2 (DUP2). Field blank samples were collected each monitoring well sample day using laboratory supplied deionized water. Two trip blank samples were supplied by Pace Analytical. The quality assurance/quality control samples were analyzed for the above parameters, except the trip blank samples were not analyzed for EDB. There were no discrepancies noted in the analyses of the MW-15R field duplicate, field blank or trip blank samples. There was a discrepancy in the RW-2 duplicate sample as the results exhibited increased dissolved hydrocarbon concentrations as compared to the original sample. This is believed to be due to the presence of a LNAPL film in the well impacting the results during purging.

3.0 GROUNDWATER ASSESSMENT RESULTS

The following table lists the chemicals of concern (COCs) detected above the laboratory quantitation limits for SSTL wells with red-bolded values exceeding the SSTL with the corresponding SSTL in parentheses.

	Benzene	***Toluene***	***Ethylbenzene***	***Xylenes***	***MTBE***	***Naphthalene***
MW-1AR						
MW-5R	5,130	***26,600 (26,540)***	2,950	18,500		1,170
MW-8	3.3		74	*0.58 J*	4.7	34
MW-15R					15	
MW-15R (DUP1)					16	
MW-21	161	5,790	1,320	6,730		918
RW-1	519	10,100	819	2,970		305
RW-2	8,650	22,200	1,440	7,570		466
RW-2 (DUP2)	11,900	***33,200 (26,540)***	2,410	12,500		898
RW-3	6,900	20,800	1,220	12,100		639

	EDB	***DIPE***
MW-1AR		
MW-5R		
MW-8		
MW-15R		1.3
MW-15R (DUP1)		1.3
MW-21		
RW-1		
RW-2		
RW-2 (DUP2)		
RW-3	0.56	

Notes: Values in ug/L; a J value is an estimated concentration; see Table 3 for COC definitions

The historical and January 2025 groundwater sampling results are summarized in **Table 3**. A comparison of post-injection analytical data to the baseline May 2022 sampling results is included in **Table 3A**. The complete laboratory reports are included in **Appendix B** and the Data Verification Checklist is included in **Appendix F**. **Figure 4** depicts the January 2025 analytical results with highlighted SSTL exceedances for the upper portion of the shallow aquifer.

Changes to the water chemistry were observed during low-flow purging following the *Cool-Ox*® injections. Increased dissolved oxygen (DO), pH and oxygen-reduction potential (ORP) were observed in both January and April 2024 in the injection area wells. Elevated water quality parameters persisted during the April sampling event, indicating the aquifer was still returning to equilibrium with continuing positive effects from the *Cool-Ox*® injections. Elevated pH levels were observed during the January 2025 sampling event with the subsurface still returning to equilibrium.

A comparison of pre-injection baseline concentrations that exceeded one or more SSTL to post-injection hydrocarbon concentrations shows the following:

- *MW-5R*: The baseline concentrations exceeded the toluene and ethylbenzene SSTLs. The post-injection concentrations exhibited decreases of 24% and 20%, respectively. The January 2025 toluene concentration slightly exceeded the SSTL and the ethylbenzene concentration was below the SSTL. The January 2025 sample was collected from groundwater beneath the LNAPL film (nominal thickness of 0.01 feet).
- *MW-21*: The post-injection concentrations have all been below the SSTLs with reductions of greater than 50%, except for naphthalene (23.5% decline).
- *RW*-1: The post-injection concentrations have all been below the SSTLs with reductions of greater than 45.5%.
- *RW*-2: The baseline concentrations are based on the November 2021 analytical results as LNAPL was detected in May 2022 prior to the *Cool-Ox*® injections. Toluene is the one COC that continues to be above the SSTL. The January 2025 sample was collected from groundwater beneath the LNAPL film (nominal thickness of 0.01 feet). The initial sample result was below the SSTL and the duplicate sample was above the SSTL.
- *RW*-3: The baseline concentrations are based on the November 2021 analytical results as LNAPL was detected in May 2022 prior to the *Cool-Ox*® injections. The toluene concentration exceeded the SSTL in January and April 2024. The January 2025 toluene concentration was below the SSTL with an overall 38% decrease as compared to the baseline level. The ethylbenzene concentration exceeded the SSTL in January 2024 and with a 52% decrease as compared to baseline, is now below the SSTL. The January 2025 sample was collected from groundwater beneath the LNAPL film (nominal thickness of 0.01 feet).
- The remaining SSTL wells (MW-1AR, MW-2, MW-8 and MW-15R) have not exhibited SSTL exceedances since the wells were installed.

4.0 CONCLUSIONS AND RECOMMENDATION

The Site monitoring wells were gauged and sampled on January 14 and 15, 2025. A LNAPL film was detected in MW-5R, RW-2 and RW-3.. QES believes the LNAPL occurrence is a result of the record rains in fall 2024 infiltrating the subsurface and freeing LNAPL that was trapped in previously isolated pore spaces.

Dissolved hydrocarbon concentrations continue to exhibit significantly decreasing trends in MW-21 and RW-1. Despite the LNAPL film occurrence, total dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations continue to decrease in MW-5R (BTEX reduction of 31% compared to 2022 baseline) and RW-3 (BTEX reduction of 44% compared to 2022 baseline). BTEX reductions in RW-2 are 17% when compared to the 2022 baseline, however, the RW-2 duplicate sample exhibited a BTEX increase of 25% when compared to the same baseline.

SSTL exceedances occurred during the January 2025 sampling event in MW-5R (toluene concentration of 26,600 ug/L compared to the SSTL of 26,540 ug/L). This toluene concentration is a 29% reduction from the April 2024 result and a 42% reduction from the 2022 baseline. The RW-2 sample exhibited a toluene concentration of 22,200 ug/L, but the duplicate exhibited an SSTL exceeding concentration of 33,200 ug/L (SSTL of 26,540 ug/L).

The decreasing dissolved hydrocarbon concentrations in MW-5R, MW-21, RW-1 and RW-3 indicate the plume source area is continuing to decrease in size as the *Cool-Ox*® injectate continues to promote hydrocarbon degradation. Elevated pH continues to be present in the injection area (MW-21, RW-1, RW-2 and RW-3) indicating the aquifer is still returning to equilibrium following the disruption caused by the injections.

The SCDES-approved CAPA included a provision for an additional AFVR event as an alternative remedial approach should the injections not sufficiently reduce the hydrocarbon mass. Subsurface disruptions caused by the injections and record rains have mobilized previously trapped LNAPL. QES recommends an additional AFVR event to remove residual LNAPL mobilized by rainfall and subsurface injections. QES recommends an additional sampling event following the AFVR event A Site-Specific Work Plan for the AFVR event and subsequent sampling event is being submitted under separate cover.

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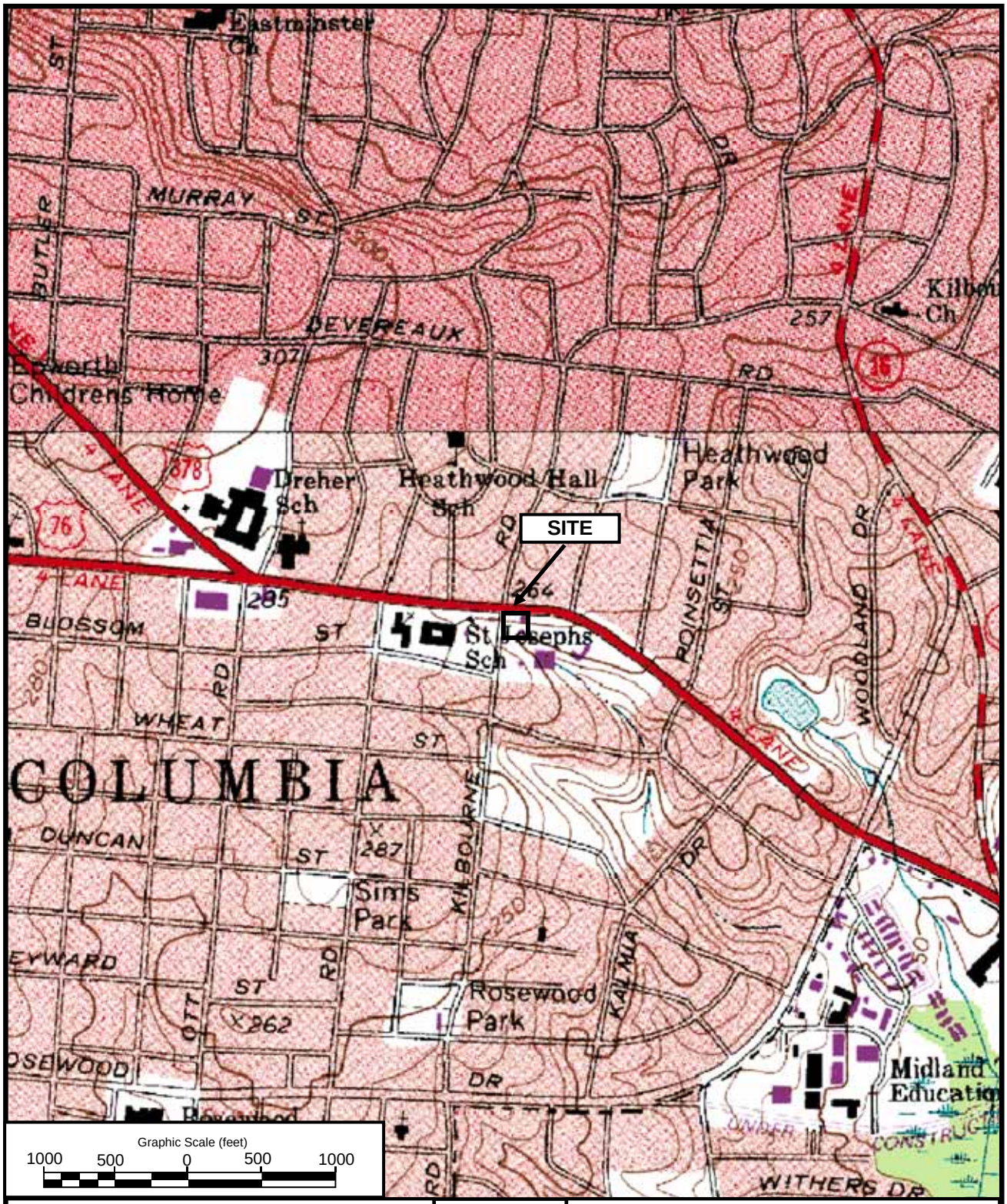
FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

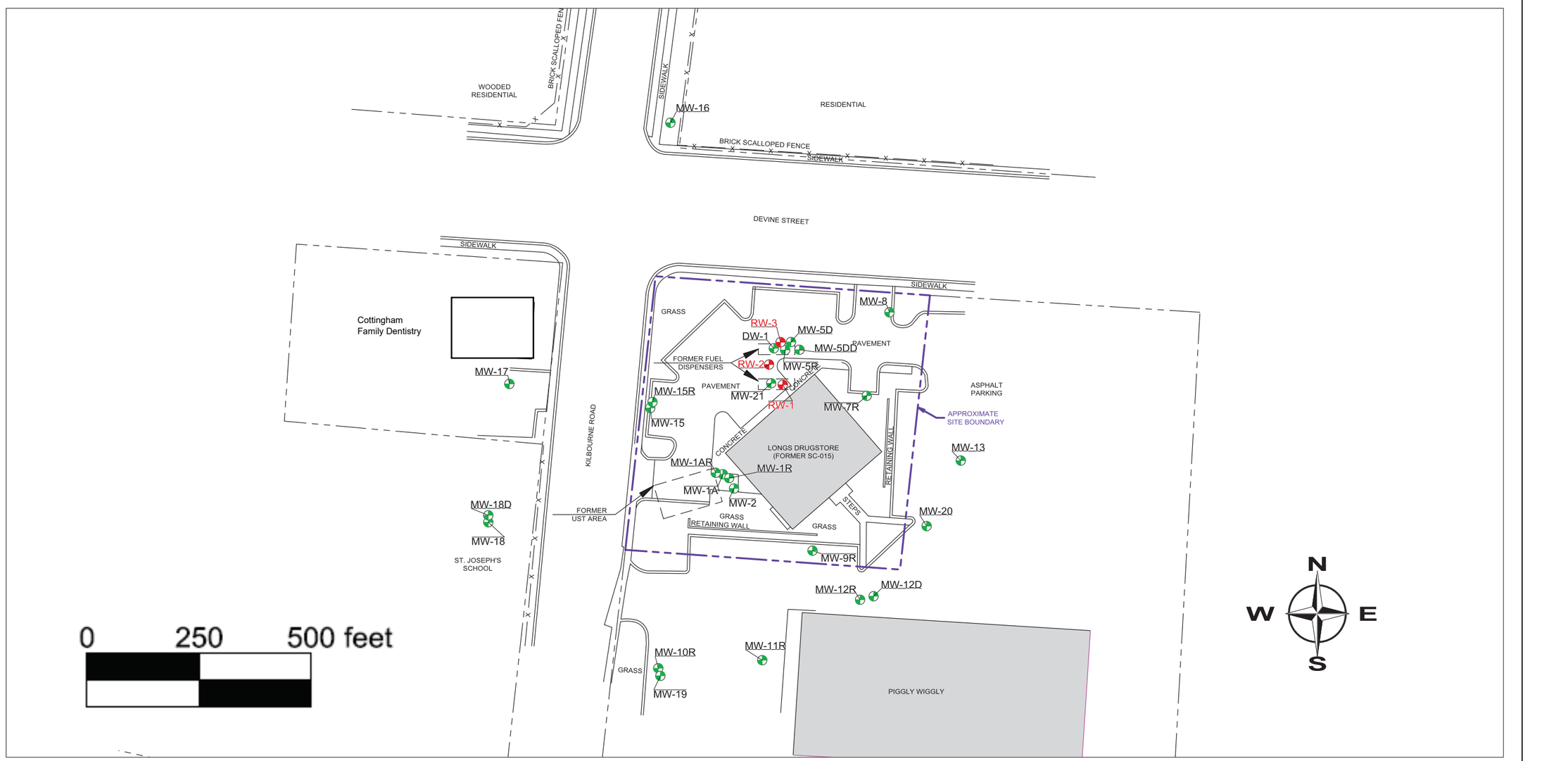
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

Parameter		RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Detection Limit for all Parameters	
NS	Not Sampled	
D next to result indicates Duplicate sample		
* Red Boxed and Bolded Values > SSTLs		
Concentrations in ug/L		

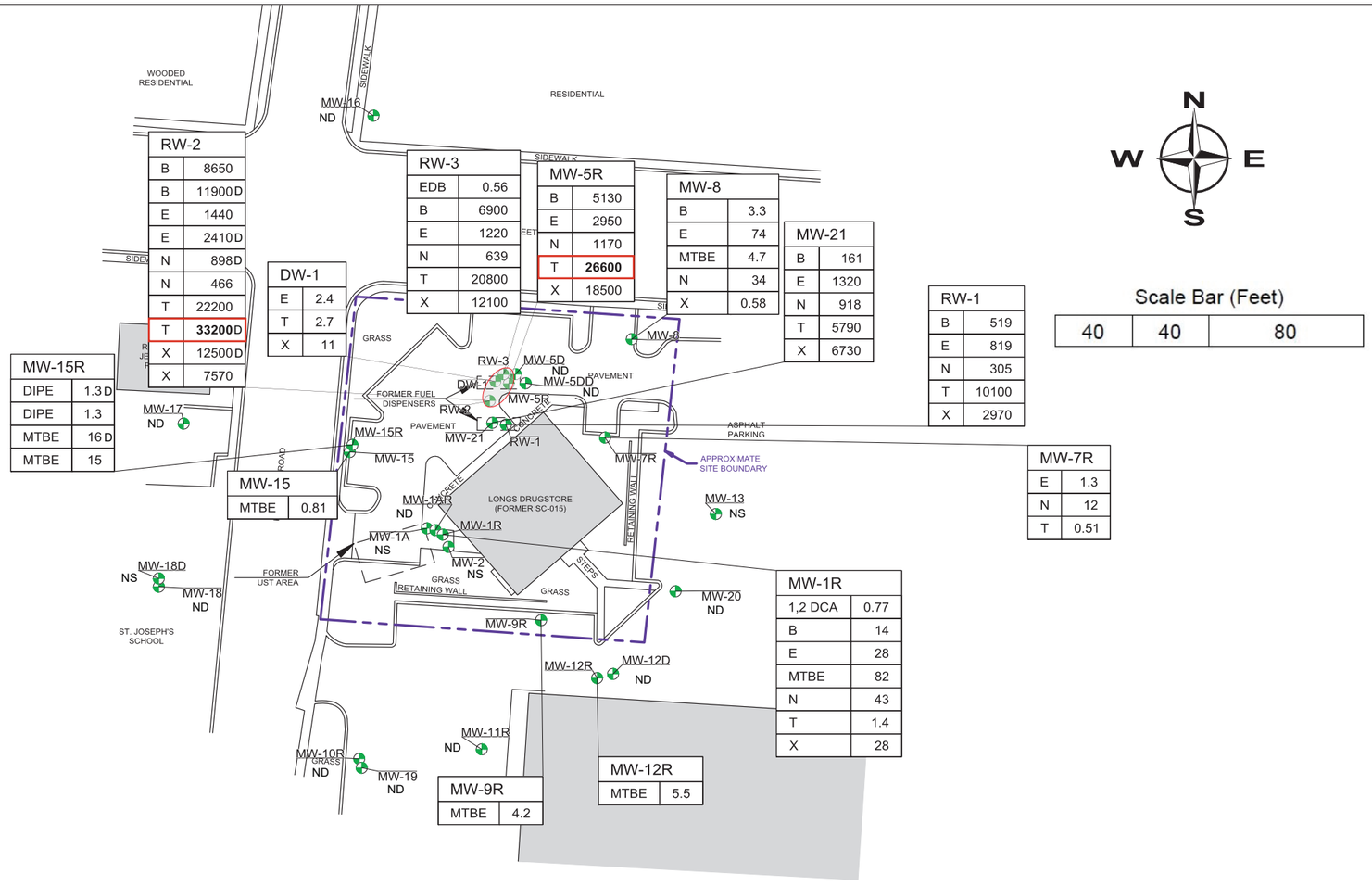


Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: January 14-15, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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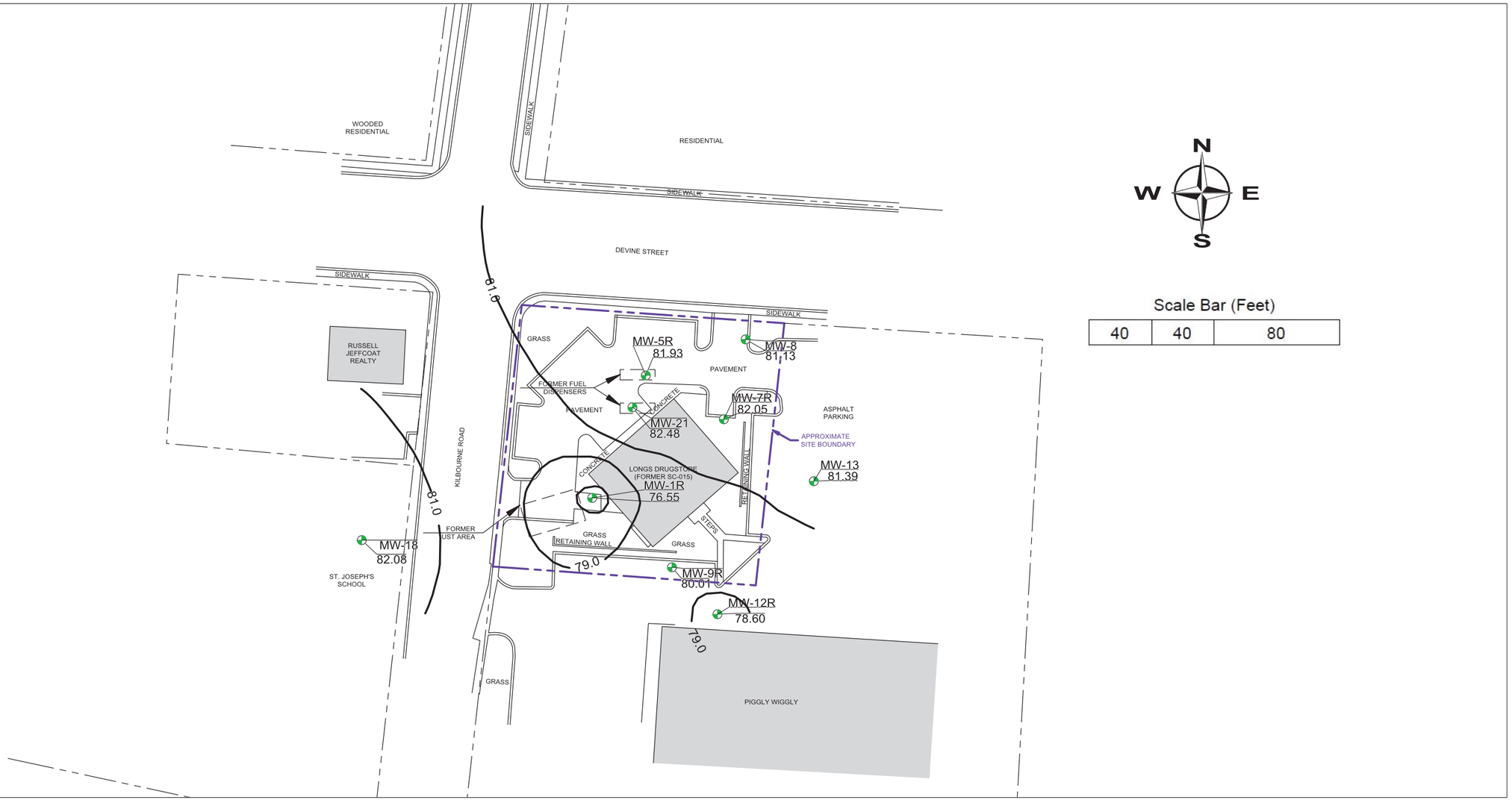

Figure 5: Potentiometric Surface Map - Shallow Screened Wells

Former Crown SC-015
Sample Date: January 14-15, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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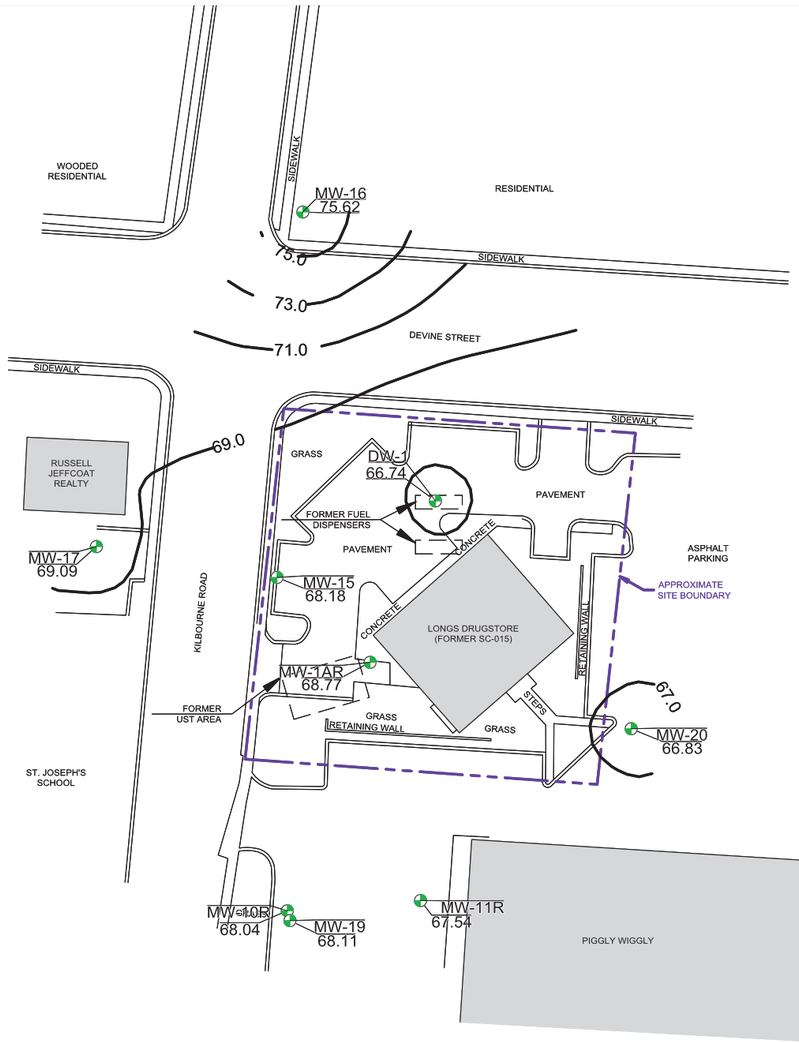



Scale Bar (Feet)

40	40	80

Figure 5A: Potentiometric Surface Map - Intermediate Screened Wells

Former Crown SC-015
Sample Date: January 14-15, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
	05/16/22	98.41	Dry			
	01/30/24	98.41	Dry			
	04/24/24	98.41	Dry			
	01/14/25	98.41	Dry			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
	05/16/22	98.35	ND	17.83	ND	80.52
	01/30/24	98.35	ND	17.16	ND	81.19
	04/24/24	98.35	ND	15.45	ND	82.90
	01/14/25	98.35	ND	21.80	ND	76.55
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'	05/16/22	99.34	ND	31.65	ND	67.69
Screen	01/30/24	99.34	ND	32.33	ND	67.01
40-45'	04/24/24	99.34	ND	31.51	ND	67.83
	01/14/25	99.34	ND	30.57	ND	68.77
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
	05/16/22	98.45	ND	28.05	ND	70.40
	01/30/24	98.45	ND	28.21	ND	70.24
	04/24/24	98.45	ND	29.74	ND	68.71
	01/14/25	98.45	ND	28.62	ND	69.83
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
	05/16/22	98.29	ND	15.94	ND	82.35
	12/11/23	98.29	17.15	17.63	0.48	81.04
	01/30/24	98.29	ND	15.30	ND	82.99
	04/24/24	98.29	ND	13.98	ND	84.31
	01/14/25	98.29	16.36	16.37	0.01	81.93

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79
	05/16/22	98.49	ND	42.25	ND	56.24
	01/30/24	98.49	ND	42.80	ND	55.69
	04/24/24	98.49	ND	42.46	ND	56.03
	01/14/25	98.49	ND	41.32	ND	57.17
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
	05/16/22	98.83	ND	51.18	ND	47.65
	01/30/24	98.83	ND	51.93	ND	46.90
	04/24/24	98.83	ND	51.46	ND	47.37
	01/14/25	98.83	ND	50.50	ND	48.33
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
	05/16/22	98.85	ND	15.94	ND	82.91
	01/30/24	98.85	ND	15.49	ND	83.36
	04/24/24	98.85	ND	14.43	ND	84.42
	01/14/25	98.85	ND	16.80	ND	82.05
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
	05/16/22	99.48	ND	16.93	ND	82.55
	01/30/24	99.48	ND	17.27	ND	82.21
	04/24/24	99.48	ND	15.70	ND	83.78
	01/14/25	99.48	ND	18.35	ND	81.13
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
	05/16/22	93.32	ND	12.62	ND	80.70
	01/30/24	93.32	ND	12.74	ND	80.58
	04/24/24	93.32	ND	10.89	ND	82.43
	01/14/25	93.32	ND	13.31	ND	80.01
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
	05/16/22	95.71	ND	28.69	ND	67.02
	01/30/24	95.71	ND	29.29	ND	66.42
	04/24/24	95.71	ND	28.55	ND	67.16
	01/14/25	95.71	ND	27.67	ND	68.04

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65
	05/16/22	92.26	ND	25.81	ND	66.45
	01/30/24	92.26	ND	26.44	ND	65.82
	04/24/24	92.26	ND	25.70	ND	66.56
	01/14/25	92.26	ND	24.72	ND	67.54
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
	05/16/22	92.43	ND	13.20	ND	79.23
	01/30/24	92.43	ND	13.20	ND	79.23
	04/24/24	92.43	ND	11.31	ND	81.12
	01/14/25	92.43	ND	13.83	ND	78.60
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
	05/16/22	92.51	ND	37.40	ND	55.11
	01/30/24	92.51	ND	38.02	ND	54.49
	04/24/24	92.51	ND	37.00	ND	55.51
	01/14/25	92.51	ND	36.15	ND	56.36
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
	05/16/22	94.26	ND	12.01	ND	82.25
	01/30/24	94.26	ND	12.72	ND	81.54
	04/24/24	94.26	ND	10.89	ND	83.37
	01/14/25	94.26	ND	12.87	ND	81.39
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
	05/16/22	99.70	ND	32.65	ND	67.05
	01/30/24	99.70	ND	33.25	ND	66.45
	04/24/24	99.70	ND	32.51	ND	67.19
	01/14/25	99.70	ND	31.52	ND	68.18

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
	05/16/22	100.47	ND	32.55	ND	67.92
	01/30/24	100.47	ND	27.58	ND	72.89
	04/24/24	100.47	ND	26.10	ND	74.37
	01/14/25	100.47	ND	23.38	ND	77.09
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25
	05/16/22	102.85	ND	27.58	ND	75.27
	01/30/24	102.85	ND	27.42	ND	75.43
	04/24/24	102.85	ND	26.79	ND	76.06
	01/14/25	102.85	ND	27.23	ND	75.62
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
	05/16/22	100.84	ND	32.94	ND	67.90
	01/30/24	100.84	ND	33.66	ND	67.18
	04/24/24	100.84	ND	32.70	ND	68.14
	01/14/25	100.84	ND	31.75	ND	69.09
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
	05/16/22	103.46	ND	22.65	ND	80.81
	01/30/24	103.46	ND	19.23	ND	84.23
	04/24/24	103.46	ND	18.00	ND	85.46
	01/14/25	103.46	ND	21.38	ND	82.08
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
	05/16/22	103.28	ND	40.49	ND	62.79
	01/30/24	103.28	ND	8.07	ND	95.21
	04/24/24	103.28	ND	36.80	ND	66.48
	01/14/25	103.28	ND	26.65	ND	76.63
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
	05/16/22	95.74	ND	28.71	ND	67.03
	01/30/24	95.74	ND	29.31	ND	66.43
	04/24/24	95.74	ND	28.56	ND	67.18
	01/14/25	95.74	ND	27.63	ND	68.11

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
	05/16/22	92.93	ND	27.24	ND	65.69
	01/30/24	92.93	ND	27.77	ND	65.16
	04/24/24	92.93	ND	27.07	ND	65.86
	01/14/25	92.93	ND	26.10	ND	66.83
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17
	05/16/22	98.89	ND	15.85	ND	83.04
	01/30/24	98.89	ND	15.50	ND	83.39
	04/24/24	98.89	ND	13.99	ND	84.90
	01/14/25	98.89	ND	16.41	ND	82.48
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
	05/16/22	97.48	ND	31.70	ND	65.78
	01/30/24	97.48	ND	32.40	ND	65.08
	04/24/24	97.48	ND	31.54	ND	65.94
	01/14/25	97.48	ND	30.74	ND	66.74
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen	05/16/22	99.25	ND	16.17	ND	83.08
5-25'	01/30/24	99.25	ND	15.31	ND	83.94
	04/24/24	99.25	ND	13.95	ND	85.30
	01/14/25	99.25	ND	16.38	ND	82.87
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen	05/16/22	99.11	15.87	16.17	0.30	83.18
5-25'	12/11/23	99.11	15.87	16.17	0.30	83.18
	01/30/24	99.11	17.27	17.71	0.44	81.75
	04/24/24	99.11	ND	14.15	ND	84.96
	01/14/25	99.11	16.53	16.54	0.01	82.58
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen	05/16/22	99.15	16.39	16.50	0.11	82.74
5-25'	12/11/23	99.15	17.84	18.22	0.38	81.23
	01/30/24	99.15	ND	15.50	ND	83.65
	04/24/24	99.15	ND	14.00	ND	85.15
	01/14/25	99.15	16.39	16.40	0.01	82.76

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
	05/16/22	Dry															
	01/30/24	Dry															
	04/24/24	Dry															
	01/15/25	Dry															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
	05/16/22	**32**	2.5	160	79	**110**	**110**	<0.005	2.3	1.8	<8.0	<0.40	<52	63	1.1 J	290	<2.0
	01/31/24	**15**	5.5	136	25	34	**146**	<0.007	<0.32	0.46 J	<52	<3.2	<72	<36	<2.7	60 J	<29
	04/24/24	**27**	3.3	232	16	**72**	**288**	<0.007	0.73 J	1.4 J	<104	<6.5	<144	<73	<5.3	165 J	<59
	01/15/25	**14**	1.4	28	28	**82**	**43**	<0.008	0.77 J	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-1AR	***SSTLs***	***39,162***	***26,540***	***3,700***	***21,680***	***6,849***	***6,700***	***283***						***42,095***			
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	0.90 J	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-2	***SSTLs***	***23,279***	***26,540***	***3,700***	***21,680***	***5,114***	***6,700***	***171***						***31,186***			
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
	05/16/22	<0.40	<0.40	<0.40	<0.40	**160**	0.85 J	<0.005	<0.40	<0.40	<8.0	<0.40	140	190	0.67 J	620	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	Insufficient water to collect sample															
	01/15/25	Insufficient water to collect sample															
MW-5R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**11,500**	***37,100***	**2,560**	**13,200**	**573**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**9,500**	***46,000***	***3,700***	**18,000**	**280**	**870**	0.010 J	**270**	2.6	<8.0	<0.40	<52	**5,500**	19	620	<2.0
	01/31/24	**7,880**	***30,300***	***3,900***	**19,500**	<106	**724**	<0.007	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**7,060**	***37,500***	***3,700***	**18,900**	<106	**1,520**	**0.14**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**5,130**	**26,600**	**2,950**	**18,500**	<106	**1,170**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	0.96 J	12	17	<0.42	12	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	0.51 J	2.6	0.78 J	<0.42	3.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	0.51 J	1.3	<0.34	<0.42	12	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-8	***SSTLs***	***13,274***	***26,540***	***3,700***	***21,680***	***3,727***	***6,059***	***100***						***22,547***			
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	**33**	305	89	421	2.0 J	**56**	<0.007	<0.80	<0.77	<130	<8.1	<180	109 J	<6.6	<67	<74
	04/24/24	2.7	24	14	60	0.55 J	15	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	3.3	<0.48	74	0.58 J	4.7	**34**	<0.008	<0.32	<0.31	<52	<3.2	<72	285	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.5	0.51 J	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	27	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	6.3	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	4.1	1.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	65 J	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	4.2	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	0.52 J	11	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	69	<0.42	19 J	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	4.7	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	2.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	80 J	<2.7	63 J	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	5.5	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.60 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	Insufficient water to collect sample															

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	2.5	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	1.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	0.81 J	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-15R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***16,338***	***6,700***	***1,262***						***102,870***			
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.9	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	15	<0.64	<0.007	<0.32	0.96 J	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	14	<0.64	<0.008	<0.32	1.1	<52	<3.2	<72	69 J	<2.7	69 J	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	15	<0.64	<0.008	<0.32	1.3	<52	<3.2	<72	<36	<2.7	<27	<29
Duplicate #1	01/14/25	<0.34	<0.48	<0.30	<0.34	16	<0.64	<0.007	<0.32	1.3	<52	<3.2	<72	<36	<2.7	<27	<29
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.49 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51.9	<3.2	<72.2	<36.4	<2.7	<26.8	<29.4
	04/24/24	Not Sampled- Well depth shallower than screened interval															
	01/15/25	Not Sampled- Well depth shallower than screened interval															

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	1.0	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-21	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	***28,500***	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	05/16/22	**1,100**	**23,000**	**3,200**	**15,000**	<80	**1,200**	0.022	<80	<80	<1,600	<80	<10,000	<1,600	<84	<1,600	<400
	01/31/24	**594**	**20,200**	**2,530**	**12,600**	<84.4	**1,210**	<0.007	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	04/24/24	**131**	**8,740**	**1,720**	**10,100**	<21	**1,300**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
	01/15/25	**161**	**5,790**	**1,320**	6,730	<21	**918**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	0.67 J	4.4	<0.40	2.4	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	2.6	5.4	1.1	4.9	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	3.5	5.5	2.7	11	<0.42	3.5	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	2.7	2.4	11	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
RW-1	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	05/10/20	**6,300**	***33,000***	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	***33,100***	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**5,300**	***42,000***	**2,800**	**15,000**	<80	**560**	**0.450**	<80	<80	<1,600	<80	<10,000	**5,500**	<84	<1,600	<400
	01/31/24	**1,690**	**15,700**	**1,970**	8,840	<53	**440**	<0.007	<40	<39	<6,490	<405	<9,020	<4,550	<332	<3,350	<3,680
	04/24/24	**731**	**8,220**	**1,030**	8,140	<21	**555**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
	01/15/25	**519**	**10,100**	**819**	2,970	<42	**305**	<0.008	<32	<31	<5,190	<324	<7,220	<3,640	<266	<2,680	<2,940
RW-2	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***27,166***	***6,700***	***1,900***						***173,582***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**12,100**	***36,000***	**3,560**	**19,800**	<106	**1,120**	**0.27**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**12,500**	***34,000***	**2,680**	**14,600**	<106	**884**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**8,650**	**22,200**	**1,440**	7,570	<106	**466**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
Duplicate #2	01/15/25	**11,900**	***33,200***	**2,410**	**12,500**	<106	**898**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
RW-3	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	***43,600***	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**9,650**	***39,200***	***3,810***	**19,000**	<106	**958**	**1.5**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**8,120**	***33,900***	**2,580**	**21,600**	<106	**844**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**6,900**	**20,800**	**1,220**	**12,100**	<84	**639**	**0.56**	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
Equipment Blank	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Field Blank	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Trip Blank	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
Red concentrations exceed SSTLs
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

Table 3A: Comparison of Baseline and Post-Injection Groundwater Analytical Data
Former Crown SC-015
Columbia, SC
UST Permit # 07680

Well #		Date	Benzene (ug/L)	% Change	Toluene (ug/L)	% Change	Ethyl-Benzene (ug/L)	% Change	Total Xylenes (ug/L)	% Change	Total BTEX (ug/L)	% Change	MTBE (ug/L)	% Change	Naphthalene (mg/l)	% Change	EDB (mg/l)	% Change	TAA (mg/l)	% Change
MW-5R	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-May-22	9,500		***46,000***		***3,700***		18,000		77,200		280		870		0.01		5,500	
		31-Jan-24	7,880	-17.1%	***30,300***	-34.1%	***4,040***	9.2%	20,100	11.7%	62,320	-19.3%	<106		724	-16.8%	<0.007		<9,100	
		24-Apr-24	7,060	-25.7%	***37,500***	-18.5%	***3,700***	0.0%	18,900	5.0%	67,160	-13.0%	<106		1,520	74.7%	0.14	1300%	<9,100	
sample under LNAPL (0.01')		15-Jan-25	5,130	-46.0%	***26,600***	-42.2%	2,950	-20.3%	18,500	2.8%	53,180	-31.1%	<106		1,170	34.5%	<0.007		<9,100	
MW-21	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	1,100		23,000		3,200		15,000		42,300		<80		1,200		0.02		<1,600	
		31-Jan-24	594	-46.0%	20,200	-12.2%	2,530	-20.9%	12,600	-16.0%	35,924	-15.1%	<84		1,210	0.8%	<0.007		<7,280	
		24-Apr-24	131	-88.1%	8,740	-62.0%	1,720	-46.3%	10,100	-32.7%	20,691	-51.1%	<21		1,300	8.3%	<0.008		<1,820	
		15-Jan-25	161	-85.4%	5,790	-74.8%	1,320	-58.8%	6,730	-55.1%	14,001	-66.9%	<21		918	-23.5%	<0.008		<1,820	
RW-1	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	5,300		***42,000***		2,800		15,000		65,100		<80		560		0.45		5,500	
		31-Jan-24	1,690	-68.1%	15,700	-62.6%	1,970	-29.6%	8,840	-41.1%	28,200	-56.7%	<53		440	-21.4%	<0.007		<4,550	
		24-Apr-24	731	-86.2%	8,220	-80.4%	1,030	-63.2%	8,140	-45.7%	18,121	-72.2%	<21		555	-0.9%	<0.008		<1,820	
		15-Jan-25	519	-90.2%	10,100	-76.0%	819	-70.8%	2,970	-80.2%	14,408	-77.9%	<42		305	-45.5%	<0.008		<3,640	
RW-2	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	8,500		24,400		2,570		12,400		47,870		<106		516		0.13		<9,100	
		16-May-22	LNAPL (0.30') Present - no sample																	
sample under LNAPL (0.07')		31-Jan-24	12,100	42.4%	***36,000***	47.5%	3,560	38.5%	19,800	59.7%	71,460	49.3%	<106		1,120	117.1%	0.27	107.7%	<9,100	
		24-Apr-24	12,500	47.1%	***34,000***	39.3%	2,680	4.3%	14,600	17.7%	63,780	33.2%	<106		884	71.3%	<0.008		<9,100	
sample under LNAPL (0.01')		15-Jan-25	8,650	1.8%	22,200	-9.0%	1,440	-44.0%	7,570	-39.0%	39,860	-16.7%	<106		466	-9.7%	<0.008		<9,100	
Duplicate		15-Jan-25	11,900	40.0%	***33,200***	-2.4%	2,410	-6.2%	12,500	0.8%	60,010	25.4%	<106		898	74.0%	<0.008		<9,100	
RW-3	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	11,200		***43,600***		3,240		15,100		73,140		<106		538		1.70		<9,100	
		16-May-22	LNAPL (0.11') Present - no sample																	
		31-Jan-24	9,650	-13.8%	***39,200***	-10.1%	***3,810***	17.6%	19,000	25.8%	71,660	-2.0%	<106		958	78.1%	1.50	-11.8%	<9,100	
		24-Apr-24	8,120	-27.5%	***33,900***	-22.2%	2,580	-20.4%	21,600	43.0%	66,200	-9.5%	<106		844	56.9%	1.70	0.0%	<9,100	
sample under LNAPL (0.01')		15-Jan-25	6,900	-38.4%	20,800	-52.3%	1,220	-62.3%	12,100	-19.9%	41,020	-43.9%	<84		639	18.8%	0.56	-67.1%	<7,280	

APPENDIX B

SAMPLING LOGS, EQUIPMENT CALIBRATION, LABORATORY DATA SHEETS & CHAIN-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date: 1/14 - 1/15/2025	**QES Associate(s):** A. Smith-Jones
Project Number: SC-015, UST #07680	**Others Present:**
Project Name: *Former Crown SC-015*	**QES Associate Signature:**

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag	
MW-1A	DRY	@ 9.20'									NS
MW-1R	—	21.80	—		1152	✓	✓	0/2	✓	✓	
MW-1AR	—	30.57	—		1145	✓	✓	2/2	✓	✓	
MW-2	—	28.62	—		1607	✓	✓	0/2	✓	✓	NS
MW-5R	16.37	16.37	film		1327	✓	✓	0/2	✓	✓	
MW-5D	—	41.32	—		743	✓	✓	0/2	✓	✓	
MW-5DD	—	50.50	—		722	✓	✓	0/2	✓	✓	
MW-7R	—	16.80	—		925	✓	✓	0/2	✓	✓	
MW-8	—	18.35	—		950	✓	✓	0/2	New cap	✓	
MW-9R	—	13.31	—		1344	✓	✓	1/2	✓	✓	
MW-10R	—	27.67	—		1284	✓	✓	0/2	✓	✓	
MW-11R	—	24.72	—		1305	✓	✓	0/2	✓	✓	
MW-12R	—	13.83	—		1034	✓	✓	0/2	✓	✓	
MW-12D	—	36.15	—		1003	✓	✓	0/2	✓	✓	
MW-13	—	12.87	—		1058	✓	✓	2/2	✓	✓	NS
MW-15	—	31.52	—		1522	✓	✓	1/2	✓	✓	
MW-15R	—	23.38	—		1520	✓	✓	1/2	✓	✓	
MW-16	—	27.23	—		1449	✓	✓	2/2	✓	✓	
MW-17	—	31.75	—		1418	✓	✓	0/2	✓	✓	
MW-18	—	21.38	—		914	✓	✓	NA	✓	✓	
MW-18D	—	26.65	—	49.00	911	✓	✓	NA	✓	✓	NS
MW-19	—	27.63	—		1204	✓	✓	1/2	✓	✓	
MW-20	—	26.10	—		1117	✓	✓	0/2	✓	✓	

Comments (Discussion, Required Action, Health and Safety Concerns):

Switch RW-3 + 5R on 2B
1AR + 1A on 2B

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:		**QES Associate(s):**	
Project Number:	**SC-015, UST #07680**	**Others Present:**	
Project Name:	***Former Crown SC-015***	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-21	—	16.41	—		1250	✓	✓	0/2	✓	✓
RW-1	—	16.38	—		1257	✓	✓	0/2	✓	✓
RW-2	16.53	16.53	film		1325	✓	✓	0/2	✓	✓
RW-3	16.39	16.39	film		1323	✓	✓	0/2	✓	✓
DW-1	—	30.74	—		832	✓	✓	2/2	✓	✓

Comments (Discussion, Required Action, Health and Safety Concerns):

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	533964
Created	1/14/2025

[redacted]

Serial Number	1057552
Last Calibrated	1/14/2025

Calibration Details

Calibration Point 1

pH of Buffer	7.03 pH
pH mV	15.7 mV
Temperature	14.64 °C

Pre Measurement

pH	6.62 pH
pH mV	16.1 mV

Post Measurement

pH	7.03 pH
pH mV	15.1 mV

Slope and Offset 1

Slope	-57.1 mV/pH
Offset	17.4 mV

ORP

ORP Solution	Quick Cal
Offset	47.4 mV
Temperature	14.64 °C
Pre Measurement	191.9 mV
Post Measurement	239.1 mV

[redacted]

Serial Number	916665
Last Calibrated	1/14/2025

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.004
Offset	0.00 µS/cm
Reference Temperature	25.00 °C

Calibration Point 1

Pre Measurement

Actual Conductivity	6,436.8 µS/cm
Specific Conductivity	8,025.1 µS/cm

Post Measurement

Actual Conductivity	6,416.7 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	1100471
Last Calibrated	Factory Defaults

[redacted]

Serial Number	1084930
Last Calibrated	Factory Defaults

[redacted]

Serial Number	533964
Last Calibrated	Factory Defaults

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	533964
Created	1/15/2025

[redacted]

Serial Number	1057552
Last Calibrated	1/15/2025

Calibration Details

Calibration Point 1

pH of Buffer	7.03 pH
pH mV	46.0 mV
Temperature	10.04 °C

Pre Measurement

pH	6.48 pH
pH mV	46.3 mV

Post Measurement

pH	7.03 pH
pH mV	43.7 mV

Slope and Offset 1

Slope	-56.19 mV/pH
Offset	47.7 mV

ORP

ORP Solution	Quick Cal
Offset	13.7 mV
Temperature	10.04 °C
Pre Measurement	279.7 mV
Post Measurement	246.1 mV

[redacted]

Serial Number	916665
Last Calibrated	1/15/2025

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.027
Offset	0.00 µS/cm
Reference Temperature	25.00 °C

Calibration Point 1

Pre Measurement

Actual Conductivity	5,586.0 µS/cm
Specific Conductivity	7,821.5 µS/cm

Post Measurement

Actual Conductivity	5,713.5 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	1100471
Last Calibrated	Factory Defaults

[redacted]

Serial Number	1084930
Last Calibrated	Factory Defaults

[redacted]

Serial Number	533964
Last Calibrated	Factory Defaults

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1221	350	Start Purge (0)							
1226	↓	1.75	18.57	6.86	0.29	0.13	10	165	
1231		3.50	18.62	6.86	0.42	0.13	25	167	
1236		5.25	18.63	6.88	0.58	0.13	61	168	
1241		7.00	18.51	6.90	0.49	0.13	59	165	
1244		8.05							

Gauging Time:	1152	**Sample Time:**	1242
Depth to Water (ft.):	21.80		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 1R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 2.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1149	350	Start Purge (0)							
1154	↓	1.75	19.26	6.62	6.59	0.07	206	19	
1159		3.50	19.83	6.57	6.41	0.07	215	12	
1204		5.25	19.58	6.45	6.44	0.07	231	8.1	
1209		7.00	19.66	6.39	6.47	0.07	241	4.2	
1212	↓	8.05	19.95	6.40	6.48	0.07	247	2.3	
1215									

Gauging Time:	1145	**Sample Time:**	1213
Depth to Water (ft.):	30.57		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 1 AR Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1622		Start Purge (0)							
1627			21.65	11.91	3.52	2.97	-27	201	
			DRY @		1630				
			recharge and grab 1/15 @						
			Insufficient water			1/15 @		1157	
						No Sample			

Gauging Time:	1607	**Sample Time:**	
Depth to Water (ft.):	28.62		
Well Depth (ft.):		**# of Containers:**	X

Well Number: MW2 DRUM 0.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1429	350	Start Purge (0)							
1434	1		18.95	10.16	5.69	0.56	51		
1439	1								
1444			DRY @ 1434.						
			recharge and sample @ 1529						

Gauging Time:	1329	**Sample Time:**	1445 1529
Depth to Water (ft.):	16.37		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5R

DRUM 0.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
800	350	Start Purge (0)							
805	↓	1.75	17.89	7.06	3.45	0.06	135	426	
810		3.50	19.16	6.92	3.58	0.06	154	245	
815		5.25	18.83	7.04	3.55	0.06	152	240	
820		7.00	19.20	7.11	3.59	0.06	165	233	
823	↓	8.05	18.63	7.05	3.59	0.06	170	230	

Gauging Time:	743	**Sample Time:**	824
Depth to Water (ft.):	41.32		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Ground

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
729	350	Start Purge (0)							
734		1.75	18.42	6.57	7.12	0.04	237	597	
739		3.50	18.79	6.45	7.05	0.04	249	592	
744		5.25	18.42	6.34	7.09	0.04	268	599	
749		7.00	18.53	6.33	7.11	0.04	273	593	
752		8.05	18.34	6.31	7.06	0.04	278	597	

Gauging Time:	722	**Sample Time:**	753
Depth to Water (ft.):	50.50		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5DD

Stabilization = 3 successive readings of:

Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) ~~Ethanol (8015C)~~	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
939	250	Start Purge (0)							
944		1.25	18.70	7.05	0.28	0.50	-107	61	
949		2.50	18.81	7.12	0.25	0.50	-105	58	
954		3.75	19.10	7.17	0.20	0.48	-97	60	
959		5.00	18.91	7.20	0.18	0.47	-110	58	

Gauging Time:	925	**Sample Time:**	1000
Depth to Water (ft.):	16.80		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW7R

Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	~~1~~ 1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1016	250	Start Purge (0)							
1021	|	1.25	19.56	8.10	10.29	0.36	19	68	
1026	|	2.50	19.01	7.65	7.33	0.41	28	87	
1031	|	3.75	18.99	7.63	4.94	0.47	16	82	
1036		5.00	18.49	~~7.63~~ 7.62	3.82	0.50	12	80	
1039			DRY	@		1037			
			recharge	and	collect	@		1051	

Gauging Time:	950	**Sample Time:**	1051
Depth to Water (ft.):	18.35		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW8

Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	(Peristaltic Pump (shallow wells)) Submersible Pump (deep wells)
Analysis Requested:	(BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	(Low Flow) 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
1354	250	Start Purge (0)							
1359		1.25	21.01	6.84	0.18	0.22	32	40	
1404		3.50	21.11	6.86	0.13	0.23	-3	41	
1409		3.75	21.07	6.83	0.11	0.23	-9	40	

Gauging Time:	1349	**Sample Time:**	1410
Depth to Water (ft.):	13.31		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW9R

Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1241	350	Start Purge (0)							
1246	↓	1.75	17.39	5.61	6.44	0.05	329	230	
1251	↓	3.50	17.34	5.59	6.37	0.05	330	226	
1256	↓	5.25	18.01	5.54	6.33	0.05	328	221	

Gauging Time:	1234	**Sample Time:**	1257
Depth to Water (ft.):	27.62		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW10R

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1312	350	Start Purge (0)							
1317	〃	1.75	20.40	5.73	6.42	0.05	239	337	
1322	〃	3.50	20.94	5.54	6.49	0.05	255	121	
1327	〃	5.25	20.53	5.47	6.53	0.05	275	84	
1332	〃	7.00	21.23	5.25	6.56	0.05	300	82	
1335		8.05	21.24	5.24	6.59	0.05	312	84	
1339		9.10	21.61	5.25	6.60	0.05	314	86	
1341		~~10.15~~							

Gauging Time:	1305	**Sample Time:**	1334
Depth to Water (ft.):	24.72		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 11 R

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

2.5 g.l

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1043	250	Start Purge (0)							
1048	1	1.25	19.10	7.46	0.08	0.41	-114	8.1	
1053		2.50	19.26	7.42	0.05	0.41	-116	5.3	
1058		3.75	19.47	7.41	0.04	0.41	-117	1.3	

Gauging Time:	1034	**Sample Time:**	1059
Depth to Water (ft.):	13.83		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW12R

DRUM 1.25 g-l

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1009	250	Start Purge (0)							
1014	↓	1.75	17.90	5.95	6.20	0.05	280	114	
1019	↓	3.50	18.81	5.90	6.27	0.05	286	71	
1024	↓	5.25	18.95	5.92	6.23	0.05	293	71	
1029		7.00	18.97	5.83	6.35	0.05	304	70	

Gauging Time:	1003	**Sample Time:**	1030
Depth to Water (ft.):	36.15		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 12D

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM

3 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) ~~EDB (8011)~~ Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1102	250	Start Purge (0)							
1107	↓	1.25	19.22	6.18	0.37	0.07	15	274	
1112		2.50	19.93	@ 02	0.16	0.07	37		
1117		3.75	DRY	@	1115				
1122									
			recharge	@	and	~~sample~~	@		
			NO	recharge	@	1/15	@	1110	
						NO	SAMPLE		

Gauging Time:	1058	**Sample Time:**	
Depth to Water (ft.):	12.87		
Well Depth (ft.):		**# of Containers:**	

Well Number: MW13 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1554	350	Start Purge (0)							
1559		1.75	20.00	6.37	4.10	0.13	174	44	
1604		3.50	20.51	6.20	3.30	0.10	208	20	
1609		5.25	21.97	5.97	3.21	0.10	235	3.1	
1612		7.00	22.06	5.80	3.04	0.09	261	2.3	
1615		8.05	21.89	5.76	2.94	0.08	273	2.2	
1618		9.10	21.91	5.71	2.85	0.08	282	2.4	

Gauging Time:	1522	**Sample Time:**	1619
Depth to Water (ft.):	31.52		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW15 Ground

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1526	350	Start Purge (0)							
1533		1.75	19.62	6.65	0.28	0.20	76	256	
1538		3.50	20.00	6.55	0.23	0.21	76	172	
1543		5.25	20.59	6.51	0.25	0.20	76	168	
1548		7.00	20.79	6.50	0.26	0.20	68	170	

Gauging Time:	1520	**Sample Time:**	1549
Depth to Water (ft.):	23.38		
Well Depth (ft.):		**# of Containers:**	6+6

Well Number: MW 15R

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Ground Dupl

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1457	350	Start Purge (0)							
1502	〃	1.75	20.75	5.17	5.20	0.16	327	253	
1507	〃	3.50	20.78	5.10	5.26	0.16	349	250	
1512	〃	5.25	20.84	5.09	5.27	0.16	352	247	

Gauging Time:	1442	**Sample Time:**	1513
Depth to Water (ft.):	27.23		
Well Depth (ft.):		**# of Containers:**	

Well Number: MW 16

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	11/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ ~~No Purge (Grab)~~

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1426	350	Start Purge (0)							
1431		1.75	21.45	5.69	4.57	0.07	207	510	
1436	"	3.50	21.74	5.64	4.86	0.07	222	494	
1441		5.25	21.77	5.66	4.59	0.07	229	503	

Gauging Time:	1418	**Sample Time:**	1442
Depth to Water (ft.):	31.75		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW17

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
919	350	Start Purge (0)							
924	↓	1.75	20.89	5.95	3.13	0.07	224	358	
929		3.50	20.28	5.91	3.10	0.06	231	188	
934		5.25	20.48	5.00	2.52	0.06	234	137	
939		7.00	20.57	5.96	1.72	0.07	250	139	
942		8.05	20.26	5.96	1.64	0.07	256	142	
945		9.10	20.34	5.96	1.77	0.07	258	137	

Gauging Time:	914	**Sample Time:**	946
Depth to Water (ft.):	21.38		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW 18

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Ground

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1210	350	Start Purge (0)							
1215	↓	1.75	20.84	5.41	4.65	0.06	359	197	
1220	↓	3.50	21.51	5.35	4.92	0.06	368	119	
1225	↓	5.25	21.46	5.38	5.32	0.06	367	67	
1230	↓	7.00	21.57	5.39	5.67	0.06	365	68	
1233	↓	8.05	21.34	5.45	5.69	0.06	352	69	
1236	↓	9.10	21.17	5.47	5.68	0.06	351	70	

Gauging Time:	1204	**Sample Time:**	1237
Depth to Water (ft.):	27.63		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW19

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/14/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	~~Peristaltic Pump (shallow wells)~~ Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1131	350	Start Purge (0)							
1136	↓	1.75	19.70	5.50	5.91	0.08	271	294	
1141		3.50	21.34	5.42	5.70	0.07	308	98	
1146		5.25	21.25	5.42	5.49	0.07	342	49	
1151		7.00	21.34	5.41	5.41	0.06	369	48	
1154	↓	8.05	21.50	5.41	5.36	0.06	386	47	
1157		~~8.40~~							

Gauging Time:	1117	**Sample Time:**	1155
Depth to Water (ft.):	26.10		
Well Depth (ft.):		**# of Containers:**	6

Grab

Well Number: MW20

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1254	350	Start Purge (0)							
1259	〃	1.75	18.86	8.05	0.04	0.75	-168	42	
1304	〃	3.50	18.64	8.13	0.02	0.78	-163	41	
1309		5.25	18.59	8.14	0.02	0.76	-155	40	

Gauging Time:	1250	**Sample Time:**	1310
Depth to Water (ft.):	16.91		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW21

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
839	350	Start Purge (0)							
843		1.75	18.94	6.83	0.19	0.17	-34	93	
849		3.50	19.57	6.84	0.17	0.17	-47	82	
853		5.25	19.23	6.93	0.15	0.16	-57	84	

Gauging Time:	832	**Sample Time:**	854
Depth to Water (ft.):	30.74		
Well Depth (ft.):		**# of Containers:**	6

Ground

Well Number: DW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1314	350	Start Purge (0)							
1319	"	1.75	20.70	8.19	0.02	0.72	-203	47	
1324	"	3.50	20.34	8.20	0.01	0.71	-206	45	
1329	"	5.25	19.74	8.22	0.01	0.69	-208	45	

Gauging Time:	1257	**Sample Time:**	1330
Depth to Water (ft.):	16.38		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-1

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1351	350	Start Purge (0)							
1356		1.75	19.44	7.90	0.01	0.65	-105	128	
1401		3.50	19.51	7.88	0.01	0.65	-117	60	
1406		5.25	20.60	7.86	0.01	0.66	-131	63	
1411		7.00	19.83	7.86	0.01	0.65	-144	65	
1414		8.25	20.73	7.84	0.01	0.66	-149	66	

Gauging Time:	1325	**Sample Time:**	1415
Depth to Water (ft.):	16.52		
Well Depth (ft.):		**# of Containers:**	6+6

Well Number: RW-2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM DUP2

2.25 gal

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	1/15/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
1449	350	Start Purge (0)							
1454	|	1.75	21.45	8.00	0.04	0.66	-167	50	
1459	|	3.50	21.52	7.97	0.02	0.66	-176	48	
1504	|	5.25	21.04	7.98	0.01	0.66	-177	49	
1509									

Gauging Time:		**Sample Time:**	1505
Depth to Water (ft.):	16.37		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-3

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.5 gal

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

January 24, 2025

Don Jones
Quality Environmental Solutions
2112 Loblolly Lane
Johns Island, SC 29455

RE: Project: Former Crown SC-015
Pace Project No.: 92774441

Dear Don Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on January 16, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Blake Hilton

Blake Hilton
blake.hilton@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Austin Smith-Jones, Quality Environmental Solutions

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

CERTIFICATIONS

Project: Former Crown SC-015
Pace Project No.: 92774441

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

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

SAMPLE SUMMARY

Project: Former Crown SC-015
Pace Project No.: 92774441

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92774441001	**MW-1R**	Water	01/15/25 12:42	01/16/25 08:00
92774441002	**MW-1AR**	Water	01/15/25 12:13	01/16/25 08:00
92774441003	**MW-5R**	Water	01/15/25 15:29	01/16/25 08:00
92774441004	**MW-5D**	Water	01/15/25 08:24	01/16/25 08:00
92774441005	**MW-5DD**	Water	01/15/25 07:53	01/16/25 08:00
92774441006	**MW-7R**	Water	01/14/25 10:00	01/16/25 08:00
92774441007	**MW-8**	Water	01/14/25 10:51	01/16/25 08:00
92774441008	**MW-9R**	Water	01/14/25 14:10	01/16/25 08:00
92774441009	**MW-10R**	Water	01/14/25 12:57	01/16/25 08:00
92774441010	**MW-11R**	Water	01/14/25 13:39	01/16/25 08:00
92774441011	**MW-12R**	Water	01/15/25 10:59	01/16/25 08:00
92774441012	**MW-12D**	Water	01/15/25 10:30	01/16/25 08:00
92774441013	**MW-15**	Water	01/14/25 16:19	01/16/25 08:00
92774441014	**MW-15R**	Water	01/14/25 15:49	01/16/25 08:00
92774441015	**MW-16**	Water	01/14/25 15:13	01/16/25 08:00
92774441016	**MW-17**	Water	01/14/25 14:42	01/16/25 08:00
92774441017	**MW-18**	Water	01/15/25 09:46	01/16/25 08:00
92774441018	**MW-19**	Water	01/14/25 12:37	01/16/25 08:00
92774441019	**MW-20**	Water	01/14/25 11:55	01/16/25 08:00
92774441020	**MW-21**	Water	01/15/25 13:10	01/16/25 08:00
92774441021	**DW-1**	Water	01/15/25 08:54	01/16/25 08:00
92774441022	**RW-1**	Water	01/15/25 13:30	01/16/25 08:00
92774441023	**RW-2**	Water	01/15/25 14:15	01/16/25 08:00
92774441024	**RW-3**	Water	01/15/25 15:05	01/16/25 08:00
92774441025	**DUP-1**	Water	01/14/25 12:00	01/16/25 08:00
92774441026	**DUP-2**	Water	01/15/25 12:00	01/16/25 08:00
92774441027	**FB-1**	Water	01/14/25 12:00	01/16/25 08:00
92774441028	**FB-2**	Water	01/15/25 12:00	01/16/25 08:00
92774441029	**EQUIP**	Water	01/15/25 12:00	01/16/25 08:00
92774441030	**TB-1**	Water	01/15/25 00:00	01/16/25 08:00
92774441031	**TB-2**	Water	01/15/25 00:00	01/16/25 08:00

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SAMPLE ANALYTE COUNT

Project: Former Crown SC-015
Pace Project No.: 92774441

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92774441001	**MW-1R**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441002	**MW-1AR**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441003	**MW-5R**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441004	**MW-5D**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441005	**MW-5DD**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92774441006	**MW-7R**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441007	**MW-8**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441008	**MW-9R**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	TMK	18	PASI-C
92774441009	**MW-10R**	EPA 8011	SMS1	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441010	**MW-11R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441011	**MW-12R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441012	**MW-12D**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441013	**MW-15**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441014	**MW-15R**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441015	**MW-16**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441016	**MW-17**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441017	**MW-18**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441018	**MW-19**	EPA 8011	HH	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92774441019	**MW-20**	EPA 8011	HH	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: Former Crown SC-015
Pace Project No.: 92774441

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260D	LMB	18	PASI-C
92774441020	**MW-21**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMK	18	PASI-C
92774441021	**DW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMK	18	PASI-C
92774441022	**RW-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92774441023	**RW-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMK	18	PASI-C
92774441024	**RW-3**	EPA 8011	HH	2	PASI-C
		EPA 8260D	TMH	18	PASI-C
92774441025	**DUP-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JN	18	PASI-C
92774441026	**DUP-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	JN	18	PASI-C
92774441027	**FB-1**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92774441028	**FB-2**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92774441029	**EQUIP**	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92774441030	**TB-1**	EPA 8260D	TMK	18	PASI-C
92774441031	**TB-2**	EPA 8260D	TMK	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-1R **Lab ID: 92774441001** Collected: 01/15/25 12:42 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.0078	1	01/17/25 08:32	01/18/25 16:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	01/17/25 08:32	01/18/25 16:11	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 11:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 11:36	994-05-8	
Benzene	**13.9**	ug/L	1.0	0.34	1		01/17/25 11:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 11:36	624-95-3	
tert-Butyl Alcohol	**172**	ug/L	100	26.8	1		01/17/25 11:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 11:36	762-75-4	
1,2-Dichloroethane	**0.77J**	ug/L	1.0	0.32	1		01/17/25 11:36	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 11:36	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 11:36	64-17-5	
Ethylbenzene	**27.6**	ug/L	1.0	0.30	1		01/17/25 11:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 11:36	637-92-3	
Methyl-tert-butyl ether	**81.8**	ug/L	1.0	0.42	1		01/17/25 11:36	1634-04-4	
Naphthalene	**42.6**	ug/L	1.0	0.64	1		01/17/25 11:36	91-20-3	
Toluene	**1.4**	ug/L	1.0	0.48	1		01/17/25 11:36	108-88-3	
Xylene (Total)	**28.3**	ug/L	1.0	0.34	1		01/17/25 11:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 11:36	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		01/17/25 11:36	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		01/17/25 11:36	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-1AR **Lab ID: 92774441002** Collected: 01/15/25 12:13 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/18/25 16:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	01/17/25 08:32	01/18/25 16:22	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 22:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 22:24	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 22:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 22:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 22:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 22:24	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 22:24	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 22:24	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 22:24	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 22:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 22:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 22:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 22:24	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 22:24	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 22:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 22:24	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		01/17/25 22:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/17/25 22:24	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-5R **Lab ID: 92774441003** Collected: 01/15/25 15:29 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/18/25 16:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	81	%	60-140		1	01/17/25 08:32	01/18/25 16:33	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		01/17/25 12:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		01/17/25 12:51	994-05-8	
Benzene	**5130**	ug/L	250	86.2	250		01/17/25 12:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		01/17/25 12:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		01/17/25 12:51	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		01/17/25 12:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		01/17/25 12:51	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		01/17/25 12:51	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		01/17/25 12:51	64-17-5	
Ethylbenzene	**2950**	ug/L	250	76.0	250		01/17/25 12:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		01/17/25 12:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		01/17/25 12:51	1634-04-4	
Naphthalene	**1170**	ug/L	250	161	250		01/17/25 12:51	91-20-3	
Toluene	**26600**	ug/L	250	121	250		01/17/25 12:51	108-88-3	
Xylene (Total)	**18500**	ug/L	250	84.5	250		01/17/25 12:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		250		01/17/25 12:51	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		250		01/17/25 12:51	17060-07-0	
Toluene-d8 (S)	102	%	70-130		250		01/17/25 12:51	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-5D **Lab ID: 92774441004** Collected: 01/15/25 08:24 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	01/17/25 08:32	01/18/25 16:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	83	%	60-140		1	01/17/25 08:32	01/18/25 16:45	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 06:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 06:13	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 06:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 06:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 06:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 06:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 06:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 06:13	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 06:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 06:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 06:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 06:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 06:13	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 06:13	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 06:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		01/17/25 06:13	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		01/17/25 06:13	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		01/17/25 06:13	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-5DD **Lab ID: 92774441005** Collected: 01/15/25 07:53 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/18/25 16:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	75	%	60-140		1	01/17/25 08:32	01/18/25 16:56	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/23/25 12:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/23/25 12:28	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/23/25 12:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/23/25 12:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/23/25 12:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/23/25 12:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/23/25 12:28	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/23/25 12:28	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/23/25 12:28	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/23/25 12:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/23/25 12:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/23/25 12:28	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/23/25 12:28	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/23/25 12:28	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/23/25 12:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		01/23/25 12:28	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		01/23/25 12:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		01/23/25 12:28	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-7R **Lab ID: 92774441006** Collected: 01/14/25 10:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	01/17/25 08:32	01/18/25 17:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	01/17/25 08:32	01/18/25 17:07	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 06:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 06:32	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 06:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 06:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 06:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 06:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 06:32	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 06:32	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 06:32	64-17-5	
Ethylbenzene	**1.3**	ug/L	1.0	0.30	1		01/17/25 06:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 06:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 06:32	1634-04-4	
Naphthalene	**11.6**	ug/L	1.0	0.64	1		01/17/25 06:32	91-20-3	
Toluene	**0.51J**	ug/L	1.0	0.48	1		01/17/25 06:32	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 06:32	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 06:32	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		01/17/25 06:32	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		01/17/25 06:32	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-8 **Lab ID: 92774441007** Collected: 01/14/25 10:51 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/18/25 17:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	01/17/25 08:32	01/18/25 17:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**285**	ug/L	100	36.4	1		01/17/25 06:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 06:51	994-05-8	
Benzene	**3.3**	ug/L	1.0	0.34	1		01/17/25 06:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 06:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 06:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 06:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 06:51	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 06:51	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 06:51	64-17-5	
Ethylbenzene	**73.6**	ug/L	1.0	0.30	1		01/17/25 06:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 06:51	637-92-3	
Methyl-tert-butyl ether	**4.7**	ug/L	1.0	0.42	1		01/17/25 06:51	1634-04-4	
Naphthalene	**34.2**	ug/L	1.0	0.64	1		01/17/25 06:51	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 06:51	108-88-3	
Xylene (Total)	**0.58J**	ug/L	1.0	0.34	1		01/17/25 06:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 06:51	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		01/17/25 06:51	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		01/17/25 06:51	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-9R **Lab ID: 92774441008** Collected: 01/14/25 14:10 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/18/25 17:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	01/17/25 08:32	01/18/25 17:30	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/22/25 02:05	75-85-4	v2
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/22/25 02:05	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/22/25 02:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/22/25 02:05	624-95-3	v2
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/22/25 02:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/22/25 02:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/22/25 02:05	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/22/25 02:05	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/22/25 02:05	64-17-5	v2
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/22/25 02:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/22/25 02:05	637-92-3	
Methyl-tert-butyl ether	**4.2**	ug/L	1.0	0.42	1		01/22/25 02:05	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/22/25 02:05	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/22/25 02:05	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/22/25 02:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/22/25 02:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		01/22/25 02:05	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/22/25 02:05	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-10R **Lab ID: 92774441009** Collected: 01/14/25 12:57 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/18/25 17:41	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	81	%	60-140		1	01/17/25 08:32	01/18/25 17:41	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 07:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 07:29	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 07:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 07:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 07:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 07:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 07:29	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 07:29	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 07:29	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 07:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 07:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 07:29	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 07:29	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 07:29	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 07:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 07:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		01/17/25 07:29	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		01/17/25 07:29	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-11R **Lab ID: 92774441010** Collected: 01/14/25 13:39 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/21/25 08:36	01/21/25 17:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	01/21/25 08:36	01/21/25 17:30	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 07:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 07:48	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 07:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 07:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 07:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 07:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 07:48	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 07:48	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 07:48	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 07:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 07:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 07:48	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 07:48	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 07:48	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 07:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 07:48	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		01/17/25 07:48	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		01/17/25 07:48	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-12R **Lab ID: 92774441011** Collected: 01/15/25 10:59 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 19:11	106-93-4	L1,R1
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	01/17/25 08:32	01/17/25 19:11	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 08:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 08:07	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 08:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 08:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 08:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 08:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 08:07	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 08:07	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 08:07	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 08:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 08:07	637-92-3	
Methyl-tert-butyl ether	**5.5**	ug/L	1.0	0.42	1		01/17/25 08:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 08:07	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 08:07	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 08:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 08:07	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		01/17/25 08:07	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		01/17/25 08:07	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-12D **Lab ID: 92774441012** Collected: 01/15/25 10:30 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	01/17/25 08:32	01/17/25 19:43	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	01/17/25 08:32	01/17/25 19:43	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 08:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 08:26	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 08:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 08:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 08:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 08:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 08:26	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 08:26	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 08:26	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 08:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 08:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 08:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 08:26	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 08:26	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 08:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 08:26	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		01/17/25 08:26	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		01/17/25 08:26	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-15 **Lab ID: 92774441013** Collected: 01/14/25 16:19 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 19:54	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	01/17/25 08:32	01/17/25 19:54	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 08:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 08:45	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 08:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 08:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 08:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 08:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 08:45	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 08:45	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 08:45	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 08:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 08:45	637-92-3	
Methyl-tert-butyl ether	**0.81J**	ug/L	1.0	0.42	1		01/17/25 08:45	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 08:45	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 08:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 08:45	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 08:45	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		01/17/25 08:45	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		01/17/25 08:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-15R **Lab ID: 92774441014** Collected: 01/14/25 15:49 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 20:04	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	01/17/25 08:32	01/17/25 20:04	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 09:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 09:04	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 09:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 09:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 09:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 09:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 09:04	107-06-2	
Diisopropyl ether	**1.3**	ug/L	1.0	0.31	1		01/17/25 09:04	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 09:04	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 09:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 09:04	637-92-3	
Methyl-tert-butyl ether	**14.5**	ug/L	1.0	0.42	1		01/17/25 09:04	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 09:04	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 09:04	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 09:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 09:04	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		01/17/25 09:04	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		01/17/25 09:04	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-16 **Lab ID: 92774441015** Collected: 01/14/25 15:13 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.0077	1	01/17/25 08:32	01/17/25 20:15	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	01/17/25 08:32	01/17/25 20:15	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 09:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 09:23	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 09:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 09:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 09:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 09:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 09:23	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 09:23	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 09:23	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 09:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 09:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 09:23	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 09:23	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 09:23	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 09:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 09:23	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		01/17/25 09:23	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		01/17/25 09:23	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-17 **Lab ID: 92774441016** Collected: 01/14/25 14:42 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 20:26	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	01/17/25 08:32	01/17/25 20:26	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 09:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 09:42	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 09:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 09:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 09:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 09:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 09:42	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 09:42	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 09:42	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 09:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 09:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 09:42	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 09:42	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 09:42	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 09:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 09:42	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		01/17/25 09:42	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		01/17/25 09:42	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-18 **Lab ID: 92774441017** Collected: 01/15/25 09:46 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 20:36	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	01/17/25 08:32	01/17/25 20:36	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 10:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 10:01	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 10:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 10:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 10:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 10:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 10:01	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 10:01	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 10:01	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 10:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 10:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 10:01	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 10:01	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 10:01	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 10:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 10:01	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		01/17/25 10:01	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		01/17/25 10:01	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-19 **Lab ID: 92774441018** Collected: 01/14/25 12:37 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/17/25 20:47	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	01/17/25 08:32	01/17/25 20:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 10:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 10:20	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 10:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 10:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 10:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 10:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 10:20	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 10:20	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 10:20	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 10:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 10:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 10:20	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 10:20	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 10:20	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 10:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 10:20	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		01/17/25 10:20	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		01/17/25 10:20	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-20 **Lab ID: 92774441019** Collected: 01/14/25 11:55 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 20:57	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	83	%	60-140		1	01/17/25 08:32	01/17/25 20:57	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 10:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 10:39	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 10:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 10:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 10:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 10:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 10:39	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 10:39	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 10:39	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 10:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 10:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 10:39	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 10:39	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 10:39	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 10:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 10:39	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		01/17/25 10:39	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		01/17/25 10:39	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: MW-21 **Lab ID: 92774441020** Collected: 01/15/25 13:10 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 21:08	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	01/17/25 08:32	01/17/25 21:08	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	5000	1820	50		01/22/25 09:08	75-85-4	v3
tert-Amylmethyl ether	ND	ug/L	500	133	50		01/22/25 09:08	994-05-8	
Benzene	**161**	ug/L	50.0	17.2	50		01/22/25 09:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2600	50		01/22/25 09:08	624-95-3	v2
tert-Butyl Alcohol	ND	ug/L	5000	1340	50		01/22/25 09:08	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	1470	50		01/22/25 09:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	16.1	50		01/22/25 09:08	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	15.4	50		01/22/25 09:08	108-20-3	
Ethanol	ND	ug/L	10000	3610	50		01/22/25 09:08	64-17-5	v2
Ethylbenzene	**1320**	ug/L	50.0	15.2	50		01/22/25 09:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	162	50		01/22/25 09:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	21.1	50		01/22/25 09:08	1634-04-4	
Naphthalene	**918**	ug/L	50.0	32.2	50		01/22/25 09:08	91-20-3	
Toluene	**5790**	ug/L	50.0	24.2	50		01/22/25 09:08	108-88-3	
Xylene (Total)	**6730**	ug/L	50.0	16.9	50		01/22/25 09:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		50		01/22/25 09:08	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		50		01/22/25 09:08	17060-07-0	
Toluene-d8 (S)	99	%	70-130		50		01/22/25 09:08	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: DW-1 **Lab ID: 92774441021** Collected: 01/15/25 08:54 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 21:19	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	74	%	60-140		1	01/17/25 08:32	01/17/25 21:19	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 04:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 04:31	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 04:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 04:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 04:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 04:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 04:31	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 04:31	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 04:31	64-17-5	
Ethylbenzene	**2.4**	ug/L	1.0	0.30	1		01/17/25 04:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 04:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 04:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 04:31	91-20-3	
Toluene	**2.7**	ug/L	1.0	0.48	1		01/17/25 04:31	108-88-3	
Xylene (Total)	**10.6**	ug/L	1.0	0.34	1		01/17/25 04:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/17/25 04:31	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		01/17/25 04:31	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/17/25 04:31	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: RW-1 **Lab ID: 92774441022** Collected: 01/15/25 13:30 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 21:29	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	01/17/25 08:32	01/17/25 21:29	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	10000	3640	100		01/20/25 07:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	266	100		01/20/25 07:09	994-05-8	
Benzene	**519**	ug/L	100	34.5	100		01/20/25 07:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	5190	100		01/20/25 07:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2680	100		01/20/25 07:09	75-65-0	v2
tert-Butyl Formate	ND	ug/L	5000	2940	100		01/20/25 07:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	32.2	100		01/20/25 07:09	107-06-2	
Diisopropyl ether	ND	ug/L	100	30.8	100		01/20/25 07:09	108-20-3	
Ethanol	ND	ug/L	20000	7220	100		01/20/25 07:09	64-17-5	
Ethylbenzene	**819**	ug/L	100	30.4	100		01/20/25 07:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	324	100		01/20/25 07:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	42.2	100		01/20/25 07:09	1634-04-4	
Naphthalene	**305**	ug/L	100	64.5	100		01/20/25 07:09	91-20-3	
Toluene	**10100**	ug/L	100	48.5	100		01/20/25 07:09	108-88-3	
Xylene (Total)	**2970**	ug/L	100	33.8	100		01/20/25 07:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		100		01/20/25 07:09	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		100		01/20/25 07:09	17060-07-0	
Toluene-d8 (S)	103	%	70-130		100		01/20/25 07:09	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: RW-2 **Lab ID: 92774441023** Collected: 01/15/25 14:15 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/17/25 21:40	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	01/17/25 08:32	01/17/25 21:40	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		01/17/25 05:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		01/17/25 05:08	994-05-8	
Benzene	**8650**	ug/L	250	86.2	250		01/17/25 05:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		01/17/25 05:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		01/17/25 05:08	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		01/17/25 05:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		01/17/25 05:08	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		01/17/25 05:08	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		01/17/25 05:08	64-17-5	
Ethylbenzene	**1440**	ug/L	250	76.0	250		01/17/25 05:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		01/17/25 05:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		01/17/25 05:08	1634-04-4	
Naphthalene	**466**	ug/L	250	161	250		01/17/25 05:08	91-20-3	
Toluene	**22200**	ug/L	250	121	250		01/17/25 05:08	108-88-3	
Xylene (Total)	**7570**	ug/L	250	84.5	250		01/17/25 05:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		250		01/17/25 05:08	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		250		01/17/25 05:08	17060-07-0	
Toluene-d8 (S)	100	%	70-130		250		01/17/25 05:08	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: RW-3 **Lab ID: 92774441024** Collected: 01/15/25 15:05 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.56**	ug/L	0.020	0.0075	1	01/21/25 08:36	01/22/25 15:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	01/21/25 08:36	01/22/25 15:02	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	20000	7280	200		01/20/25 07:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	532	200		01/20/25 07:45	994-05-8	
Benzene	**6900**	ug/L	200	69.0	200		01/20/25 07:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	10400	200		01/20/25 07:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5360	200		01/20/25 07:45	75-65-0	v2
tert-Butyl Formate	ND	ug/L	10000	5880	200		01/20/25 07:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	64.4	200		01/20/25 07:45	107-06-2	
Diisopropyl ether	ND	ug/L	200	61.6	200		01/20/25 07:45	108-20-3	
Ethanol	ND	ug/L	40000	14400	200		01/20/25 07:45	64-17-5	
Ethylbenzene	**1220**	ug/L	200	60.8	200		01/20/25 07:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	648	200		01/20/25 07:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	84.4	200		01/20/25 07:45	1634-04-4	
Naphthalene	**639**	ug/L	200	129	200		01/20/25 07:45	91-20-3	
Toluene	**20800**	ug/L	200	97.0	200		01/20/25 07:45	108-88-3	
Xylene (Total)	**12100**	ug/L	200	67.6	200		01/20/25 07:45	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		200		01/20/25 07:45	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		200		01/20/25 07:45	17060-07-0	
Toluene-d8 (S)	101	%	70-130		200		01/20/25 07:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: DUP-1 **Lab ID: 92774441025** Collected: 01/14/25 12:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	01/17/25 08:32	01/17/25 22:01	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	76	%	60-140		1	01/17/25 08:32	01/17/25 22:01	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 19:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 19:25	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 19:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 19:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 19:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 19:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 19:25	107-06-2	
Diisopropyl ether	**1.3**	ug/L	1.0	0.31	1		01/17/25 19:25	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 19:25	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 19:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 19:25	637-92-3	
Methyl-tert-butyl ether	**15.7**	ug/L	1.0	0.42	1		01/17/25 19:25	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 19:25	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 19:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 19:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		01/17/25 19:25	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/17/25 19:25	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/17/25 19:25	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: DUP-2 **Lab ID: 92774441026** Collected: 01/15/25 12:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	01/17/25 08:32	01/17/25 22:12	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/17/25 08:32	01/17/25 22:12	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		01/17/25 22:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		01/17/25 22:07	994-05-8	
Benzene	**11900**	ug/L	250	86.2	250		01/17/25 22:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		01/17/25 22:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		01/17/25 22:07	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		01/17/25 22:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		01/17/25 22:07	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		01/17/25 22:07	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		01/17/25 22:07	64-17-5	
Ethylbenzene	**2410**	ug/L	250	76.0	250		01/17/25 22:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		01/17/25 22:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		01/17/25 22:07	1634-04-4	
Naphthalene	**898**	ug/L	250	161	250		01/17/25 22:07	91-20-3	
Toluene	**33200**	ug/L	250	121	250		01/17/25 22:07	108-88-3	
Xylene (Total)	**12500**	ug/L	250	84.5	250		01/17/25 22:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		250		01/17/25 22:07	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		250		01/17/25 22:07	17060-07-0	
Toluene-d8 (S)	98	%	70-130		250		01/17/25 22:07	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: FB-1 **Lab ID: 92774441027** Collected: 01/14/25 12:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	01/17/25 08:32	01/17/25 22:22	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	77	%	60-140		1	01/17/25 08:32	01/17/25 22:22	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 12:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 12:48	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 12:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 12:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 12:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 12:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 12:48	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 12:48	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 12:48	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 12:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 12:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 12:48	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 12:48	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 12:48	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 12:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		01/17/25 12:48	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		01/17/25 12:48	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/17/25 12:48	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: FB-2 **Lab ID: 92774441028** Collected: 01/15/25 12:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 22:33	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	01/17/25 08:32	01/17/25 22:33	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 13:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 13:06	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 13:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 13:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 13:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 13:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 13:06	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 13:06	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 13:06	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 13:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 13:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 13:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 13:06	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 13:06	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 13:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		01/17/25 13:06	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/17/25 13:06	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/17/25 13:06	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: EQUIP **Lab ID: 92774441029** Collected: 01/15/25 12:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	01/17/25 08:32	01/17/25 22:43	106-93-4	L1
Surrogates									
1-Chloro-2-bromopropane (S)	78	%	60-140		1	01/17/25 08:32	01/17/25 22:43	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 13:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 13:25	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 13:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 13:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 13:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 13:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 13:25	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 13:25	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 13:25	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 13:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 13:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 13:25	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 13:25	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 13:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 13:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		01/17/25 13:25	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		01/17/25 13:25	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/17/25 13:25	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: TB-1 **Lab ID: 92774441030** Collected: 01/15/25 00:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 02:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 02:22	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 02:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 02:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 02:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 02:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 02:22	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 02:22	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 02:22	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 02:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 02:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 02:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 02:22	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 02:22	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 02:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/25 02:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		01/17/25 02:22	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		01/17/25 02:22	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92774441

Sample: TB-2 **Lab ID: 92774441031** Collected: 01/15/25 00:00 Received: 01/16/25 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		01/17/25 02:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		01/17/25 02:41	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		01/17/25 02:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		01/17/25 02:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		01/17/25 02:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		01/17/25 02:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		01/17/25 02:41	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		01/17/25 02:41	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		01/17/25 02:41	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/17/25 02:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		01/17/25 02:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		01/17/25 02:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		01/17/25 02:41	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		01/17/25 02:41	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		01/17/25 02:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		01/17/25 02:41	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		01/17/25 02:41	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		01/17/25 02:41	2037-26-5	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909183
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441021, 92774441023, 92774441030, 92774441031

METHOD BLANK: 4676462 Matrix: Water
Associated Lab Samples: 92774441021, 92774441023, 92774441030, 92774441031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/17/25 01:46	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/17/25 01:46	
Benzene	ug/L	ND	1.0	0.34	01/17/25 01:46	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/17/25 01:46	
Ethanol	ug/L	ND	200	72.2	01/17/25 01:46	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/17/25 01:46	
Ethylbenzene	ug/L	ND	1.0	0.30	01/17/25 01:46	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/17/25 01:46	
Naphthalene	ug/L	ND	1.0	0.64	01/17/25 01:46	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/17/25 01:46	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/17/25 01:46	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/17/25 01:46	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/17/25 01:46	
Toluene	ug/L	ND	1.0	0.48	01/17/25 01:46	
Xylene (Total)	ug/L	ND	1.0	0.34	01/17/25 01:46	
1,2-Dichloroethane-d4 (S)	%	103	70-130		01/17/25 01:46	
4-Bromofluorobenzene (S)	%	100	70-130		01/17/25 01:46	
Toluene-d8 (S)	%	95	70-130		01/17/25 01:46	

LABORATORY CONTROL SAMPLE: 4676463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.1	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	417	104	70-130	
Benzene	ug/L	20	19.2	96	70-130	
Diisopropyl ether	ug/L	20	16.2	81	70-130	
Ethanol	ug/L	800	713	89	70-130	
Ethyl-tert-butyl ether	ug/L	40	36.0	90	70-130	
Ethylbenzene	ug/L	20	19.4	97	70-130	
Methyl-tert-butyl ether	ug/L	20	17.8	89	70-130	
Naphthalene	ug/L	20	19.3	96	70-130	
tert-Amyl Alcohol	ug/L	400	401	100	70-130	
tert-Amylmethyl ether	ug/L	40	39.9	100	70-130	
tert-Butyl Alcohol	ug/L	200	185	93	70-130	
tert-Butyl Formate	ug/L	160	155	97	70-130	
Toluene	ug/L	20	18.9	94	70-130	
Xylene (Total)	ug/L	60	59.4	99	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4676463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4676464

Parameter	Units	92774411001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.8	109	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	422	105	39-157	
Benzene	ug/L	ND	20	21.6	108	70-151	
Diisopropyl ether	ug/L	ND	20	18.1	90	63-144	
Ethanol	ug/L	ND	800	699	87	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	39.5	99	66-137	
Ethylbenzene	ug/L	ND	20	22.1	110	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	20.2	101	54-156	
Naphthalene	ug/L	ND	20	17.5	87	61-148	
tert-Amyl Alcohol	ug/L	ND	400	401	100	54-153	
tert-Amylmethyl ether	ug/L	ND	40	41.7	104	69-139	
tert-Butyl Alcohol	ug/L	ND	200	243	121	43-188	
tert-Butyl Formate	ug/L	ND	160	77.9	49	10-170	P5
Toluene	ug/L	ND	20	20.9	105	59-148	
Xylene (Total)	ug/L	ND	60	66.1	110	63-158	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 4676465

Parameter	Units	92774411002 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)	%	101	101			
4-Bromofluorobenzene (S)	%	101	101			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4676465

Parameter	Units	92774411002 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	100	98			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909205
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441001, 92774441002, 92774441003, 92774441004, 92774441006, 92774441007, 92774441009, 92774441010, 92774441011, 92774441012, 92774441013, 92774441014, 92774441015, 92774441016, 92774441017, 92774441018, 92774441019

METHOD BLANK: 4676629
Matrix: Water
Associated Lab Samples: 92774441001, 92774441002, 92774441003, 92774441004, 92774441006, 92774441007, 92774441009, 92774441010, 92774441011, 92774441012, 92774441013, 92774441014, 92774441015, 92774441016, 92774441017, 92774441018, 92774441019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/17/25 03:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/17/25 03:03	
Benzene	ug/L	ND	1.0	0.34	01/17/25 03:03	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/17/25 03:03	
Ethanol	ug/L	ND	200	72.2	01/17/25 03:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/17/25 03:03	
Ethylbenzene	ug/L	ND	1.0	0.30	01/17/25 03:03	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/17/25 03:03	
Naphthalene	ug/L	ND	1.0	0.64	01/17/25 03:03	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/17/25 03:03	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/17/25 03:03	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/17/25 03:03	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/17/25 03:03	
Toluene	ug/L	ND	1.0	0.48	01/17/25 03:03	
Xylene (Total)	ug/L	ND	1.0	0.34	01/17/25 03:03	
1,2-Dichloroethane-d4 (S)	%	99	70-130		01/17/25 03:03	
4-Bromofluorobenzene (S)	%	102	70-130		01/17/25 03:03	
Toluene-d8 (S)	%	103	70-130		01/17/25 03:03	

LABORATORY CONTROL SAMPLE: 4676630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.6	103	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	351	88	70-130	
Benzene	ug/L	20	22.0	110	70-130	
Diisopropyl ether	ug/L	20	20.2	101	70-130	
Ethanol	ug/L	800	839	105	70-130	
Ethyl-tert-butyl ether	ug/L	40	40.8	102	70-130	
Ethylbenzene	ug/L	20	21.2	106	70-130	
Methyl-tert-butyl ether	ug/L	20	20.4	102	70-130	
Naphthalene	ug/L	20	22.7	113	70-130	
tert-Amyl Alcohol	ug/L	400	355	89	70-130	
tert-Amylmethyl ether	ug/L	40	40.3	101	70-130	
tert-Butyl Alcohol	ug/L	200	176	88	70-130	
tert-Butyl Formate	ug/L	160	162	101	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4676630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	21.4	107	70-130	
Xylene (Total)	ug/L	60	64.3	107	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 4676631

Parameter	Units	92774441002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.5	108	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	490	122	39-157	
Benzene	ug/L	ND	20	23.9	120	70-151	
Diisopropyl ether	ug/L	ND	20	23.1	115	63-144	
Ethanol	ug/L	ND	800	855	107	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	43.4	109	66-137	
Ethylbenzene	ug/L	ND	20	22.7	113	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	22.2	109	54-156	
Naphthalene	ug/L	ND	20	23.5	117	61-148	
tert-Amyl Alcohol	ug/L	ND	400	465	116	54-153	
tert-Amylmethyl ether	ug/L	ND	40	44.1	110	69-139	
tert-Butyl Alcohol	ug/L	ND	200	313	156	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	5	10-170	M1
Toluene	ug/L	ND	20	22.0	110	59-148	
Xylene (Total)	ug/L	ND	60	68.8	115	63-158	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 4676632

Parameter	Units	92774441004 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	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4676632

Parameter	Units	92774441004 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	98			
4-Bromofluorobenzene (S)	%	102	98			
Toluene-d8 (S)	%	105	100			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909420
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441027, 92774441028, 92774441029

METHOD BLANK: 4677813 Matrix: Water
Associated Lab Samples: 92774441027, 92774441028, 92774441029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/17/25 11:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/17/25 11:16	
Benzene	ug/L	ND	1.0	0.34	01/17/25 11:16	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/17/25 11:16	
Ethanol	ug/L	ND	200	72.2	01/17/25 11:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/17/25 11:16	
Ethylbenzene	ug/L	ND	1.0	0.30	01/17/25 11:16	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/17/25 11:16	
Naphthalene	ug/L	ND	1.0	0.64	01/17/25 11:16	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/17/25 11:16	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/17/25 11:16	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/17/25 11:16	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/17/25 11:16	
Toluene	ug/L	ND	1.0	0.48	01/17/25 11:16	
Xylene (Total)	ug/L	ND	1.0	0.34	01/17/25 11:16	
1,2-Dichloroethane-d4 (S)	%	108	70-130		01/17/25 11:16	
4-Bromofluorobenzene (S)	%	93	70-130		01/17/25 11:16	
Toluene-d8 (S)	%	101	70-130		01/17/25 11:16	

LABORATORY CONTROL SAMPLE: 4677814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	22.1	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	369	92	70-130	
Benzene	ug/L	20	22.5	112	70-130	
Diisopropyl ether	ug/L	20	22.5	112	70-130	
Ethanol	ug/L	800	868	108	70-130	
Ethyl-tert-butyl ether	ug/L	40	41.7	104	70-130	
Ethylbenzene	ug/L	20	21.5	107	70-130	
Methyl-tert-butyl ether	ug/L	20	19.9	99	70-130	
Naphthalene	ug/L	20	20.5	102	70-130	
tert-Amyl Alcohol	ug/L	400	360	90	70-130	
tert-Amylmethyl ether	ug/L	40	39.3	98	70-130	
tert-Butyl Alcohol	ug/L	200	172	86	70-130	
tert-Butyl Formate	ug/L	160	136	85	70-130	
Toluene	ug/L	20	20.6	103	70-130	
Xylene (Total)	ug/L	60	65.5	109	70-130	
1,2-Dichloroethane-d4 (S)	%			110	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4677814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4677815

Parameter	Units	92774372001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	25.1	126	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	452	113	39-157	
Benzene	ug/L	ND	20	26.4	132	70-151	
Diisopropyl ether	ug/L	ND	20	27.3	137	63-144	
Ethanol	ug/L	ND	800	1050	131	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	50.5	126	66-137	
Ethylbenzene	ug/L	ND	20	24.1	120	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	23.7	118	54-156	
Naphthalene	ug/L	ND	20	23.1	115	61-148	
tert-Amyl Alcohol	ug/L	ND	400	415	104	54-153	
tert-Amylmethyl ether	ug/L	ND	40	46.2	116	69-139	
tert-Butyl Alcohol	ug/L	ND	200	283	142	43-188	
tert-Butyl Formate	ug/L	ND	160	65.8	41	10-170	
Toluene	ug/L	ND	20	23.7	118	59-148	
Xylene (Total)	ug/L	ND	60	72.1	120	63-158	
1,2-Dichloroethane-d4 (S)	%				110	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 4677816

Parameter	Units	92774372002 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	111			
4-Bromofluorobenzene (S)	%	93	96			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4677816

Parameter	Units	92774372002 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	101	100			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909524
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441025, 92774441026

METHOD BLANK: 4678369 Matrix: Water
Associated Lab Samples: 92774441025, 92774441026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/17/25 12:32	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/17/25 12:32	
Benzene	ug/L	ND	1.0	0.34	01/17/25 12:32	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/17/25 12:32	
Ethanol	ug/L	ND	200	72.2	01/17/25 12:32	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/17/25 12:32	
Ethylbenzene	ug/L	ND	1.0	0.30	01/17/25 12:32	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/17/25 12:32	
Naphthalene	ug/L	ND	1.0	0.64	01/17/25 12:32	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/17/25 12:32	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/17/25 12:32	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/17/25 12:32	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/17/25 12:32	
Toluene	ug/L	ND	1.0	0.48	01/17/25 12:32	
Xylene (Total)	ug/L	ND	1.0	0.34	01/17/25 12:32	
1,2-Dichloroethane-d4 (S)	%	99	70-130		01/17/25 12:32	
4-Bromofluorobenzene (S)	%	98	70-130		01/17/25 12:32	
Toluene-d8 (S)	%	99	70-130		01/17/25 12:32	

LABORATORY CONTROL SAMPLE: 4678370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.6	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	424	106	70-130	
Benzene	ug/L	20	22.2	111	70-130	
Diisopropyl ether	ug/L	20	20.7	103	70-130	
Ethanol	ug/L	800	943	118	70-130	
Ethyl-tert-butyl ether	ug/L	40	41.8	105	70-130	
Ethylbenzene	ug/L	20	20.9	105	70-130	
Methyl-tert-butyl ether	ug/L	20	21.0	105	70-130	
Naphthalene	ug/L	20	21.1	105	70-130	
tert-Amyl Alcohol	ug/L	400	424	106	70-130	
tert-Amylmethyl ether	ug/L	40	41.7	104	70-130	
tert-Butyl Alcohol	ug/L	200	178	89	70-130	
tert-Butyl Formate	ug/L	160	189	118	70-130	
Toluene	ug/L	20	21.2	106	70-130	
Xylene (Total)	ug/L	60	64.0	107	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4678370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4678371

Parameter	Units	92774596014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	8.4	42	70-137	M1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	122	31	39-157	M1
Benzene	ug/L	ND	20	8.7	43	70-151	M1
Diisopropyl ether	ug/L	ND	20	8.4	42	63-144	M1
Ethanol	ug/L	ND	800	343	43	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	15.1	38	66-137	M1
Ethylbenzene	ug/L	ND	20	8.0	40	66-153	M1
Methyl-tert-butyl ether	ug/L	ND	20	7.3	36	54-156	M1
Naphthalene	ug/L	ND	20	8.2	41	61-148	M1
tert-Amyl Alcohol	ug/L	ND	400	122	30	54-153	M1
tert-Amylmethyl ether	ug/L	ND	40	14.1	35	69-139	M1
tert-Butyl Alcohol	ug/L	ND	200	88.1J	44	43-188	v3
tert-Butyl Formate	ug/L	ND	160	ND	1	10-170	M1,P5
Toluene	ug/L	ND	20	7.9	39	59-148	M1
Xylene (Total)	ug/L	ND	60	24.0	40	63-158	MS
1,2-Dichloroethane-d4 (S)	%				107	70-130	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4678372

Parameter	Units	92774596021 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	v2
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)	%	101	107			
4-Bromofluorobenzene (S)	%	98	95			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4678372

Parameter	Units	92774596021 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	98	99			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909850
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441022, 92774441024

METHOD BLANK: 4679827 Matrix: Water
Associated Lab Samples: 92774441022, 92774441024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/19/25 22:49	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/19/25 22:49	
Benzene	ug/L	ND	1.0	0.34	01/19/25 22:49	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/19/25 22:49	
Ethanol	ug/L	ND	200	72.2	01/19/25 22:49	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/19/25 22:49	
Ethylbenzene	ug/L	ND	1.0	0.30	01/19/25 22:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/19/25 22:49	
Naphthalene	ug/L	ND	1.0	0.64	01/19/25 22:49	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/19/25 22:49	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/19/25 22:49	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/19/25 22:49	v2
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/19/25 22:49	
Toluene	ug/L	ND	1.0	0.48	01/19/25 22:49	
Xylene (Total)	ug/L	ND	1.0	0.34	01/19/25 22:49	
1,2-Dichloroethane-d4 (S)	%	102	70-130		01/19/25 22:49	
4-Bromofluorobenzene (S)	%	100	70-130		01/19/25 22:49	
Toluene-d8 (S)	%	106	70-130		01/19/25 22:49	

LABORATORY CONTROL SAMPLE: 4679828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.5	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	357	89	70-130	
Benzene	ug/L	20	20.0	100	70-130	
Diisopropyl ether	ug/L	20	19.0	95	70-130	
Ethanol	ug/L	800	770	96	70-130	
Ethyl-tert-butyl ether	ug/L	40	37.4	94	70-130	
Ethylbenzene	ug/L	20	19.7	98	70-130	
Methyl-tert-butyl ether	ug/L	20	18.7	94	70-130	
Naphthalene	ug/L	20	20.2	101	70-130	
tert-Amyl Alcohol	ug/L	400	393	98	70-130	
tert-Amylmethyl ether	ug/L	40	37.8	95	70-130	
tert-Butyl Alcohol	ug/L	200	171	85	70-130	v3
tert-Butyl Formate	ug/L	160	158	99	70-130	
Toluene	ug/L	20	19.5	98	70-130	
Xylene (Total)	ug/L	60	60.9	101	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4679828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 4679829

Parameter	Units	92774877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.1	111	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	498	124	39-157	
Benzene	ug/L	ND	20	25.0	125	70-151	
Diisopropyl ether	ug/L	ND	20	24.0	120	63-144	
Ethanol	ug/L	ND	800	1120	140	39-176	v1
Ethyl-tert-butyl ether	ug/L	ND	40	45.2	113	66-137	
Ethylbenzene	ug/L	ND	20	21.9	110	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	21.6	108	54-156	
Naphthalene	ug/L	ND	20	24.5	122	61-148	
tert-Amyl Alcohol	ug/L	ND	400	530	133	54-153	
tert-Amylmethyl ether	ug/L	ND	40	46.2	115	69-139	
tert-Butyl Alcohol	ug/L	ND	200	359	180	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	10	10-170	
Toluene	ug/L	ND	20	22.7	114	59-148	
Xylene (Total)	ug/L	ND	60	66.5	111	63-158	
1,2-Dichloroethane-d4 (S)	%				96	70-130	
4-Bromofluorobenzene (S)	%				104	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 4679830

Parameter	Units	92774877003 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	v1
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)	%	105	104			
4-Bromofluorobenzene (S)	%	101	103			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4679830

Parameter	Units	92774877003 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	103	97			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 910202
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92774441008

METHOD BLANK: 4681177 Matrix: Water
Associated Lab Samples: 92774441008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/22/25 01:10	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/22/25 01:10	v2
Benzene	ug/L	ND	1.0	0.34	01/22/25 01:10	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/22/25 01:10	
Ethanol	ug/L	ND	200	72.2	01/22/25 01:10	v2
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/22/25 01:10	
Ethylbenzene	ug/L	ND	1.0	0.30	01/22/25 01:10	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/22/25 01:10	
Naphthalene	ug/L	ND	1.0	0.64	01/22/25 01:10	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/22/25 01:10	v2
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/22/25 01:10	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/22/25 01:10	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/22/25 01:10	
Toluene	ug/L	ND	1.0	0.48	01/22/25 01:10	
Xylene (Total)	ug/L	ND	1.0	0.34	01/22/25 01:10	
1,2-Dichloroethane-d4 (S)	%	100	70-130		01/22/25 01:10	
4-Bromofluorobenzene (S)	%	99	70-130		01/22/25 01:10	
Toluene-d8 (S)	%	102	70-130		01/22/25 01:10	

LABORATORY CONTROL SAMPLE: 4681178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	19.9	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	400	100	70-130	v3
Benzene	ug/L	20	20.2	101	70-130	
Diisopropyl ether	ug/L	20	19.0	95	70-130	
Ethanol	ug/L	800	756	94	70-130	v3
Ethyl-tert-butyl ether	ug/L	40	38.2	95	70-130	
Ethylbenzene	ug/L	20	19.3	97	70-130	
Methyl-tert-butyl ether	ug/L	20	19.3	97	70-130	
Naphthalene	ug/L	20	21.7	108	70-130	
tert-Amyl Alcohol	ug/L	400	367	92	70-130	v3
tert-Amylmethyl ether	ug/L	40	38.0	95	70-130	
tert-Butyl Alcohol	ug/L	200	195	98	70-130	
tert-Butyl Formate	ug/L	160	160	100	70-130	
Toluene	ug/L	20	19.5	98	70-130	
Xylene (Total)	ug/L	60	58.6	98	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4681178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4682004 4682005

Parameter	Units	92774839021 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	20	20	14.0	30.5	70	152	70-137	74	30	M1,R1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	ND	487J	35	122	39-157		30	M1,v3
Benzene	ug/L	ND	20	20	13.5	31.4	68	157	70-151	80	30	M1,R1
Diisopropyl ether	ug/L	ND	20	20	12.5	29.2	63	146	63-144	80	30	M1,R1
Ethanol	ug/L	ND	800	800	506J	1180	63	148	39-176		30	v3
Ethyl-tert-butyl ether	ug/L	ND	40	40	24.0J	58.4	60	146	66-137		30	M1
Ethylbenzene	ug/L	ND	20	20	13.0	29.0	65	145	66-153	76	30	M1,R1
Methyl-tert-butyl ether	ug/L	ND	20	20	11.8	31.1	59	155	54-156	90	30	R1
Naphthalene	ug/L	ND	20	20	11.1	26.0	32	107	61-148	80	30	M1,R1
tert-Amyl Alcohol	ug/L	ND	400	400	237J	569	59	142	54-153		30	v3
tert-Amylmethyl ether	ug/L	ND	40	40	24.8J	60.4	62	151	69-139		30	M1
tert-Butyl Alcohol	ug/L	ND	200	200	166J	362J	83	181	43-188		30	
tert-Butyl Formate	ug/L	ND	160	160	ND	222J	58	138	10-170		30	P5
Toluene	ug/L	ND	20	20	13.1	31.5	65	157	59-148	83	30	M1,R1
Xylene (Total)	ug/L	ND	60	60	38.1	93.0	64	155	63-158	84	30	MS,RS
1,2-Dichloroethane-d4 (S)	%						93	93	70-130			
4-Bromofluorobenzene (S)	%						97	98	70-130			
Toluene-d8 (S)	%						103	100	70-130			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 910203
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92774441020

METHOD BLANK: 4681181 Matrix: Water
Associated Lab Samples: 92774441020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/22/25 01:29	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/22/25 01:29	v2
Benzene	ug/L	ND	1.0	0.34	01/22/25 01:29	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/22/25 01:29	
Ethanol	ug/L	ND	200	72.2	01/22/25 01:29	v2
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/22/25 01:29	
Ethylbenzene	ug/L	ND	1.0	0.30	01/22/25 01:29	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/22/25 01:29	
Naphthalene	ug/L	ND	1.0	0.64	01/22/25 01:29	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/22/25 01:29	v2
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/22/25 01:29	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/22/25 01:29	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/22/25 01:29	
Toluene	ug/L	ND	1.0	0.48	01/22/25 01:29	
Xylene (Total)	ug/L	ND	1.0	0.34	01/22/25 01:29	
1,2-Dichloroethane-d4 (S)	%	101	70-130		01/22/25 01:29	
4-Bromofluorobenzene (S)	%	96	70-130		01/22/25 01:29	
Toluene-d8 (S)	%	99	70-130		01/22/25 01:29	

LABORATORY CONTROL SAMPLE: 4681182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	18.6	93	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	346	87	70-130	v3
Benzene	ug/L	20	20.4	102	70-130	
Diisopropyl ether	ug/L	20	20.2	101	70-130	
Ethanol	ug/L	800	751	94	70-130	v3
Ethyl-tert-butyl ether	ug/L	40	38.6	96	70-130	
Ethylbenzene	ug/L	20	18.3	92	70-130	
Methyl-tert-butyl ether	ug/L	20	18.8	94	70-130	
Naphthalene	ug/L	20	22.3	111	70-130	
tert-Amyl Alcohol	ug/L	400	339	85	70-130	v3
tert-Amylmethyl ether	ug/L	40	37.2	93	70-130	
tert-Butyl Alcohol	ug/L	200	188	94	70-130	
tert-Butyl Formate	ug/L	160	156	97	70-130	
Toluene	ug/L	20	19.2	96	70-130	
Xylene (Total)	ug/L	60	55.5	93	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4681182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4681183 4681184

Parameter	Units	92774875013 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	20	20	32.6	10.9	163	55	70-137	99	30	M1,R1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	ND	ND	119	44	39-157		30	
Benzene	ug/L	168	20	20	188	177	102	44	70-151	6	30	M1
Diisopropyl ether	ug/L	ND	20	20	35.2	12.7	176	63	63-144	94	30	M1,R1
Ethanol	ug/L	ND	800	800	1200J	ND	150	81	39-176		30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	66.3J	ND	166	61	66-137		30	M1
Ethylbenzene	ug/L	1230	20	20	1120	1060	-551	-809	66-153	5	30	M1
Methyl-tert-butyl ether	ug/L	ND	20	20	38.8	17.7	194	88	54-156	75	30	M1,R1
Naphthalene	ug/L	339	20	20	343	344	22	30	61-148	0	30	M1
tert-Amyl Alcohol	ug/L	ND	400	400	869J	524J	217	131	54-153		30	M1
tert-Amylmethyl ether	ug/L	ND	40	40	73.7J	ND	184	49	69-139		30	M1
tert-Butyl Alcohol	ug/L	ND	200	200	379J	ND	190	93	43-188		30	M1
tert-Butyl Formate	ug/L	ND	160	160	ND	ND	154	55	10-170		30	P5
Toluene	ug/L	64.7	20	20	81.5	61.0	84	-18	59-148	29	30	M1
Xylene (Total)	ug/L	718	60	60	767	680	81	-64	63-158	12	30	MS,RS
1,2-Dichloroethane-d4 (S)	%						97	96	70-130			
4-Bromofluorobenzene (S)	%						101	97	70-130			
Toluene-d8 (S)	%						100	102	70-130			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 910820
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92774441005

METHOD BLANK: 4683475 Matrix: Water
Associated Lab Samples: 92774441005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	01/23/25 12:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	01/23/25 12:09	
Benzene	ug/L	ND	1.0	0.34	01/23/25 12:09	
Diisopropyl ether	ug/L	ND	1.0	0.31	01/23/25 12:09	
Ethanol	ug/L	ND	200	72.2	01/23/25 12:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	01/23/25 12:09	
Ethylbenzene	ug/L	ND	1.0	0.30	01/23/25 12:09	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	01/23/25 12:09	
Naphthalene	ug/L	ND	1.0	0.64	01/23/25 12:09	
tert-Amyl Alcohol	ug/L	ND	100	36.4	01/23/25 12:09	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	01/23/25 12:09	
tert-Butyl Alcohol	ug/L	ND	100	26.8	01/23/25 12:09	
tert-Butyl Formate	ug/L	ND	50.0	29.4	01/23/25 12:09	
Toluene	ug/L	ND	1.0	0.48	01/23/25 12:09	
Xylene (Total)	ug/L	ND	1.0	0.34	01/23/25 12:09	
1,2-Dichloroethane-d4 (S)	%	101	70-130		01/23/25 12:09	
4-Bromofluorobenzene (S)	%	98	70-130		01/23/25 12:09	
Toluene-d8 (S)	%	99	70-130		01/23/25 12:09	

LABORATORY CONTROL SAMPLE: 4683476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	21.2	106	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	413	103	70-130	
Benzene	ug/L	20	21.7	108	70-130	
Diisopropyl ether	ug/L	20	20.5	103	70-130	
Ethanol	ug/L	800	780	98	70-130	
Ethyl-tert-butyl ether	ug/L	40	40.5	101	70-130	
Ethylbenzene	ug/L	20	20.6	103	70-130	
Methyl-tert-butyl ether	ug/L	20	20.3	102	70-130	
Naphthalene	ug/L	20	23.3	116	70-130	
tert-Amyl Alcohol	ug/L	400	400	100	70-130	
tert-Amylmethyl ether	ug/L	40	40.3	101	70-130	
tert-Butyl Alcohol	ug/L	200	188	94	70-130	
tert-Butyl Formate	ug/L	160	166	104	70-130	
Toluene	ug/L	20	20.8	104	70-130	
Xylene (Total)	ug/L	60	64.2	107	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

LABORATORY CONTROL SAMPLE: 4683476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4683477

Parameter	Units	92774875002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	16.9J	85	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	ND	47	39-157	
Benzene	ug/L	453	20	461	42	70-151	M1
Diisopropyl ether	ug/L	19.9J	20	19.2J	-3	63-144	M1
Ethanol	ug/L	ND	800	ND	37	39-176	M1
Ethyl-tert-butyl ether	ug/L	ND	40	ND	84	66-137	
Ethylbenzene	ug/L	1660	20	1700	223	66-153	M1
Methyl-tert-butyl ether	ug/L	ND	20	ND	18	54-156	M1
Naphthalene	ug/L	438	20	483	227	61-148	M1
tert-Amyl Alcohol	ug/L	ND	400	ND	127	54-153	
tert-Amylmethyl ether	ug/L	ND	40	ND	88	69-139	
tert-Butyl Alcohol	ug/L	ND	200	ND	85	43-188	
tert-Butyl Formate	ug/L	ND	160	ND	26	10-170	
Toluene	ug/L	7690	20	7920	1140	59-148	M1
Xylene (Total)	ug/L	4640	60	4770	207	63-158	MS
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 4683478

Parameter	Units	92774875011 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	1.7J	1.8J		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	208	208	0	30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	85.9	87.3	2	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	8.8	8.7	2	30	
Xylene (Total)	ug/L	92.7	93.0	0	30	
1,2-Dichloroethane-d4 (S)	%	99	99			
4-Bromofluorobenzene (S)	%	99	100			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

SAMPLE DUPLICATE: 4683478

Parameter	Units	92774875011 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	101	101			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909400
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441001, 92774441002, 92774441003, 92774441004, 92774441005, 92774441006, 92774441007, 92774441008, 92774441009

METHOD BLANK: 4677772 Matrix: Water
Associated Lab Samples: 92774441001, 92774441002, 92774441003, 92774441004, 92774441005, 92774441006, 92774441007, 92774441008, 92774441009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	01/18/25 12:58	
1-Chloro-2-bromopropane (S)	%	101	60-140		01/18/25 12:58	

LABORATORY CONTROL SAMPLE & LCSD: 4677773 4677774

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.29	0.25	116	101	60-140	13	20	
1-Chloro-2-bromopropane (S)	%				107	98	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4677776 4677777

Parameter	Units	92774368006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.25	0.25	102	101	60-140	1	20	
1-Chloro-2-bromopropane (S)	%						99	97	60-140			

SAMPLE DUPLICATE: 4677775

Parameter	Units	92774368005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	102	103			

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 909401
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441011, 92774441012, 92774441013, 92774441014, 92774441015, 92774441016, 92774441017, 92774441018, 92774441019, 92774441020, 92774441021, 92774441022, 92774441023, 92774441025, 92774441026, 92774441027, 92774441028, 92774441029

METHOD BLANK: 4677778 Matrix: Water
Associated Lab Samples: 92774441011, 92774441012, 92774441013, 92774441014, 92774441015, 92774441016, 92774441017, 92774441018, 92774441019, 92774441020, 92774441021, 92774441022, 92774441023, 92774441025, 92774441026, 92774441027, 92774441028, 92774441029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	01/17/25 18:18	
1-Chloro-2-bromopropane (S)	%	154	60-140		01/17/25 18:18	S3

LABORATORY CONTROL SAMPLE & LCSD: 4677779 4677780

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.36	0.31	147	123	60-140	18	20	L1
1-Chloro-2-bromopropane (S)	%				154	128	60-140			S0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4677782 4677783

Parameter	Units	92774441011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.23	0.29	94	117	60-140	22	20	R1
1-Chloro-2-bromopropane (S)	%						89	110	60-140			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92774441

QC Batch: 910105
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92774441010, 92774441024

METHOD BLANK: 4680781 Matrix: Water
Associated Lab Samples: 92774441010, 92774441024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	01/21/25 16:34	
1-Chloro-2-bromopropane (S)	%	113	60-140		01/21/25 16:34	

LABORATORY CONTROL SAMPLE & LCSD: 4680782 4680783

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.23	0.24	91	96	60-140	5	20	
1-Chloro-2-bromopropane (S)	%				87	95	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4680785 4680786

Parameter	Units	92774881002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.19	0.20	77	81	60-140	5	20	
1-Chloro-2-bromopropane (S)	%						71	75	60-140			

SAMPLE DUPLICATE: 4680784

Parameter	Units	92774881001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	88	91			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Former Crown SC-015
Pace Project No.: 92774441

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.
v2	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
v3	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have low bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Former Crown SC-015
Pace Project No.: 92774441

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92774441001	**MW-1R**	EPA 8011	909400	EPA 8011	909459
92774441002	**MW-1AR**	EPA 8011	909400	EPA 8011	909459
92774441003	**MW-5R**	EPA 8011	909400	EPA 8011	909459
92774441004	**MW-5D**	EPA 8011	909400	EPA 8011	909459
92774441005	**MW-5DD**	EPA 8011	909400	EPA 8011	909459
92774441006	**MW-7R**	EPA 8011	909400	EPA 8011	909459
92774441007	**MW-8**	EPA 8011	909400	EPA 8011	909459
92774441008	**MW-9R**	EPA 8011	909400	EPA 8011	909459
92774441009	**MW-10R**	EPA 8011	909400	EPA 8011	909459
92774441010	**MW-11R**	EPA 8011	910105	EPA 8011	910128
92774441011	**MW-12R**	EPA 8011	909401	EPA 8011	909460
92774441012	**MW-12D**	EPA 8011	909401	EPA 8011	909460
92774441013	**MW-15**	EPA 8011	909401	EPA 8011	909460
92774441014	**MW-15R**	EPA 8011	909401	EPA 8011	909460
92774441015	**MW-16**	EPA 8011	909401	EPA 8011	909460
92774441016	**MW-17**	EPA 8011	909401	EPA 8011	909460
92774441017	**MW-18**	EPA 8011	909401	EPA 8011	909460
92774441018	**MW-19**	EPA 8011	909401	EPA 8011	909460
92774441019	**MW-20**	EPA 8011	909401	EPA 8011	909460
92774441020	**MW-21**	EPA 8011	909401	EPA 8011	909460
92774441021	**DW-1**	EPA 8011	909401	EPA 8011	909460
92774441022	**RW-1**	EPA 8011	909401	EPA 8011	909460
92774441023	**RW-2**	EPA 8011	909401	EPA 8011	909460
92774441024	**RW-3**	EPA 8011	910105	EPA 8011	910128
92774441025	**DUP-1**	EPA 8011	909401	EPA 8011	909460
92774441026	**DUP-2**	EPA 8011	909401	EPA 8011	909460
92774441027	**FB-1**	EPA 8011	909401	EPA 8011	909460
92774441028	**FB-2**	EPA 8011	909401	EPA 8011	909460
92774441029	**EQUIP**	EPA 8011	909401	EPA 8011	909460
92774441001	**MW-1R**	EPA 8260D	909205		
92774441002	**MW-1AR**	EPA 8260D	909205		
92774441003	**MW-5R**	EPA 8260D	909205		
92774441004	**MW-5D**	EPA 8260D	909205		
92774441005	**MW-5DD**	EPA 8260D	910820		
92774441006	**MW-7R**	EPA 8260D	909205		
92774441007	**MW-8**	EPA 8260D	909205		
92774441008	**MW-9R**	EPA 8260D	910202		
92774441009	**MW-10R**	EPA 8260D	909205		
92774441010	**MW-11R**	EPA 8260D	909205		
92774441011	**MW-12R**	EPA 8260D	909205		
92774441012	**MW-12D**	EPA 8260D	909205		
92774441013	**MW-15**	EPA 8260D	909205		
92774441014	**MW-15R**	EPA 8260D	909205		
92774441015	**MW-16**	EPA 8260D	909205		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Former Crown SC-015
Pace Project No.: 92774441

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92774441016	**MW-17**	EPA 8260D	909205		
92774441017	**MW-18**	EPA 8260D	909205		
92774441018	**MW-19**	EPA 8260D	909205		
92774441019	**MW-20**	EPA 8260D	909205		
92774441020	**MW-21**	EPA 8260D	910203		
92774441021	**DW-1**	EPA 8260D	909183		
92774441022	**RW-1**	EPA 8260D	909850		
92774441023	**RW-2**	EPA 8260D	909183		
92774441024	**RW-3**	EPA 8260D	909850		
92774441025	**DUP-1**	EPA 8260D	909524		
92774441026	**DUP-2**	EPA 8260D	909524		
92774441027	**FB-1**	EPA 8260D	909420		
92774441028	**FB-2**	EPA 8260D	909420		
92774441029	**EQUIP**	EPA 8260D	909420		
92774441030	**TB-1**	EPA 8260D	909183		
92774441031	**TB-2**	EPA 8260D	909183		

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Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Quality Environmental

Project #: **WO# : 92774441**

92774441

Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☒ Pace ☐ Other:____ ☐ Client

Custody Seal Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No ☒ N/A

Date/Initials Person Examining Contents: AC'/

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☐ IR Gun ID: 92t083

Type of Ice: ☐ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 2.2 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.1 2.2

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: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project # **WO#: 92774441**

PM: BH **Due Date: 01/27/25**

CLIENT: 92-QualEnv

Laboratory Receiving Location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client_____ Profile (EZ) (Circle one) 3205381 Notes_____

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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1																	6													
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4																	6													
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12																														

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project #

2

Laboratory Receiving Location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client_____ Profile (EZ) (Circle one) 3205391 Notes_____

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*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 bottles
***Check all unpreserved Nitrates for chlorine

3

Project #

Laboratory Receiving Location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client_____ Profile (EZ) (Circle one) 3205391 Notes_____

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
CC																	CH													
1																	6													
2																	6													
3																	6													
4																	6													
5																	6													
6																	6													
7																	6													
8																	6													
9																	6													
10																	2													
11																	2													
12																														

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): South Carolina

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 6 6

Identify Container Preservative Type***: 4 4

Analysis Requested: 8011 GCS EDB and DBCP; 8260 MSV Low Level SC BTEXMN, DCA, Oxys

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Blake Hilton
AcctNum / Client ID:
Table #:
Profile / Template: 14987
Prelog / Bottle Ord. ID: EZ 3205381

Preservation non-conformance identified for sample.

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB and DBCP	8260 MSV Low Level SC BTEXMN, DCA, Oxys	Sample Comment
MW1R	GW	G			1/15	1242	6			X	X	
MW1AR	GW	G			1/15	1213	6			X	X	
MW5R	GW	G			1/15	1529	6			X	X	
MW5D	GW	G			1/15	824	6			X	X	
MW 5DD	GW	G			1/15	753	6			X	X	
MW7R	GW	G			1/14	1000	6			X	X	
MW8	GW	G			1/14	1051	6			X	X	
MW9R	GW	G			1/14	1410	6			X	X	
MW10R	GW	G			1/14	1257	6			X	X	
MW11R	GW	G			1/14	1339	6			X	X	

Additional Instructions from Pace®:

Collected By:
(Printed Name) Austin Smith-Jones
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature) QES	1/15/2025	Pace	1-15-25 1610	
Relinquished by/Company: (Signature)	1/15/25 1800	AC Pace MVL	1/16/25 0500	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 4

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Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): South Carolina

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 6 6

Identify Container Preservative Type***: 4 4

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Blake Hilton
AcctNum / Client ID:
Table #:
Profile / Template: 14987
Prelog / Bottle Ord. ID: EZ 3205381

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB and DBCP	8260 MSV Low Level SC BTEXMN, DCA, Oxys	Sample Comment	Preservation non-conformance identified for sample.
MW12R	GW	G			1/15	1059	6			X	X		
MW12D	GW	G			1/15	1030	6			X	X		
MW15	GW	G			1/14	1619	6			X	X		
MW15R	GW	G			1/14	1549	6			X	X		
MW16	GW	G			1/14	1513	6			X	X		
MW17	GW	G			1/14	1442	6			X	X		
MW18	GW	G			1/15	946	6			X	X		
MW19	GW	G			1/14	1237	6			X	X		
MW20	GW	G			1/14	1155	6			X	X		
MW21	GW	G			1/15	1310	6			X	X		

Additional Instructions from Pace®:

Collected By: (Printed Name) Austin Smith-Jones
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature) QES	1/15/2025	PACE	1-15-25 1610	
Relinquished by/Company: (Signature)	1/15/25 1800	AC Pace HNC	1/16/25 0800	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 4

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Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

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Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): South Carolina

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 6 6

Identify Container Preservative Type***: 4 4

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB and DBCP	8260 MSV Low Level SC BTEXMN, DCA, Oxys	Sample Comment
DW1	GW	G			1/15	854	6			X	X	
RW1	GW	G			1/15	1330	6			X	X	
RW2	GW	G			1/15	1415	6			X	X	
RW3	GW	G			1/15	1505	6			X	X	
Dup1	GW	G			1/14	1200	6			X	X	
Dup2	GW	G			1/15	1200	6			X	X	
FB1	GW	G			1/14	1200	6			X	X	
FB2	GW	G			1/15	1200	6			X	X	
Equip	GW	G			1/15	1200	6			X	X	
TB1	GW	G			Lab Provided		2				X	

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Blake Hilton
AcctNum / Client ID:
Table #:
Profile / Template: 14987
Prelog / Bottle Ord. ID: EZ 3205381

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By:
(Printed Name) Austin Smith-Davis
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
QES	1/15/2025	PACE	1-15-25 1610	
Relinquished by/Company: (Signature)	Date/Time: 1/15/25 1800	Received by/Company: (Signature) AC Pace HNL	Date/Time: 1/16/25 0800	Delivered by: [ ] In- Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 3 of 4

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Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

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Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): South Carolina

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: G

Identify Container Preservative Type***: A

** Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB and DBCP	8260 MSV Low Level SC BTEXMN, DCA, Oxys	Sample Comment
TB2	GW	G			Lab Provided		2				X	

Lab Use Only
Proj. Mgr: **Blake Hilton**
AcctNum / Client ID:
Table #:
Profile / Template: **14987**
Prelog / Bottle Ord. ID: **EZ 3205381**

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By:
(Printed Name) Austin Smith-Jones
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
QES	1/15/2025		1-15-25 1610	
Relinquished by/Company: (Signature)	Date/Time: 1/15/25 1800	Received by/Company: (Signature) AE Peace HWL	Date/Time: 1/16/25 0800	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 4 of 4

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APPENDIX G

DISPOSAL MANIFEST

APPENDIX K

DATA VERIFICATION CHECKLIST

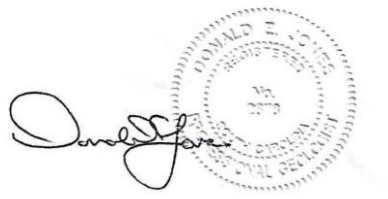
Contractor Checklist

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)		X	
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Exceptions: Disposal manifest will be forwarded upon reciept for inclusion in Appendix G.



Signed By: Donald E. Jones, RPG Date: January 31, 2025

RECEIVED
FEB 0 5 2025
UST DIVISION

Quality Environmental Solutions, Inc.
PO Box 44,
Bridgewater, VT 05034

Letter of Transmittal

UST DOCKETING 1341

To: **Matt Wykel, Hydrogeologist**
SCDES
Bureau of Land and Waste Management
UST Program
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201

From: **Donald Jones**
Quality Environmental Solutions, Inc.

Date: **2/3/2025**

Re: **Former Crown SC-015**
UST Permit # 07680
AFVR and Groundwater Sampling Event

Pages: **6**

Cc: **Crown Central, LLC**

☐ Urgent ☒ For review ☐ Please comment ☐ Please reply ☐ Please recycle

---

Please see the attached Site-Specific Work Plan for the completion of one 96-hour AFVR and a subsequent groundwater sampling event at the former Crown SC-015 located at 3800 Devine Street in Columbia, South Carolina (UST Permit # 07680). Please contact Don Jones by email djones@qualityenvironmental.net or by phone 410.841.5552 if you have any questions.

RECEIVED
FEB 05 2025
UST DIVISION

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

To: Matt Wykel (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: PO Box 44, Bridgewater, VT
Property Owner (if different): WHLR
Property Owner Address: 2529 Virginia Beach BLVD., Virginia Beach, VA 23452
Current Use of Property: Vacant (previously a drug store)

UST DOCKETING 1347

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☑ Other AFVR
- ☐ 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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	2 Field Blank
27 Monitoring Wells	_____ Surface Water	2 Duplicate	1 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: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Comments, if warranted:

_____

_____

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 15 Field Work Completion: 60
Report Submittal: 90 # of Copies Provided to Property Owners: 2

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 1,025 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.
Completion of 96-hour AFVR event utilizing MW-5R, RW-2, and RW-3. Follow-up sampling event with low-flow purge prior to collection

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments
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

ASSESSMENT COMPONENT COST AGREEMENT

South Carolina Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 9, 2023

Facility Name: Former Crown SC-015

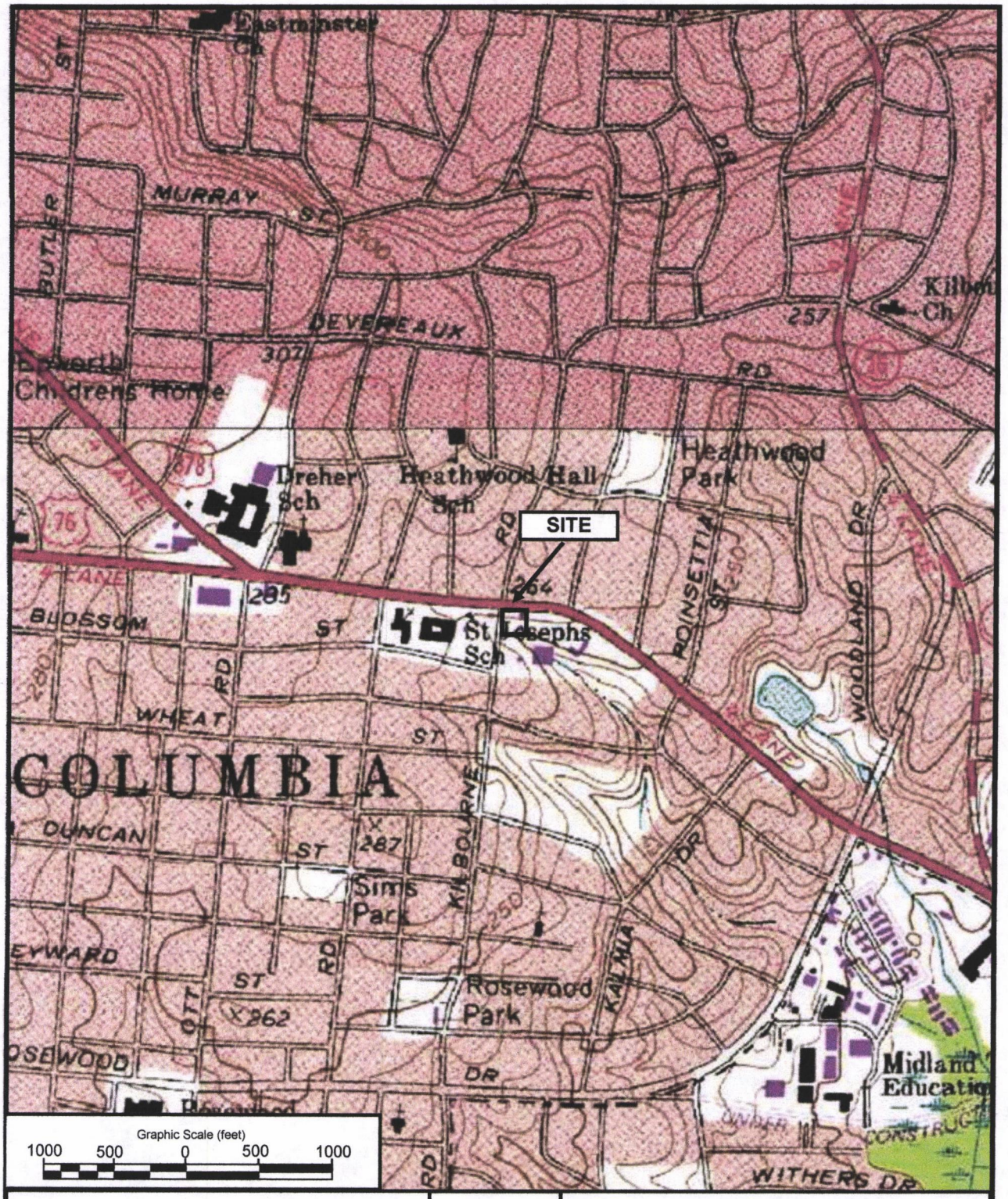
UST Permit #: 07680 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. Plan Preparation					
1.2 Site-specific Work Plan	1	each	$183.22		$183.22
2.2 Tax Map		each	$85.50		$0.00
3.2 QAPP Contractor Addendum (App B)		each	$250.00		$0.00
B. Survey					
1.1 Receptor Survey		each	$673.06		$0.00
C. Survey					
1.2 Comprehensive Survey		each	$1,270.36		$0.00
5.1 Ground Penetrating Radar Survey (100 x 100)		each	$1,111.57		$0.00
D. Mob/Demob					
1.2 Equipment		each	$1,245.93		$0.00
2.2 Personnel	2	each	$516.69		$1,033.38
3.2 Adverse Terrain Vehicle		each	$610.75		$0.00
E. Soil Borings					
1.1 Soil Borings (hand auger)		foot	$21.80		$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)					
1.2 Standard		per foot	$33.50		$0.00
2.2 Fractured Rock		per foot	$41.40		$0.00
G.					
H. Well Abandonment					
1.2 2" diameter or less		per foot	$3.79		$0.00
2.2 Greater than 2" to 6" diameter		per foot	$5.50		$0.00
3.2 Dug/Bored well (up to 6 feet diameter)		per foot	$18.32		$0.00
I. Well Installation (In accordance with R.61-71)					
1.2 Water Table (hand augered)		per foot	$31.40		$0.00
2.B Water Table (drill rig) 2" Diameter		per foot	$54.90		$0.00
2.2 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$59.80		$0.00
3.2 Telescoping		per foot	$84.70		$0.00
4.2 Rock Drilling		per foot	$81.80		$0.00
5.2 2" Rock Coring		per foot	$88.50		$0.00
6.2 Multi-sampling ports/screens		per foot	$59.40		$0.00
7.2 Recovery Well (4" diameter)		per foot	$69.60		$0.00
9.2 Rotosonic (2" diameter)		per foot	$119.00		$0.00
10.2 Re-develop Existing Well		per foot	$13.44		$0.00

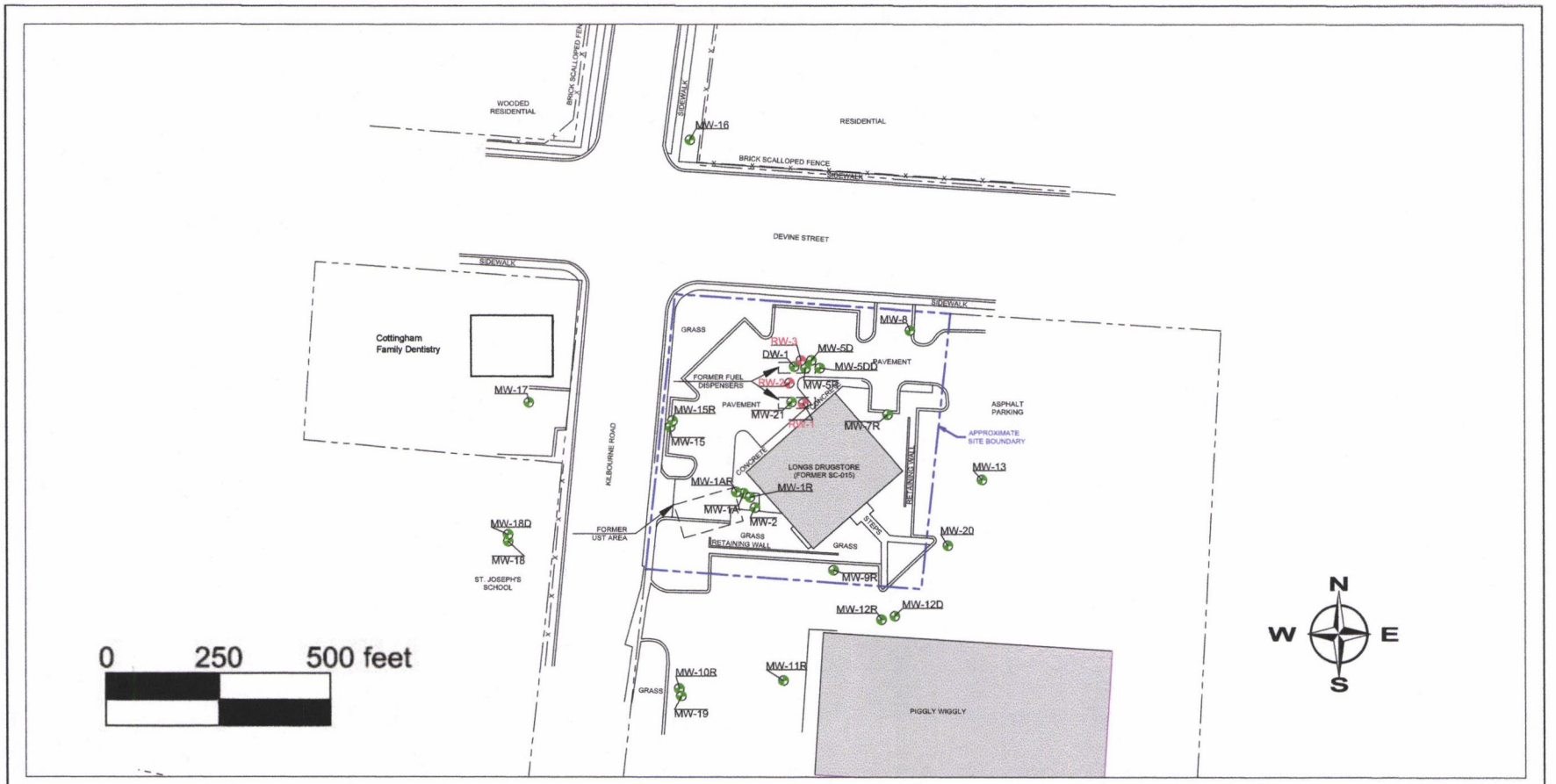
J. Groundwater Sample Collection / Gauging Depth to Water/Product					
1.2 Groundwater Purge		per well	$73.29		$0.00
2.2 Air or Vapors		sample	$14.66		$0.00
3.2 Water Supply Sample		sample	$26.87		$0.00
4.1A HydraSleeve		sample	$34.20		$0.00
4.2B No-purge Groundwater Sample/Surface water		sample	$57.24		$0.00
5.2 Gauge Well only		sample	$8.55		$0.00
6.2 Sample Below Product		sample	$14.66		$0.00
7.2 Passive Diffusion Bag		sample	$31.75		$0.00
8.2 Field Duplicates (MWs & WSWs) and Field Blanks	4	sample	$30.06		$120.24
9.2 Groundwater (low flow purge)	27	sample	$111.16		$3,001.32
10.2 Equipment Blank	1	sample	$30.06		$30.06
11.1 Sample Product		per well	$52.66		$0.00
K. Laboratory Analyses-Groundwater					
1.2 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	33	per sample	$149.02		$4,917.66
2.2 Lead, Filtered		per sample	$16.85		$0.00
3.2 Rush EPA Method 8260B		per sample	$187.62		$0.00
4.2 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$34.20		$0.00
5.2 PAH's		per sample	$74.02		$0.00
6.2 Lead		per sample	$19.54		$0.00
7.2 EDB by EPA 8011	32	per sample	$55.21		$1,766.72
8.2 EDB by EPA Method 8011 Rush		per sample	$83.31		$0.00
9.2 8 RCRA Metals		per sample	$77.45		$0.00
10.2 TPH (9070)		per sample	$50.09		$0.00
11.2 PH		per sample	$6.35		$0.00
12.2 BOD		per sample	$24.42		$0.00
13.2 Ethanol		per sample	$18.08		$0.00
K. Analyses-Drinking Water					
14.2 BTEXNM+1,2 DCA (524.2)		per sample	$151.52		$0.00
15.2 7-OXYGENATES & ETHANOL (8260D)		per sample	$112.07		$0.00
16.2 EDB (504.1)		per sample	$97.11		$0.00
17.2 RCRA METALS (200.8)		per sample	$122.15		$0.00
K. Analyses-Soil					
18.2 BTEX + Naphth.		per sample	$78.18		$0.00
19.2 PAH's		per sample	$78.22		$0.00
20.2 8 RCRA Metals		per sample	$68.89		$0.00
21.2 TPH-DRO (3550C/8015C)		per sample	$48.86		$0.00
22.2 TPH-GRO (5035B/8015C)		per sample	$43.92		$0.00
23.2 Grain size/hydrometer		per sample	$127.04		$0.00
24.2 Total Organic Carbon		per sample	$37.38		$0.00
K. Analyses-Air					
25.2 BTEX + Naphthalene		per sample	$263.84		$0.00
K. Hydrocarbon Fuel Identification					
27.1 C3-C44 Whole Oil (ASTM D3328)		per sample	$465.93		$0.00
28.1 Fuel Oxygenates (1624 Mod)		per sample	$398.39		$0.00
29.1 ALKYL Leads, EDB MMT (8080)		per sample	$398.39		$0.00
30.1 C8-C40 Full Scan (ASTM 5739)		per sample	$629.64		$0.00
31.1 Simulated Distillation (ASTM 2887)		per sample	$398.39		$0.00

32.1 Parent & Alk. PAH Com. (8270 SIM)		per sample	$723.63		$0.00
33.1 C3-C10 Piano (8260 MOD)		per sample	$599.88		$0.00
34.1 C10+Alkane Fingerprints		per sample	$599.88		$0.00
35.1 Expert Data Interpretation & Report		each	$595.30		$0.00
L. Aquifer Characterization					
1.2 Pumping Test		per hour	$28.09		$0.00
2.2 Slug Test		per test	$233.31		$0.00
3.2 Fractured Rock		per test	$122.15		$0.00
M. Free Product					
1.1 Free Product Recovery Rate Test		each	$46.42		$0.00
N.					
O. Risk Evaluation					
1.2 Tier I Risk Evaluation		each	$366.45		$0.00
2.2 Tier II Risk Evaluation		each	$122.15		$0.00
P. Survey					
1.1 Subsequent Survey		each	$297.65		$0.00
Q. Disposal (gallons or tons)					
1.2 Wastewater	25	gallon	$1.19		$29.75
2.2 Free Product		gallon	$1.63		$0.00
3.2 Soil Treatment/Disposal		ton	$156.25		$0.00
4.2 Drilling fluids		gallon	$1.25		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.2 Southeast Region		standard	$12,622.56		$0.00
2.2 All Other Counties		standard	$13,844.06		$0.00
U. IGWA (Use DHEC 3666 form)					
1.2 Southeast Region		standard	$4,353.67		$0.00
2.2 All Other Counties		standard	$4,720.01		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.2 8-hour Event		per event	$1,787.40		$0.00
2.1 24-hour Event		per event	$4,407.78		$0.00
3.1 48-hour Event		per event	$7,242.29		$0.00
4.1 96-hour Event	1	per event	$14,482.28		$14,482.28
5.1 Off-gas Treatment 8 hour		per event	$141.17		$0.00
6.2 Off-gas Treatment 24 hour		per event	$294.30		$0.00
7.2 Off-gas Treatment 48 hour		per event	$386.10		$0.00
8.1 Off-gas Treatment 96 hour	1	per event	$898.84		$898.84
9.1 Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$464.40		$0.00
10.1 Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$540.00		$0.00
11.1 Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,080.00		$0.00
12.1 Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,160.00		$0.00
13.2 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.64		$0.00
14.2 AFVR Site Reconnaissance		each	$302.40		$0.00
15.1 Additional Hook-ups		each	$29.68		$0.00

16.2 AFVR Effluent Disposal	1000	gallon	$0.53		$530.00
17.2 AFVR Mobilization/Demobilization	1	each	$777.60		$777.60
18.1 Mobilization for absorbents/skimmers		each	$516.69		$0.00
19.1 Well sock 2" ID well		each	$36.94		$0.00
20.1 Well sock 4" ID well		each	$49.03		$0.00
21.1 pad (per pad)		each	$49.95		$0.00
22.1 3" diameter x 10' length boom		each	$108.00		$0.00
23.1 5" diameter x 10' length boom		each	$132.84		$0.00
24.1 New FPP recovery skimmer (2" wells)		each	$791.10		$0.00
25.1 New FPP recovery skimmer (4" wells)		each	$1,247.40		$0.00
26.1 Refurbished FPP recovery skimmer (2" or 4" wells)		each	$760.32		$0.00
27.1 Disposal of Absorbents		pound	$4.10		$0.00
28.1 Disposal of product from skimmers		gallon	$0.50		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.2 New GAC System Installation		each	$2,320.86		$0.00
2.2 Refurbished GAC Sys. Install		each	$1,099.35		$0.00
3.2 Filter replacement/removal		each	$427.53		$0.00
4.2 GAC System removal, cleaning, & refurbishment		each	$335.92		$0.00
5.2 GAC System housing		each	$305.38		$0.00
6.2 In-line particulate filter		each	$183.22		$0.00
7.2 Additional piping & fittings		foot	$1.84		$0.00
Y. Well Repair					
1.2 Additional Copies of the Report Delivered	2	each	$61.07		$122.14
2.2 Repair 2x2 MW pad		each	$61.07		$0.00
3.2 Repair 4x4 MW pad		each	$107.49		$0.00
4.2 Replace well vault		each	$144.14		$0.00
5.2 Replace well cover bolts		each	$3.18		$0.00
6.2 Replace locking well cap & lock		each	$18.32		$0.00
7.2 Replace/Repair stick-up		each	$163.68		$0.00
8.2 Convert Flush-mount to Stick-up		each	$183.22		$0.00
9.2 Convert Stick-up to Flush-mount		each	$158.79		$0.00
10.2 Replace missing/illegible well ID plate		each	$14.66		$0.00
11.1 Down-hole Camera		per foot	$29.25		$0.00
Z. High Resolution Site Characterization					
1.1 HRSC Screening Equipment Mobilization		each	$1,468.80		$0.00
2.1 HRSC Drilling Category 1		per foot	$31.32		$0.00
3.1 HRSC Drilling Category 2		per foot	$36.18		$0.00
4.1 HRSC Drilling Category 3		per foot	$29.16		$0.00
5.1 HRSC 3-D Model		each	$4,363.20		$0.00
S. Report Prep & Project Management	12%	percent	$27,893.21		$3,347.19
TOTAL					$31,240.40



USGS TOPOGRAPHIC QUADRANGLE MAP FORT JACKSON SOUTH, SOUTH CAROLINA	QES	**SITE LOCATION MAP** FORMER CROWN SC-015 3800 DEVINE STREET COLUMBIA, SOUTH CAROLINA UST PERMIT NO. 07680
DATE: 1982 SCALE: 1 INCH = 1000 FEET PROJECT NO. SC-015	N	**Figure 1: Topographic Map**



Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

Quality Environmental Solutions, Inc.
PO Box 44,
Bridgewater, VT 05034

Letter of Transmittal



To: **Matt Wykel, Hydrogeologist**
SCDES
Bureau of Land and Waste Management
UST Program
Corrective Action & Quality Assurance Section
2600 Bull Street
Columbia, SC 29201

From: **Donald Jones**
Quality Environmental Solutions, Inc.

Date: **6/6/2025**

Re: **Former Crown SC-015**
UST Permit # 07680
Groundwater Sampling Event

Pages: **6**

Cc: **Crown Central, LLC**

RECEIVED
JUN 20 2025
UST DIVISION

☐ Urgent ☒ For review ☐ Please comment ☐ Please reply ☐ Please recycle

---

Please see the attached Site-Specific Work Plan for the completion a limited SSTL monitoring well groundwater sampling event at the former Crown SC-015 located at 3800 Devine Street in Columbia, South Carolina (UST Permit # 07680). Please contact Don Jones by email djones@qualityenvironmental.net or by phone 410.841.5552 if you have any questions.

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

To: Matt Wykel (SCDHEC Project Manager)
From: Donald Jones (Contractor Project Manager)
Contractor: Quality Environmental Solutions, Inc. UST Contractor Certification Number: 461

Facility Name: Former Crown SC-015 (Long's Drug Store) UST Permit #: 07680
Facility Address: 3800 Devine Street, Columbia, SC
Responsible Party: Crown Central, LLC Phone: 410.841.5552
RP Address: PO Box 44, Bridgewater, VT
Property Owner (if different): WHLR
Property Owner Address: 2529 Virginia Beach BLVD., Virginia Beach, VA 23452
Current Use of Property: Vacant (previously a drug 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
- ☐ RCRA Metals
- ☐ PAH
- ☐ 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	1 Field Blank
9 Monitoring Wells	_____ Surface Water	1 Duplicate	1 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: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Comments, if warranted:

_____

_____

UST Permit #: 07680 Facility Name: Former Crown SC-015 (Long's Drug Store)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 15 Field Work Completion: 60
Report Submittal: 90 # 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: _____ Tons Purge Water: 1,025 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.
Completion of limited sampling event including the 9 SSTL wells.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments
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:
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   - 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

ASSESSMENT COMPONENT COST AGREEMENT

South Carolina Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 9, 2023

Facility Name: Former Crown SC-015

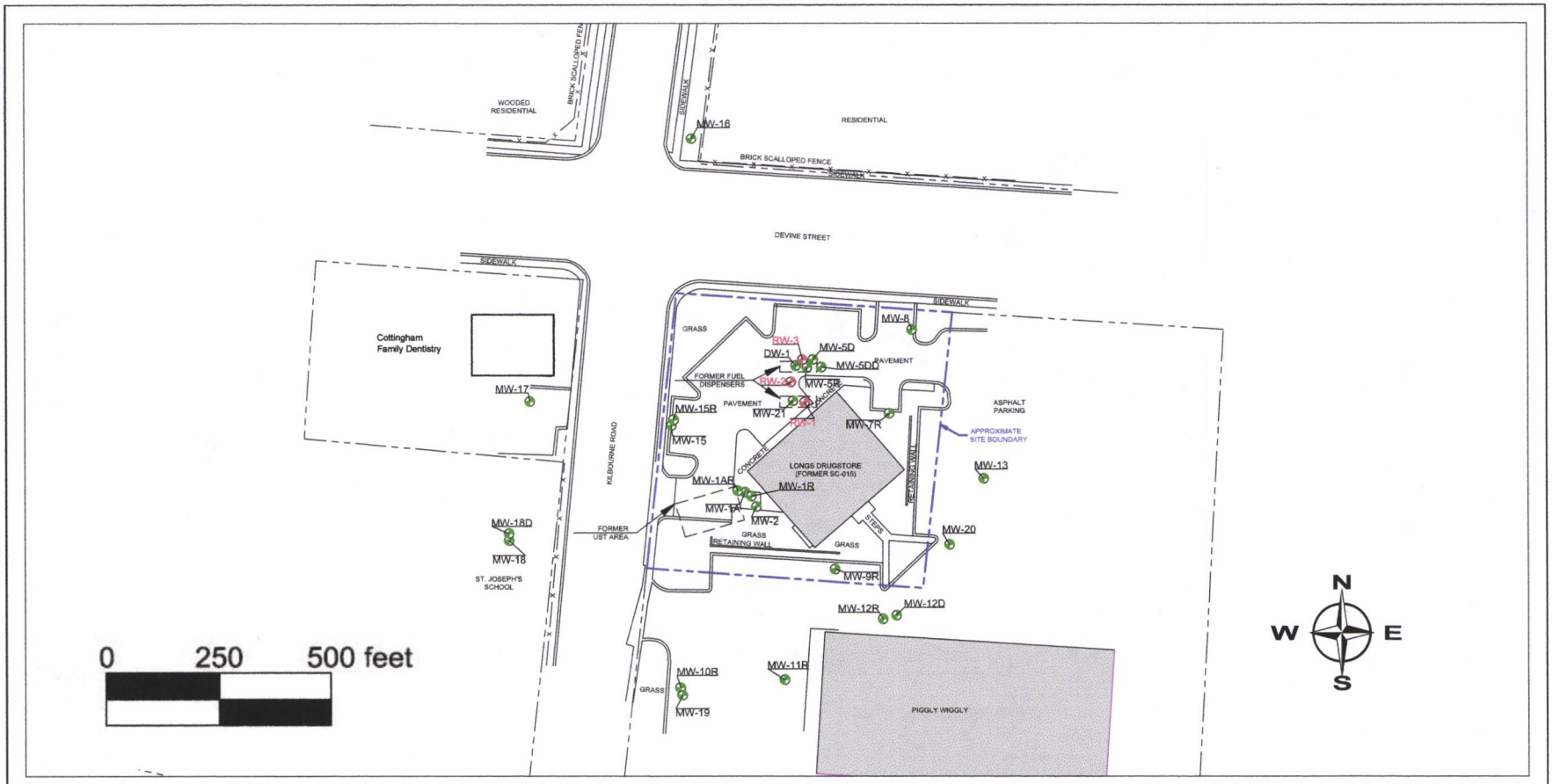
UST Permit #: 07680 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
A. Plan Preparation					
1.2 Site-specific Work Plan	1	each	$183.22		$183.22
2.2 Tax Map		each	$85.50		$0.00
3.2 QAPP Contractor Addendum (App B)		each	$250.00		$0.00
B. Survey					
1.1 Receptor Survey		each	$673.06		$0.00
C. Survey					
1.2 Comprehensive Survey		each	$1,270.36		$0.00
5.1 Ground Penetrating Radar Survey (100 x 100)		each	$1,111.57		$0.00
D. Mob/Demob					
1.2 Equipment		each	$1,245.93		$0.00
2.2 Personnel	2	each	$516.69		$1,033.38
3.2 Adverse Terrain Vehicle		each	$610.75		$0.00
E. Soil Borings					
1.1 Soil Borings (hand auger)		foot	$21.80		$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)					
1.2 Standard		per foot	$33.50		$0.00
2.2 Fractured Rock		per foot	$41.40		$0.00
G.					
H. Well Abandonment					
1.2 2" diameter or less		per foot	$3.79		$0.00
2.2 Greater than 2" to 6" diameter		per foot	$5.50		$0.00
3.2 Dug/Bored well (up to 6 feet diameter)		per foot	$18.32		$0.00
I. Well Installation (In accordance with R.61-71)					
1.2 Water Table (hand augered)		per foot	$31.40		$0.00
2.B Water Table (drill rig) 2" Diameter		per foot	$54.90		$0.00
2.2 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$59.80		$0.00
3.2 Telescoping		per foot	$84.70		$0.00
4.2 Rock Drilling		per foot	$81.80		$0.00
5.2 2" Rock Coring		per foot	$88.50		$0.00
6.2 Multi-sampling ports/screens		per foot	$59.40		$0.00
7.2 Recovery Well (4" diameter)		per foot	$69.60		$0.00
9.2 Rotosonic (2" diameter)		per foot	$119.00		$0.00
10.2 Re-develop Existing Well		per foot	$13.44		$0.00

J. Groundwater Sample Collection / Gauging Depth to Water/Product					
1.2 Groundwater Purge		per well	$73.29		$0.00
2.2 Air or Vapors		sample	$14.66		$0.00
3.2 Water Supply Sample		sample	$26.87		$0.00
4.1A HydraSleeve		sample	$34.20		$0.00
4.2B No-purge Groundwater Sample/Surface water		sample	$57.24		$0.00
5.2 Gauge Well only		sample	$8.55		$0.00
6.2 Sample Below Product		sample	$14.66		$0.00
7.2 Passive Diffusion Bag		sample	$31.75		$0.00
8.2 Field Duplicates (MWs & WSWs) and Field Blanks	2	sample	$30.06		$60.12
9.2 Groundwater (low flow purge)	9	sample	$111.16		$1,000.44
10.2 Equipment Blank	1	sample	$30.06		$30.06
11.1 Sample Product		per well	$52.66		$0.00
K. Laboratory Analyses-Groundwater					
1.2 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	13	per sample	$149.02		$1,937.26
2.2 Lead, Filtered		per sample	$16.85		$0.00
3.2 Rush EPA Method 8260B		per sample	$187.62		$0.00
4.2 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$34.20		$0.00
5.2 PAH's		per sample	$74.02		$0.00
6.2 Lead		per sample	$19.54		$0.00
7.2 EDB by EPA 8011	12	per sample	$55.21		$662.52
8.2 EDB by EPA Method 8011 Rush		per sample	$83.31		$0.00
9.2 8 RCRA Metals		per sample	$77.45		$0.00
10.2 TPH (9070)		per sample	$50.09		$0.00
11.2 PH		per sample	$6.35		$0.00
12.2 BOD		per sample	$24.42		$0.00
13.2 Ethanol		per sample	$18.08		$0.00
K. Analyses-Drinking Water					
14.2 BTEXNM+1,2 DCA (524.2)		per sample	$151.52		$0.00
15.2 7-OXYGENATES & ETHANOL (8260D)		per sample	$112.07		$0.00
16.2 EDB (504.1)		per sample	$97.11		$0.00
17.2 RCRA METALS (200.8)		per sample	$122.15		$0.00
K. Analyses-Soil					
18.2 BTEX + Naphth.		per sample	$78.18		$0.00
19.2 PAH's		per sample	$78.22		$0.00
20.2 8 RCRA Metals		per sample	$68.89		$0.00
21.2 TPH-DRO (3550C/8015C)		per sample	$48.86		$0.00
22.2 TPH-GRO (5035B/8015C)		per sample	$43.92		$0.00
23.2 Grain size/hydrometer		per sample	$127.04		$0.00
24.2 Total Organic Carbon		per sample	$37.38		$0.00
K. Analyses-Air					
25.2 BTEX + Naphthalene		per sample	$263.84		$0.00
K. Hydrocarbon Fuel Identification					
27.1 C3-C44 Whole Oil (ASTM D3328)		per sample	$465.93		$0.00
28.1 Fuel Oxygenates (1624 Mod)		per sample	$398.39		$0.00
29.1 ALKYL Leads, EDB MMT (8080)		per sample	$398.39		$0.00
30.1 C8-C40 Full Scan (ASTM 5739)		per sample	$629.64		$0.00
31.1 Simulated Distillation (ASTM 2887)		per sample	$398.39		$0.00

32.1 Parent & Alk. PAH Com. (8270 SIM)		per sample	$723.63		$0.00
33.1 C3-C10 Piano (8260 MOD)		per sample	$599.88		$0.00
34.1 C10+Alkane Fingerprints		per sample	$599.88		$0.00
35.1 Expert Data Interpretation & Report		each	$595.30		$0.00
L. Aquifer Characterization					
1.2 Pumping Test		per hour	$28.09		$0.00
2.2 Slug Test		per test	$233.31		$0.00
3.2 Fractured Rock		per test	$122.15		$0.00
M. Free Product					
1.1 Free Product Recovery Rate Test		each	$46.42		$0.00
N.					
O. Risk Evaluation					
1.2 Tier I Risk Evaluation		each	$366.45		$0.00
2.2 Tier II Risk Evaluation		each	$122.15		$0.00
P. Survey					
1.1 Subsequent Survey		each	$297.65		$0.00
Q. Disposal (gallons or tons)					
1.2 Wastewater	25	gallon	$1.19		$29.75
2.2 Free Product		gallon	$1.63		$0.00
3.2 Soil Treatment/Disposal		ton	$156.25		$0.00
4.2 Drilling fluids		gallon	$1.25		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.2 Southeast Region		standard	$12,622.56		$0.00
2.2 All Other Counties		standard	$13,844.06		$0.00
U. IGWA (Use DHEC 3666 form)					
1.2 Southeast Region		standard	$4,353.67		$0.00
2.2 All Other Counties		standard	$4,720.01		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.2 8-hour Event		per event	$1,787.40		$0.00
2.1 24-hour Event		per event	$4,407.78		$0.00
3.1 48-hour Event		per event	$7,242.29		$0.00
4.1 96-hour Event		per event	$14,482.28		$0.00
5.1 Off-gas Treatment 8 hour		per event	$141.17		$0.00
6.2 Off-gas Treatment 24 hour		per event	$294.30		$0.00
7.2 Off-gas Treatment 48 hour		per event	$386.10		$0.00
8.1 Off-gas Treatment 96 hour		per event	$898.84		$0.00
9.1 Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$464.40		$0.00
10.1 Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$540.00		$0.00
11.1 Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,080.00		$0.00
12.1 Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,160.00		$0.00
13.2 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.64		$0.00
14.2 AFVR Site Reconnaissance		each	$302.40		$0.00
15.1 Additional Hook-ups		each	$29.68		$0.00

16.2 AFVR Effluent Disposal		gallon	$0.53		$0.00
17.2 AFVR Mobilization/Demobilization		each	$777.60		$0.00
18.1 Mobilization for absorbents/skimmers		each	$516.69		$0.00
19.1 Well sock 2" ID well		each	$36.94		$0.00
20.1 Well sock 4" ID well		each	$49.03		$0.00
21.1 pad (per pad)		each	$49.95		$0.00
22.1 3" diameter x 10' length boom		each	$108.00		$0.00
23.1 5" diameter x 10' length boom		each	$132.84		$0.00
24.1 New FPP recovery skimmer (2" wells)		each	$791.10		$0.00
25.1 New FPP recovery skimmer (4" wells)		each	$1,247.40		$0.00
26.1 Refurbished FPP recovery skimmer (2" or 4" wells)		each	$760.32		$0.00
27.1 Disposal of Absorbents		pound	$4.10		$0.00
28.1 Disposal of product from skimmers		gallon	$0.50		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.2 New GAC System Installation		each	$2,320.86		$0.00
2.2 Refurbished GAC Sys. Install		each	$1,099.35		$0.00
3.2 Filter replacement/removal		each	$427.53		$0.00
4.2 GAC System removal, cleaning, & refurbishment		each	$335.92		$0.00
5.2 GAC System housing		each	$305.38		$0.00
6.2 In-line particulate filter		each	$183.22		$0.00
7.2 Additional piping & fittings		foot	$1.84		$0.00
Y. Well Repair					
1.2 Additional Copies of the Report Delivered	1	each	$61.07		$61.07
2.2 Repair 2x2 MW pad		each	$61.07		$0.00
3.2 Repair 4x4 MW pad		each	$107.49		$0.00
4.2 Replace well vault		each	$144.14		$0.00
5.2 Replace well cover bolts		each	$3.18		$0.00
6.2 Replace locking well cap & lock		each	$18.32		$0.00
7.2 Replace/Repair stick-up		each	$163.68		$0.00
8.2 Convert Flush-mount to Stick-up		each	$183.22		$0.00
9.2 Convert Stick-up to Flush-mount		each	$158.79		$0.00
10.2 Replace missing/illegible well ID plate		each	$14.66		$0.00
11.1 Down-hole Camera		per foot	$29.25		$0.00
Z. High Resolution Site Characterization					
1.1 HRSC Screening Equipment Mobilization		each	$1,468.80		$0.00
2.1 HRSC Drilling Category 1		per foot	$31.32		$0.00
3.1 HRSC Drilling Category 2		per foot	$36.18		$0.00
4.1 HRSC Drilling Category 3		per foot	$29.16		$0.00
5.1 HRSC 3-D Model		each	$4,363.20		$0.00
S. Report Prep & Project Management	12%	percent	$4,997.82		$599.74
TOTAL					$5,597.56



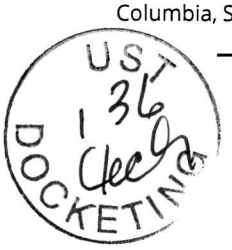
Former Crown SC-015

FIGURE 2B: SITE MAP
3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

Drawn By: QES

SC DEPARTMENT *of*
ENVIRONMENTAL SERVICES

Matt Wykel
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201



CROWN CENTRAL LLC
100 LIGHT ST 25TH FLOOR
BALTIMORE MD 21202

OCT 28 2025

Re: **Site Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**
SC015, 3800 Devine St., Columbia, SC
UST Permit #07680; CA #70593
Release reported June 29, 1993
Site Specific Work Plan received June 20, 2025
Richland County

Dear Mr. Lenoir:

The Underground Storage Tank Management Division (UST Division) of the S.C. Department of Environmental Services has reviewed and approved the referenced Site Specific Work Plan (SSWP) submitted by your contractor. The groundwater sampling event and receptor survey should begin immediately upon receipt of this letter. All work should be conducted in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and all applicable regulations. The QAPP is available at des.sc.gov/programs/bureau-land-waste-management/underground-storage-tanks/ust-quality-assurance-program-plan-qapp.

Pursuant to S.C. Code Ann. Section 44-2-40(D), "The SUPERB Account and the SUPERB Financial Responsibility Fund shall provide combined coverage for site rehabilitation and third party claims, respectively, not to exceed one million dollars per occurrence". **According to UST Division records, approximately $552,126.82 has been expended from the SUPERB Account to date.** This scope of work, as recommended by your contractor, is anticipated to cost approximately $5,597.56.

The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.

In accordance with Section IV.A.4.c of the SUPERB Site Rehabilitation & Fund Access Regulation (R.61-98), the contractor shall be required to indemnify the property owner, underground storage tank owner/operator and the State of South Carolina from and against all claims, damages, losses and expenses arising out of or resulting from activity conducted by the contractor, its agents, employees or subcontractors.

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the UST Division within sixty (60) days of the date of this correspondence.** 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.

If the report cannot be submitted by the required due date, an extension may be requested by submitting a written request, either via postal mail or email, to my attention prior to the due date. The Department will issue a Notice of Alleged Violation if the report is not submitted by the required due date.

Please note that sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that the SUPERB Account cannot compensate any costs that are not pre-approved. If for any reason additional tasks will be completed, these additional tasks, and the associated cost, must be pre-approved by the UST Division for the cost to be paid. The UST 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 UST 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. **Per Section III.3.b of the SUPERB Site Rehabilitation and Fund Access Regulations (R.61-98), reimbursement for site rehabilitation activities shall in no event exceed the actual costs incurred.**

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 SCDES-certified site rehabilitation contractor as required by the SUPERB Site Rehabilitation and Fund Access Regulation, R.61-98.

The UST 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.

The contractor will be responsible for keeping and preserving suitable records of hydrological and other site assessments, site plans, contracts, accounts, invoices, or other transactions related to the cleanup and rehabilitation and the records must be accessible to the department during regular business hours. In addition, this includes all subcontractor agreements, invoices, correspondence, plans, reports, records, including electronic and paper formats. All records must be maintained for 10 years after project completion.

On all correspondence regarding this site, please reference the UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-7705, by fax at (803) 898-0673, or by email at james.wykel@des.sc.gov.

Sincerely,

Matt Wykel, Hydrogeologist

enc: Approved Cost Agreement

cc: QES, Inc., PO Box 44, Bridgewater, VT 05034 (w/ enc)
Technical file (w/ enc)

Approved Cost Agreement CA-70593

Facility Name: 07680 - SC015

Facility Number: 07680

PO Number	Description	Comments	Qty / Pct	Unit Price	Amount
70593	A / PLAN PREPARATION / 1.2 / SITE SPECIFIC WORK PLAN		1	$183.22	$183.22
70593	D / MOB/DEMOB / 2.2 / PERSONNEL		2	$516.69	$1033.38
70593	J / SAMPLE COLLECTION / 10.2 / EQUIPMENT BLANK		1	$30.06	$30.06
70593	J / SAMPLE COLLECTION / 8.2 / FIELD DUPL. (MWS & WSWS) & FB		2	$30.06	$60.12
70593	J / SAMPLE COLLECTION / 9.2 / GROUNDWATER (LOW FLOW PURGE)		9	$111.16	$1000.44
70593	K / ANALYSES / 1.2 / BTEXNM+OXYGS+1,2 DCA+ETH 8260D		13	$149.02	$1937.26
70593	K / ANALYSES / 7.2 / EDB BY EPA 8011		12	$55.21	$662.52
70593	Q / DISPOSAL / 1.2 / WASTEWATER		25	$1.19	$29.75
70593	S / REPORT PROJECT MANAGEMENT / S / REPORT PREP & PROJ. MANAGEMENT		0.12	$0.12	$599.74
70593	Y / WELL REPAIR / 1.2 / ADDITIONAL COPIES OF REPORT		1	$61.07	$61.07
					Total : $5597.56

Outlook

RE: SC-015 UST #07680 Update

From Austin Smith-Jones <austin@qualityenvironmental.net>
Date Thu 11/6/2025 4:23 PM
To James M. Wykel <James.Wykel@des.sc.gov>
Cc djones@qualityenvironmental.net <djones@qualityenvironmental.net>

1 attachment (74 KB)
SC-015 SSWP CA Addendum 11-6-25.pdf;



Matt,

Please see the attached Cost Agreement Addendum for the 07680 sampling event. MW-2 had insufficient water to collect a sample, so I changed this to a gauge only and subtracted out the one low-flow, one BTEX analysis, and one EDB analysis.

Appreciate it,
--
Austin Smith-Jones, P.G.
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
www.qesweb.com

From: James M. Wykel <James.Wykel@des.sc.gov>
Sent: Thursday, November 6, 2025 11:04 AM
To: Austin Smith-Jones <austin@qualityenvironmental.net>
Cc: djones@qualityenvironmental.net
Subject: Re: SC-015 UST #07680 Update

Hey,

Here is the notice to proceed for the sampling.

Thanks,

Matt Wykel

From: Austin Smith-Jones <austin@qualityenvironmental.net>
Sent: Thursday, November 6, 2025 9:51 AM
To: James M. Wykel <James.Wykel@des.sc.gov>

Cc: djones@qualityenvironmental.net <djones@qualityenvironmental.net>
Subject: SC-015 UST #07680 Update

Matt,

I received the results from the SSTL well sampling event that was completed on October 23, 2025. I'll have a report sent out in the next week or so, but I wanted to discuss the results and next steps with you so a recommendation can be made with the report. To summarize the analytical results:

-MW-5R – toluene was below the SSTL for the first time with a concentration of 24,700 ug/L, compared to the SSTL of 26,540 ug/L. However, xylenes increased to 22,200 ug/L, compared to the SSTL of 21,680 ug/L.
-RW-2 – toluene concentration was 30,200 ug/L. SSTLs were distributed for RW-2 with toluene at 26,540 ug/L, although technically this is a remediation well and should not have SSTLs.
-RW-3 – toluene concentration of 22,800 ug/L and the duplicate sample had a toluene concentration of 26,400 ug/L. SSTLs were distributed for RW-3 with toluene at 26,540 ug/L, although technically this is a remediation well and should not have SSTLs.

LNAPL was not detected in any of the wells during gauging; however, LNAPL globules were observed during the low-flow purging of RW-2.

Technically the only SSTL exceedance was for xylenes in MW-5R; however, there is still concern with RW-2 given the toluene concentration and observed LNAPL globules. RW-2 is directly adjacent to MW-5R.

There is a new property owner and they intend to redevelop the property in first or second quarter 2026. Given the SSTL exceedance in MW-5R, it does not seem feasible to achieve a CNFA prior to property redevelopment. The December 2023 CAP indicated excavation would be the preferred remedial method, but was deemed not feasible due to the proximity of the existing building. Since the building is getting demolished, source removal through excavation would now be possible. Would this be an acceptable and reimbursable approach? I'm assuming replacement monitoring wells would need to be installed following to redevelopment to confirm decreases in groundwater concentrations?

I'm in the office today and tomorrow – please give me a call to discuss. Appreciate it,

--
Austin Smith-Jones, P.G.
Project Manager
Quality Environmental Solutions, Inc.
30 Years of Environmental Solutions
PO Box 44, Bridgewater, VT 05034
Offices in MD, SC and VT
410-841-5552
410-493-3965 (cell)
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ASSESSMENT COMPONENT COST AGREEMENT

South Carolina Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
August 9, 2023

Facility Name: Former Crown SC-015

UST Permit #: 07680 **Cost Agreement #:** 70593

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
A. Plan Preparation				
1.2 Site-specific Work Plan		each	$183.22	$0.00
2.2 Tax Map		each	$85.50	$0.00
3.2 QAPP Contractor Addendum (App B)		each	$250.00	$0.00
B. Survey				
1.1 Receptor Survey		each	$673.06	$0.00
C. Survey				
1.2 Comprehensive Survey		each	$1,270.36	$0.00
5.1 Ground Penetrating Radar Survey (100 x 100)		each	$1,111.57	$0.00
D. Mob/Demob				
1.2 Equipment		each	$1,245.93	$0.00
2.2 Personnel		each	$516.69	$0.00
3.2 Adverse Terrain Vehicle		each	$610.75	$0.00
E. Soil Borings				
1.1 Soil Borings (hand auger)		foot	$21.80	$0.00
F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including sampling and analyst)				
1.2 Standard		per foot	$33.50	$0.00
2.2 Fractured Rock		per foot	$41.40	$0.00
G.				
H. Well Abandonment				
1.2 2" diameter or less		per foot	$3.79	$0.00
2.2 Greater than 2" to 6" diameter		per foot	$5.50	$0.00
3.2 Dug/Bored well (up to 6 feet diameter)		per foot	$18.32	$0.00
I. Well Installation (In accordance with R.61-71)				
1.2 Water Table (hand augered)		per foot	$31.40	$0.00
2.B Water Table (drill rig) 2" Diameter		per foot	$54.90	$0.00
2.2 Single-cased 2" Diameter Monitoring Well >50ft		per foot	$59.80	$0.00
3.2 Telescoping		per foot	$84.70	$0.00
4.2 Rock Drilling		per foot	$81.80	$0.00
5.2 2" Rock Coring		per foot	$88.50	$0.00
6.2 Multi-sampling ports/screens		per foot	$59.40	$0.00
7.2 Recovery Well (4" diameter)		per foot	$69.60	$0.00
9.2 Rotosonic (2" diameter)		per foot	$119.00	$0.00
10.2 Re-develop Existing Well		per foot	$13.44	$0.00
J. Groundwater Sample Collection / Gauging Depth to Water/Product				
1.2 Groundwater Purge		per well	$73.29	$0.00
2.2 Air or Vapors		sample	$14.66	$0.00
3.2 Water Supply Sample		sample	$26.87	$0.00
4.1A HydraSleeve		sample	$34.20	$0.00
4.2B No-purge Groundwater Sample/Surface water		sample	$57.24	$0.00
5.2 Gauge Well only	1	sample	$8.55	$8.55
6.2 Sample Below Product		sample	$14.66	$0.00
7.2 Passive Diffusion Bag		sample	$31.75	$0.00
8.2 Field Duplicates (MWs & WSWs) and Field Blanks		sample	$30.06	$0.00
9.2 Groundwater (low flow purge)	-1	sample	$111.16	($111.16)
10.2 Equipment Blank		sample	$30.06	$0.00
11.1 Sample Product		per well	$52.66	$0.00
K. Laboratory Analyses-Groundwater				
1.2 BTEXNM+Oxyg's+1,2 DCA+Eth(8260D)	-1	per sample	$149.02	($149.02)
2.2 Lead, Filtered		per sample	$16.85	$0.00
3.2 Rush EPA Method 8260B		per sample	$187.62	$0.00
4.2 Trimethal, Butyl, and Isopropyl Benzenes		per sample	$34.20	$0.00
5.2 PAH's		per sample	$74.02	$0.00
6.2 Lead		per sample	$19.54	$0.00

Addendum

Previously Approved:	$5,597.56
Increase:	($376.98)
New Approved Total:	**$5,220.58**

Project Manager: _____

Section Manager: _____

Finance: _____

Date: _____

# of pages ___	
	From:
	UST/SCDHEC
fax # ( )	
Phone # ( )	

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria.

7.2 EDB by EPA 8011	-1	per sample	$55.21		($55.21)
8.2 EDB by EPA Method 8011 Rush		per sample	$83.31		$0.00
9.2 8 RCRA Metals		per sample	$77.45		$0.00
10.2 TPH (9070)		per sample	$50.09		$0.00
11.2 PH		per sample	$6.35		$0.00
12.2 BOD		per sample	$24.42		$0.00
13.2 Ethanol		per sample	$18.08		$0.00
K. Analyses-Drinking Water					
14.2 BTEXNM+1,2 DCA (524.2)		per sample	$151.52		$0.00
15.2 7-OXYGENATES & ETHANOL (8260D)		per sample	$112.07		$0.00
16.2 EDB (504.1)		per sample	$97.11		$0.00
17.2 RCRA METALS (200.8)		per sample	$122.15		$0.00
K. Analyses-Soil					
18.2 BTEX + Naphth.		per sample	$78.18		$0.00
19.2 PAH's		per sample	$78.22		$0.00
20.2 8 RCRA Metals		per sample	$68.89		$0.00
21.2 TPH-DRO (3550C/8015C)		per sample	$48.86		$0.00
22.2 TPH-GRO (5035B/8015C)		per sample	$43.92		$0.00
23.2 Grain size/hydrometer		per sample	$127.04		$0.00
24.2 Total Organic Carbon		per sample	$37.38		$0.00
K. Analyses-Air					
25.2 BTEX + Naphthalene		per sample	$263.84		$0.00
K. Hydrocarbon Fuel Identification					
27.1 C3-C44 Whole Oil (ASTM D3328)		per sample	$465.93		$0.00
28.1 Fuel Oxygenates (1624 Mod)		per sample	$398.39		$0.00
29.1 ALKYL Leads, EDB MMT (8080)		per sample	$398.39		$0.00
30.1 C8-C40 Full Scan (ASTM 5739)		per sample	$629.64		$0.00
31.1 Simulated Distillation (ASTM 2887)		per sample	$398.39		$0.00
32.1 Parent & Alk. PAH Com. (8270 SIM)		per sample	$723.63		$0.00
33.1 C3-C10 Piano (8260 MOD)		per sample	$599.88		$0.00
34.1 C10+Alkane Fingerprints		per sample	$599.88		$0.00
35.1 Expert Data Interpretation & Report		each	$595.30		$0.00
L. Aquifer Characterization					
1.2 Pumping Test		per hour	$28.09		$0.00
2.2 Slug Test		per test	$233.31		$0.00
3.2 Fractured Rock		per test	$122.15		$0.00
M. Free Product					
1.1 Free Product Recovery Rate Test		each	$46.42		$0.00
N.					
O. Risk Evaluation					
1.2 Tier I Risk Evaluation		each	$366.45		$0.00
2.2 Tier II Risk Evaluation		each	$122.15		$0.00
P. Survey					
1.1 Subsequent Survey		each	$297.65		$0.00
Q. Disposal (gallons or tons)					
1.2 Wastewater	-25	gallon	$1.19		($29.75)
2.2 Free Product		gallon	$1.63		$0.00
3.2 Soil Treatment/Disposal		ton	$156.25		$0.00
4.2 Drilling fluids		gallon	$1.25		$0.00
R. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
T. Tier I Assessment (Use DHEC 3665 form)					
1.2 Southeast Region		standard	$12,622.56		$0.00
2.2 All Other Counties		standard	$13,844.06		$0.00
U. IGWA (Use DHEC 3666 form)					
1.2 Southeast Region		standard	$4,353.67		$0.00
2.2 All Other Counties		standard	$4,720.01		$0.00
22. Active Correction Action		PFP	Bid Cost		$0.00
W. Aggressive Fluid & Vapor Recovery (AFVR)					
1.2 8-hour Event		per event	$1,787.40		$0.00
2.1 24-hour Event		per event	$4,407.78		$0.00
3.1 48-hour Event		per event	$7,242.29		$0.00
4.1 96-hour Event		per event	$14,482.28		$0.00
5.1 Off-gas Treatment 8 hour		per event	$141.17		$0.00
6.2 Off-gas Treatment 24 hour		per event	$294.30		$0.00
7.2 Off-gas Treatment 48 hour		per event	$386.10		$0.00
8.1 Off-gas Treatment 96 hour		per event	$898.84		$0.00
9.1 Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	$464.40		$0.00

10.1 Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	$540.00		$0.00
11.1 Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	$1,080.00		$0.00
12.1 Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	$2,160.00		$0.00
13.2 AFVR Effluent Disposal(w/chlorinated compounds)		gallon	$0.64		$0.00
14.2 AFVR Site Reconnaissance		each	$302.40		$0.00
15.1 Additional Hook-ups		each	$29.68		$0.00
16.2 AFVR Effluent Disposal		gallon	$0.53		$0.00
17.2 AFVR Mobilization/Demobilization		each	$777.60		$0.00
18.1 Mobilization for absorbents/skimmers		each	$516.69		$0.00
19.1 Well sock 2" ID well		each	$36.94		$0.00
20.1 Well sock 4" ID well		each	$49.03		$0.00
21.1 pad (per pad)		each	$49.95		$0.00
22.1 3" diameter x 10' length boom		each	$108.00		$0.00
23.1 5" diameter x 10' length boom		each	$132.84		$0.00
24.1 New FPP recovery skimmer (2" wells)		each	$791.10		$0.00
25.1 New FPP recovery skimmer (4" wells)		each	$1,247.40		$0.00
26.1 Refurbished FPP recovery skimmer (2" or 4" wells)		each	$760.32		$0.00
27.1 Disposal of Absorbents		pound	$4.10		$0.00
28.1 Disposal of product from skimmers		gallon	$0.50		$0.00
X. Granulated Activated Carbon (GAC) filter system installation & service:					
1.2 New GAC System Installation		each	$2,320.86		$0.00
2.2 Refurbished GAC Sys. Install		each	$1,099.35		$0.00
3.2 Filter replacement/removal		each	$427.53		$0.00
4.2 GAC System removal, cleaning, & refurbishment		each	$335.92		$0.00
5.2 GAC System housing		each	$305.38		$0.00
6.2 In-line particulate filter		each	$183.22		$0.00
7.2 Additional piping & fittings		foot	$1.84		$0.00
Y. Well Repair					
1.2 Additional Copies of the Report Delivered		each	$61.07		$0.00
2.2 Repair 2x2 MW pad		each	$61.07		$0.00
3.2 Repair 4x4 MW pad		each	$107.49		$0.00
4.2 Replace well vault		each	$144.14		$0.00
5.2 Replace well cover bolts		each	$3.18		$0.00
6.2 Replace locking well cap & lock		each	$18.32		$0.00
7.2 Replace/Repair stick-up		each	$163.68		$0.00
8.2 Convert Flush-mount to Stick-up		each	$183.22		$0.00
9.2 Convert Stick-up to Flush-mount		each	$158.79		$0.00
10.2 Replace missing/illegible well ID plate		each	$14.66		$0.00
11.1 Down-hole Camera		per foot	$29.25		$0.00
Z. High Resolution Site Characterization					
1.1 HRSC Screening Equipment Mobilization		each	$1,468.80		$0.00
2.1 HRSC Drilling Category 1		per foot	$31.32		$0.00
3.1 HRSC Drilling Category 2		per foot	$36.18		$0.00
4.1 HRSC Drilling Category 3		per foot	$29.16		$0.00
5.1 HRSC 3-D Model		each	$4,363.20		$0.00
S. Report Prep & Project Management	12%	percent	($336.59)		($40.39)
TOTAL					($376.98)

Hard Copy [redacted] CD ☐ Email

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UST DIVISION

Date Received _____

Permit Number 07680

Project Manager Matt Wykel

Name of Contractor QES

Description GWA Report #2

Docket Number 138T

Scanned _____

Verified _____

Quality Environmental Solutions, Inc.

Mailing Address: PO Box 44, Bridgewater, VT 05034

November 10, 2025

Matt Wykel, Hydrogeologist
South Carolina Department of Environmental Services
Corrective Action & Field Support Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

SUBJECT: ***2025 Groundwater Assessment Report #2***
Former Crown SC-015
3800 Devine Street
Columbia, South Carolina
UST Permit # 07680

Dear Mr. Wykel:

Quality Environmental Solutions, Inc. (QES) is pleased to present the attached *2025 Groundwater Assessment Report #2* for the former Crown Fast Fare location at 3800 Devine Street in Columbia, South Carolina ("Site"). Crown Central LLC ("Crown") is the responsible party for South Carolina Department of Environmental Services (SCDES) Underground Storage Tank (UST) Permit #07680. The Site is currently a vacant former Long's Drugstore; the USTs associated with the former Crown fueling facility were removed in July 1991.

Sixteen Aggressive Fluid-Vapor Recovery (AFVR) events were completed at the Site between April 2010 and July 2018. The last two AFVR events were completed following the installation of three recovery wells (RW's) in June 2018. Light non-aqueous phase liquid (LNAPL) was still periodically present in MW-5R and recovery wells RW-2 and RW-3 following the AFVR events. Despite the AFVR events, residual LNAPL remained present in a smear zone beneath the two former dispensers, in the vicinity of MW-5R, MW-21 and the recovery wells.

SCDES modeled the site and developed Site-Specific Target Levels (SSTLs) in 2020 for monitoring wells MW-1AR, MW-2, MW-5R, MW-8, MW-15R, MW-21 and the three recovery wells. SSTL exceedances have historically occurred with toluene and ethylbenzene in the same vicinity as LNAPL occurrence. While the SCDES SSTL letter contained SSTLs for the recovery wells, SCDES has since indicated that SSTLs should only exist for monitoring wells.

QES submitted a 2023 *Corrective Action Plan Addendum* (CAPA) with plans for in-situ chemical oxidation through direct-push technology (DPT) injections. The CAPA was approved and injections were completed in December 2023. Prior to injection activities, LNAPL was detected in MW-5R (0.48'), RW-2 (0.30') and RW-3 (0.38'). A total of 7,521 gallons of *Cool-Ox*® were injected into 69 DPT points over a 2,500 square foot area.

QES completed two post-injection groundwater sampling events in January and April 2024. LNAPL was detected during the first sampling event in RW-2 (0.44') and was not detected during the second event. SSTL exceedances were present in MW-5R (toluene and ethylbenzene for both sampling events), RW-2 (toluene for both events) and RW-3 (toluene for both events and ethylbenzene in January). A *Targeted Scope CAP Report* was submitted to SCDES on June 12, 2024.

A *2025 Groundwater Assessment Report* was submitted on January 31, 2025, detailing the results of a third post-injection sampling event. This report detailed residual LNAPL occurrence in MW-5R (0.01'), RW-2 (0.01'), and RW-3 (0.01'). Additionally, SSTL exceedances were noted in MW-5 for toluene and the duplicate sample of RW-2 for toluene.

Periodic gauging events were completed by QES in February, March, April, July, August and September 2025. LNAPL was last detected during the February 2025 gauging event in MW-5R (0.06'), RW-2 (film) and RW-3 (film). QES installed a wick to remove LNAPL during the February 2025 gauging event.

A Notice to Proceed was issued by SCDES for an additional groundwater sampling event of the SSTL designated wells and recovery wells on October 28, 2025. The Site SSTL monitoring and recovery wells were gauged and sampled on October 23, 2025. The gauging and sampling event was completed before SCDES distribution of the Notice to Proceed with the consent of the SCDES Project Manager.

LNAPL was not detected during this October 2025 gauging event; however, while low-flow purging RW-2, LNAPL globules were observed. The MW-5R toluene concentration decreased below the SSTL, but the total xylenes concentration increased, exceeding the SSTL. The toluene concentration in RW-2 was 30,200 µg/L, above the SSTL of 26,540 µg/L.

Dissolved hydrocarbon concentrations continue to exhibit significantly decreasing trends in MW-21 and RW-1, despite the rebounding concentrations observed in this October 2025 sampling event. The total dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations continue to decrease in MW-5R (BTEX reduction of 30% compared to 2022 baseline) and RW-3 (BTEX reduction of 30% compared to 2022 baseline). BTEX concentrations in RW-2 are 9% higher when compared to the 2022 baseline.

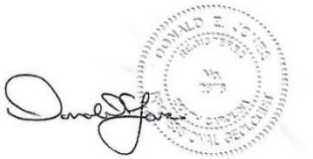
The subject property was sold on May 16, 2025. QES obtained an access agreement with the new property owner prior to the field activities described in this report. The new property owner has indicated intent to redevelop the property, beginning sometime in the first half of 2026. In the January 2023 ICAP, QES indicated source removal through excavation would be the preferred approach; however, was decided to be not feasible due to the existing building proximity to the source area. Targeted excavation in the former dispenser source area may become feasible with the planned property redevelopment and case closure should be accelerated with the concurrent effectiveness of the previous injections.

QES recommends SCDES issuance of source-area removal work plan request. QES will coordinate with the property owners to excavate impacted soil during redevelopment activities.

Please review the attached report and contact the undersigned at 410-841-5552 with any questions or comments. QES and Crown look forward to SCDES's response to the data presented in the report.

Sincerely,





Austin D. Smith-Jones
SCRPG #2901
Project Manager

Donald E. Jones
SCRPG #2676
Vice President

Attachment: *2025 Groundwater Assessment Report #2*

Cc: Ms. Annie Smith-Jones – Crown Environmental (asj.crown@gmail.com)
Mr. Tripp Bradley – Cason Development Group (tripp@casondevelopment.com)

QES File 201-189-SC-015

2025 GROUNDWATER ASSESSMENT REPORT #2
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

Submitted to:

Matt Wykel, Hydrogeologist
South Carolina Department of Environmental Services
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
2600 Bull Street
Columbia, SC 29201-1708

Prepared for:

Ms. Annie Smith-Jones
Crown Central LLC
Mailing Address: PO Box 44, Bridgewater, VT 05034

Prepared by:

Mr. Austin Smith-Jones, SCRPG
Quality Environmental Solutions, Inc.
Mailing Address: PO Box 44, Bridgewater, VT 05034
Contractor Certification Number 461
410-841-5552

November 10, 2025

2025 GROUNDWATER ASSESSMENT REPORT #2
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

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2025 GROUNDWATER ASSESSMENT REPORT #2
FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT # 07680

1.0 INTRODUCTION

Quality Environmental Solutions, Inc. (QES) has prepared this *2025 Groundwater Assessment Report #2* on behalf of Crown Central, LLC (Crown) for the former Crown Fast Fare fueling facility located at 3800 Devine Street in Columbia, South Carolina ("Site" – see **Figure 1**). This report presents the results of the October 2025 groundwater monitoring well gauging and sampling event.

The groundwater sampling event was conducted in accordance with the SCDES *Quality Assurance Program Plan for the Underground Storage Tank (UST) Management Division* (SCDES 2020), the QES *Annual Contractor Quality Assurance Plan, Revision #6* (QES 2025), and the October 28, 2025 SCDES *Site-Specific Work Plan Approval and Groundwater Sampling Notice to Proceed* (NTP) and Approved Cost Agreement No. 70593 (SCDES 2025).

1.1 Site Description

Site Name	Former Crown Fast Fare SC-015 (Long's Drugstore) Former UST Permit #07680
Site Location	630 Kilbourne Road and 3800 Devine Street Columbia, Richland County, SC 803-254-4619
Property Owner	Cason Development Group 1514 Brentwood Drive, Suite 201 Columbia, South Carolina 29206 803-606-0998
Current Property Use	Long's Drugstore (now vacant)

The Site is currently developed with a closed Long's Drugstore. The Site is in a commercial and residential area at the southeast corner of the intersection of Devine Street and Kilbourne Road in Columbia, South Carolina. The Site is bordered to the south, southeast and east by a closed Piggly Wiggly grocery store and associated asphalt parking areas. The Site is bordered to the west by Kilbourne Road, St. Joseph's Church and School and Cottingham Family Dentistry (former gasoline service station). Devine Street borders the Site to the north with residential properties located to the north of Devine Street.

A United States Geological Survey (USGS) Topographic map showing the Site location and surrounding area is included as **Figure 1**. A Site Vicinity Map (**Figure 2A**) presents an aerial view of the Site and surrounding area. A Site Map showing land use, other pertinent Site features, and monitoring and recovery well locations is included as **Figure 2B**.

Crown formerly operated a fueling facility at the Site which included three steel gasoline USTs. The three USTs (6,000-gallon, 8,000-gallon and 12,000-gallon capacities) and associated piping and dispensers were removed from the ground in July 1991. The initial UST system release report was submitted to SCDES in August 1989.

The Site was redeveloped in 2001 with the construction of the Long's Drugstore and expansion of the Piggly Wiggly supermarket.

1.2 Site History

Crown completed a preliminary site assessment at the facility in 1989 as part of the State Underground Petroleum Environmental Response Bank (SUPERB) early release incentive program. The initial UST system release was reported to SCDHEC on August 15, 1989. Subsurface assessments and remedial activities have been completed at the Site by Crown consultants with activities and results summarized below:

- Installation of shallow, intermediate and deep groundwater monitoring wells on the Site, the Piggly Wiggly property, St. Joseph's Church and School property, Cottingham Family Dentistry property and in the public right-of-way at the northeast intersection of Devine Street and Kilbourne Road (see **Figure 2B**).
- Shallow dissolved hydrocarbon concentrations above SCDHEC risk-based screening levels (RBSLs) are present in monitoring wells located beneath and downgradient of the former Crown dispenser islands.
- Light non-aqueous phase liquid (LNAPL) was previously detected in MW-5 in 1993. The well was subsequently destroyed and replaced with vertical delineation wells MW-5R, MW-5D and MW-5DD. LNAPL was detected in the shallow MW-5R during the May 2020 sampling event. LNAPL was detected in MW-6 on one occasion (0.04 feet in January 1997); the well was subsequently destroyed.
- Groundwater is present in an upper perched zone that results in seasonally dry shallow wells.
- Site redevelopment in 2001 resulted in the destruction of several monitoring wells. Monitoring wells were replaced, additional vertical delineation monitoring wells were installed and the well top-of-casing elevations were re-surveyed in 2008.
- Fourteen aggressive fluid-vapor recovery (AFVR) events were completed at the Site between April 2010 and July 2018.
- Three recovery wells were installed at the Site in June 2018.
- Residual petroleum-impacted soil and a smear zone with pockets of LNAPL beneath the two former dispenser islands is the primary source of groundwater impacts.
- Two consecutive AFVR events were completed in April 2021 with extraction from the three recovery wells and MW-5R. LNAPL was not detected in the wells following the AFVR events nor during the November 2021 sampling event. LNAPL was detected in RW-2 and RW-3 during the May 2022 sampling event.
- Site-Specific Target Levels (SSTLs) were established by SCDES in 2020 for five monitoring wells and the three recovery wells. Historical SSTL exceedances included MW-5R (toluene, ethylbenzene and xylenes), MW-21 (toluene, ethylbenzene and xylenes), RW-1 (toluene), RW-2 (toluene) and RW-3 (toluene and ethylbenzene).
- QES submitted a 2023 *Corrective Action Plan Addendum* (CAPA) with plans for in-situ chemical oxidation through direct-push technology (DPT) injections. The CAPA was approved and injections were completed in December 2023. Prior to injection activities, LNAPL was detected in MW-5R (0.48'), RW-2 (0.30') and RW-3 (0.38'). A total of 7,521 gallons of *Cool-Ox*® were injected into 69 DPT points over a 2,500 square foot area

- QES completed two post-injection groundwater sampling events in January and April 2024. LNAPL was detected during the first sampling event in RW-2 (0.44') and was not detected during the second event. SSTL exceedances were present in MW-5R (toluene and ethylbenzene for both sampling events), RW-2 (toluene for both events) and RW-3 (toluene for both events and ethylbenzene in January). A *Targeted Scope CAP Report* was submitted to SCDES on June 12, 2024.

- QES completed a third post-injection groundwater sampling event in January 2025. Minimal LNAPL was detected in MW-5R (0.01'), RW-2 (0.01') and RW-3 (0.01'). SSTL exceedances were present in MW-5R (toluene) and the duplicate sample of RW-2 (toluene). A *2025 Groundwater Assessment Report* was submitted to SCDES on January 31, 2025.

1.3 Site Geology and Hydrogeology

The Site is in the Upper Coastal Plain physiographic province, to the east of the Fall Line. The Upper Coastal Plain includes sediments deposited in fluvial, estuarine and near-shore marine depositional environments. Drilling logs for the Site monitoring wells show approximately ten to 19 feet of sand and silty/clayey sand over six to more than 25 feet of fine-grained sandy silt, silt and clay. Sand underlies the silt and clay layer (Terracon 2015).

Groundwater within the shallow Upper Coastal Plain sediments typically occurs under unconfined and semi-confined conditions with flow directions generally reflecting the surface topography. Site monitoring well data show a shallow perched zone above the silt and clay layer and semi-confined conditions in the intermediate zone below the perched layer. The potentiometric surface elevations in the perched zone wells indicate seasonal flow to the northwest and south. Groundwater flow in the intermediate and deeper portions of the shallow aquifer is to the northeast.

2.0 GROUNDWATER ASSESSMENT METHODOLOGY

The NTP for the groundwater sampling of the SSTL and recovery wells was issued by SCDES on October 28, 2025. The gauging and sampling event was completed before SCDES distribution of the NTP with the consent of the SCDES Project Manager. Groundwater levels were measured in the monitoring wells on October 23, 2025 using a Solinst 122 Interface Meter. LNAPL was not detected during this sampling event; however, LNAPL globules were observed during the low-flow purging of RW-2. MW-2 was unable to be sampled due to insufficient water in the well.

A summary of the water level data is presented in **Table 2** and a copy of the field-completed Water/Product Level Measurement Forms are included in **Appendix B**. Potentiometric surface maps of the upper portions of the shallow aquifer show groundwater flow to the northwest in the shallow perched zone. However, since this was a SSTL well gauging and sampling event, the groundwater flow direction for this event only considers three datapoints. **Figure 5** depicts the potentiometric surface contours for the October 2025 gauging data in the upper, perched zone of the shallow aquifer. Historical potentiometric surface maps show groundwater flow to the southwest when all shallow wells are considered.

Groundwater samples were collected from the Site SSTL and recovery wells on October 23, 2025. A peristaltic pump was utilized to complete low-flow purging of the shallow monitoring wells prior to sample collection. The deeper screened monitoring wells were low-flow purged with a submersible pump. Copies of the Groundwater Sampling Field Forms are included in **Appendix B**. The 5.75 gallons of purge water generated during the sampling event were stored in a 55-gallon drum for transport to ARM Environmental Services of Columbia, SC for proper disposal. A copy of the disposal manifest will be forwarded upon receipt for inclusion in **Appendix G**.

Water quality parameters, including temperature, pH, conductivity, turbidity and dissolved oxygen were measured in the field with an Aqua Troll 500 Multiparameter Sonde and recorded on the Groundwater Sampling Field Forms (**Appendix B**). The water quality meter was calibrated prior to use and this documentation is included in **Appendix B**. The samples were placed on ice in coolers and hand delivered along with the chain-of-custody to Pace Analytical in West Columbia, South Carolina. The groundwater monitoring well samples were analyzed for the following analytes:

Analytes	Laboratory Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) Methyl-Tert-Butyl-Ether (MTBE) Naphthalene 1,2-Dichloroethane (1,2-DCA) 8 Oxygenates	EPA Method 8260D
1,2-Dibromoethane (EDB)	EPA Method 8011

A Field duplicate sample was collected from RW-3. A field blank samples was collected each monitoring well sample day using laboratory supplied deionized water. One equipment blank sample was collected utilizing deionized water through the submersible pump following decontamination. One trip blank sample was supplied by Pace Analytical. The quality assurance/quality control samples were analyzed for the above parameters, except the trip blank samples were not analyzed for EDB. There were no discrepancies noted in the analyses of the field duplicate, field blank, equipment blank or trip blank samples.

3.0 GROUNDWATER ASSESSMENT RESULTS

The following table lists the chemicals of concern (COCs) detected above the laboratory quantitation limits for SSTL wells with red-bolded values exceeding the SSTL with the corresponding SSTL in parentheses.

	Benzene	***Toluene***	***Ethylbenzene***	***Xylenes***	***MTBE***	***Naphthalene***
MW-5R	3,880	24,700	3,170	**22,200 (21,680)**		2,750
MW-8	19	*0.55 J*	14		3.4	10
MW-15R					18	*0.73 J*
MW-21	248	9,390	1,520	8,060		730
RW-1	934	23,700	2,000	8,350		428
RW-2	10,300	**30,200 (26,540)**	2,000	9,720		732
RW-3	8,450	22,800	1,320	12,500		653
RW-3 (DUP)	9,580	26,400	1,630	13,500		642

	EDB	***DIPE***	***TAA***
MW-8			180
MW-15R		1.6	
RW-3	0.59		
RW-3 (DUP)	0.52		

Notes: Values in ug/L; a J value is an estimated concentration; see Table 3 for COC definitions

The historical and October 2025 groundwater sampling results are summarized in **Table 3**. A comparison of post-injection analytical data to the baseline May 2022 sampling results is included in **Table 3A**. The complete laboratory reports are included in **Appendix B** and the Data Verification Checklist is included in **Appendix F**. **Figure 4** depicts the October 2025 analytical results with highlighted SSTL exceedances for the upper portion of the shallow aquifer.

A comparison of pre-injection baseline concentrations that exceeded one or more SSTL to post-injection hydrocarbon concentrations shows the following:

- *MW-5R*: The 2022 baseline concentrations exceeded the toluene and ethylbenzene SSTLs. The October 2025 toluene concentration has decreased by 46% when compared to the baseline, below the SSTL for the first time since the injections. The October 2025 ethylbenzene concentration has decreased by 14% and has been below the SSTL this October 2025 sampling event and the previous January 2025 event. The xylene concentration has increased by 23% and exceeds the SSTL for the first time since 2015.
- *MW-21*: The post-injection concentrations have all been below the SSTLs with reductions of 78% for benzene, 59% for toluene, 53% for ethylbenzene, 46% for xylenes and 39% for naphthalene, when compared to the 2022 baseline.
- *RW-1*: The post-injection concentrations have all been below the SSTLs with reductions of 82% for benzene, 44% for toluene, 29% for ethylbenzene, 44% for xylenes and 24% for naphthalene.

- *RW*-2: The baseline concentrations are based on the November 2021 analytical results as LNAPL was detected in May 2022 prior to the *Cool-Ox*® injections. Toluene is the one COC that continues to be above the solubility limit. Concentrations for ethylbenzene and xylenes have decreased by 22% and 22%, respectively. Benzene has increased by 21%, toluene by 14% and naphthalene by 42%.
- *RW*-3: The baseline concentrations are based on the November 2021 analytical results as LNAPL was detected in May 2022 prior to the *Cool-Ox*® injections. The benzene concentration has decreased by 15%, toluene by 39%, ethylbenzene by 50%, xylenes by 11% and EDB by 69%, but the naphthalene concentration has increased by 19%.
- The remaining SSTL wells (MW-1AR, MW-2, MW-8 and MW-15R) have not exhibited SSTL exceedances since the wells were installed.

4.0 CONCLUSIONS AND RECOMMENDATION

The SSTL and recovery wells were gauged and sampled on October 23, 2025. LNAPL was not detected during the October 2025 gauging event; however, while low-flow purging RW-2, LNAPL globules were observed. The MW-5R toluene concentration decreased below the SSTL, but the total xylenes concentration increased, exceeding the SSTL. The toluene concentration in RW-2 was 30,200 ug/L.

Dissolved hydrocarbon concentrations continue to exhibit significantly decreasing trends in MW-21 and RW-1, despite the rebounding concentrations observed during this October 2025 sampling event. The total dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations continue to decrease in MW-5R (BTEX reduction of 30% compared to 2022 baseline) and RW-3 (BTEX reduction of 30% compared to 2022 baseline). BTEX concentrations in RW-2 are 9% higher when compared to the 2022 baseline.

On May 16, 2025, the subject property was sold. QES obtained an access agreement with the new property owner prior to the field activities described in this report. The new property owner has indicated intent to redevelop the property, beginning sometime in the first half of 2026. In the January 2023 ICAP, QES indicated source removal through excavation would be the preferred approach; however, was decided to be not feasible due to the existing building proximity to the source area. Targeted excavation in the former dispenser source area may become feasible with the planned property redevelopment and case closure should be accelerated with the concurrent effectiveness of the previous injections.

QES recommends SCDES issuance of source-area removal work plan request. QES will coordinate with the property owners to excavate impacted soil during redevelopment activities.

REFERENCES

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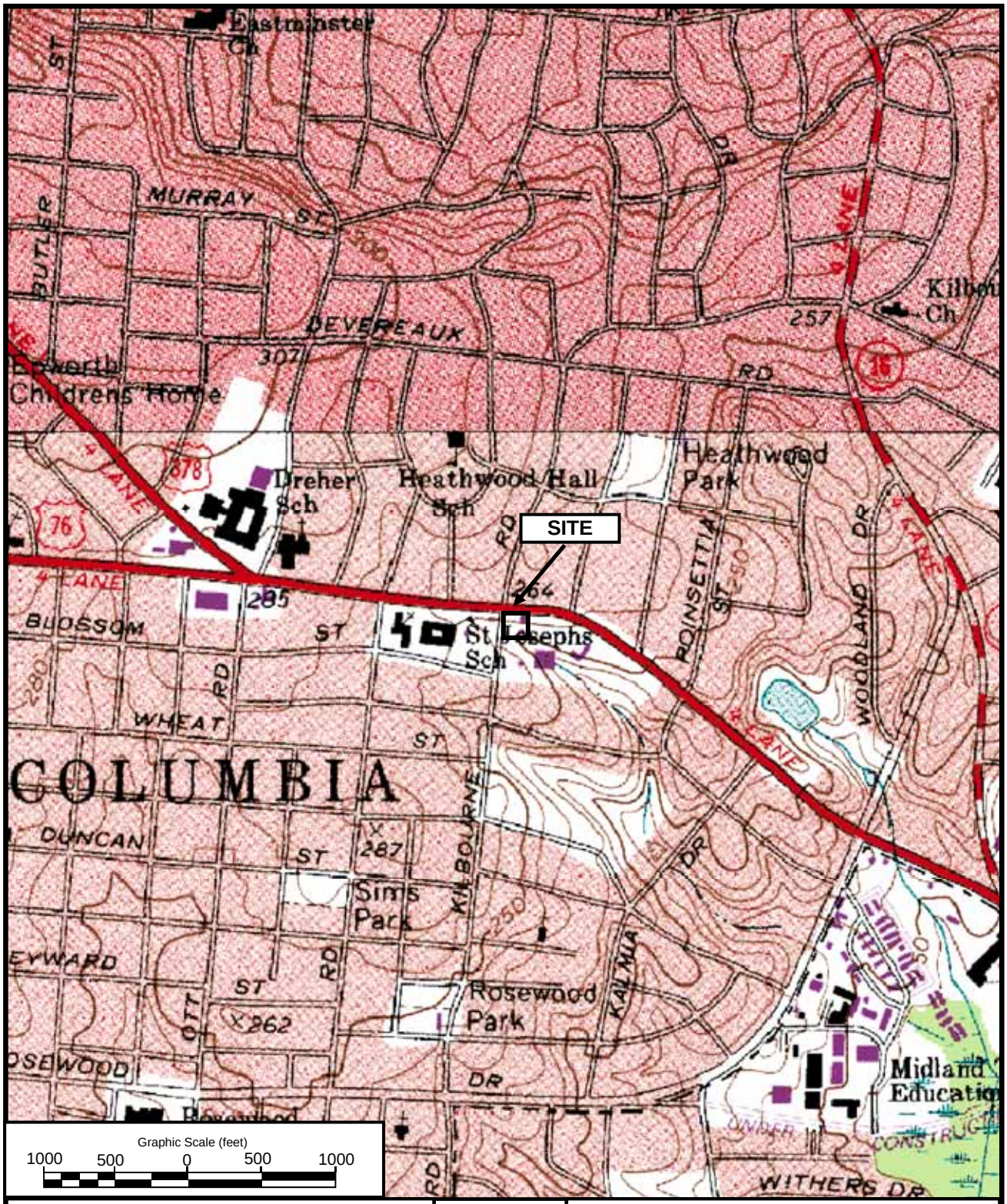
FIGURES



USGS TOPOGRAPHIC QUADRANGLE MAP
FORT JACKSON SOUTH, SOUTH CAROLINA

DATE: 1982
SCALE: 1 INCH = 1000 FEET
PROJECT NO. SC-015

N

QES

SITE LOCATION MAP

FORMER CROWN SC-015
3800 DEVINE STREET
COLUMBIA, SOUTH CAROLINA
UST PERMIT NO. 07680

Figure 1: Topographic Map

FIGURE 2A

Site Vicinity Map
Former Crown SC-015
3800 Devine Street
Columbia, SC
UST Permit #07680





Figure 2B: Site Map

Former Crown SC-015
Updated: November 3, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES
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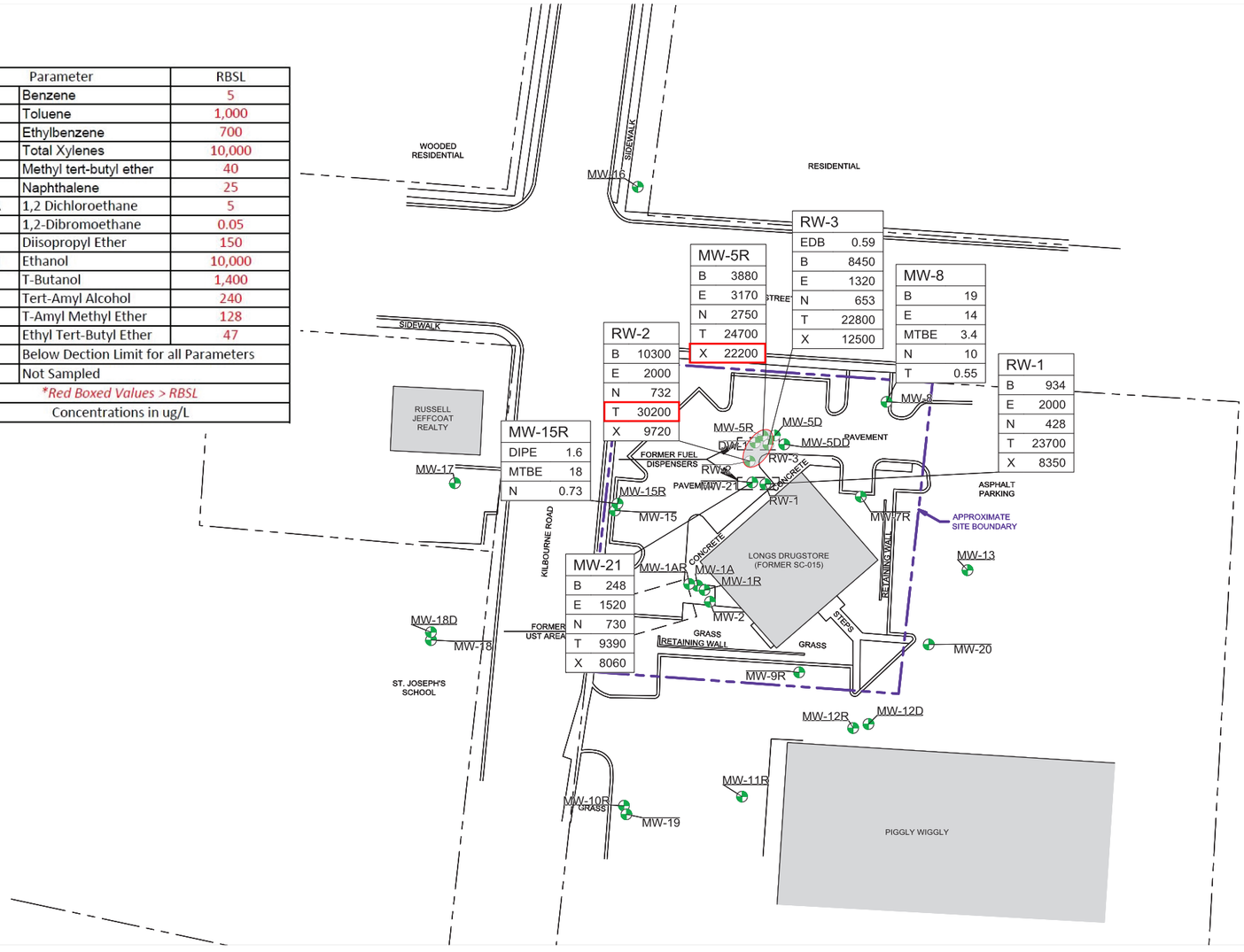
	Parameter	RBSL
B	Benzene	5
T	Toluene	1,000
E	Ethylbenzene	700
X	Total Xylenes	10,000
MTBE	Methyl tert-butyl ether	40
N	Naphthalene	25
1,2 DCA	1,2 Dichloroethane	5
EDB	1,2-Dibromoethane	0.05
DIPE	Diisopropyl Ether	150
Ethanol	Ethanol	10,000
TBA	T-Butanol	1,400
TAA	Tert-Amyl Alcohol	240
TAME	T-Amyl Methyl Ether	128
ETBE	Ethyl Tert-Butyl Ether	47
ND	Below Dection Limit for all Parameters	
NS	Not Sampled	
Red Boxed Values > RBSL		
Concentrations in ug/L		



N
W E
S

Scale Bar (Feet)

40	40	80

Figure 4: COC Concentration Map

Former Crown SC-015
Sample Date: October 23, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

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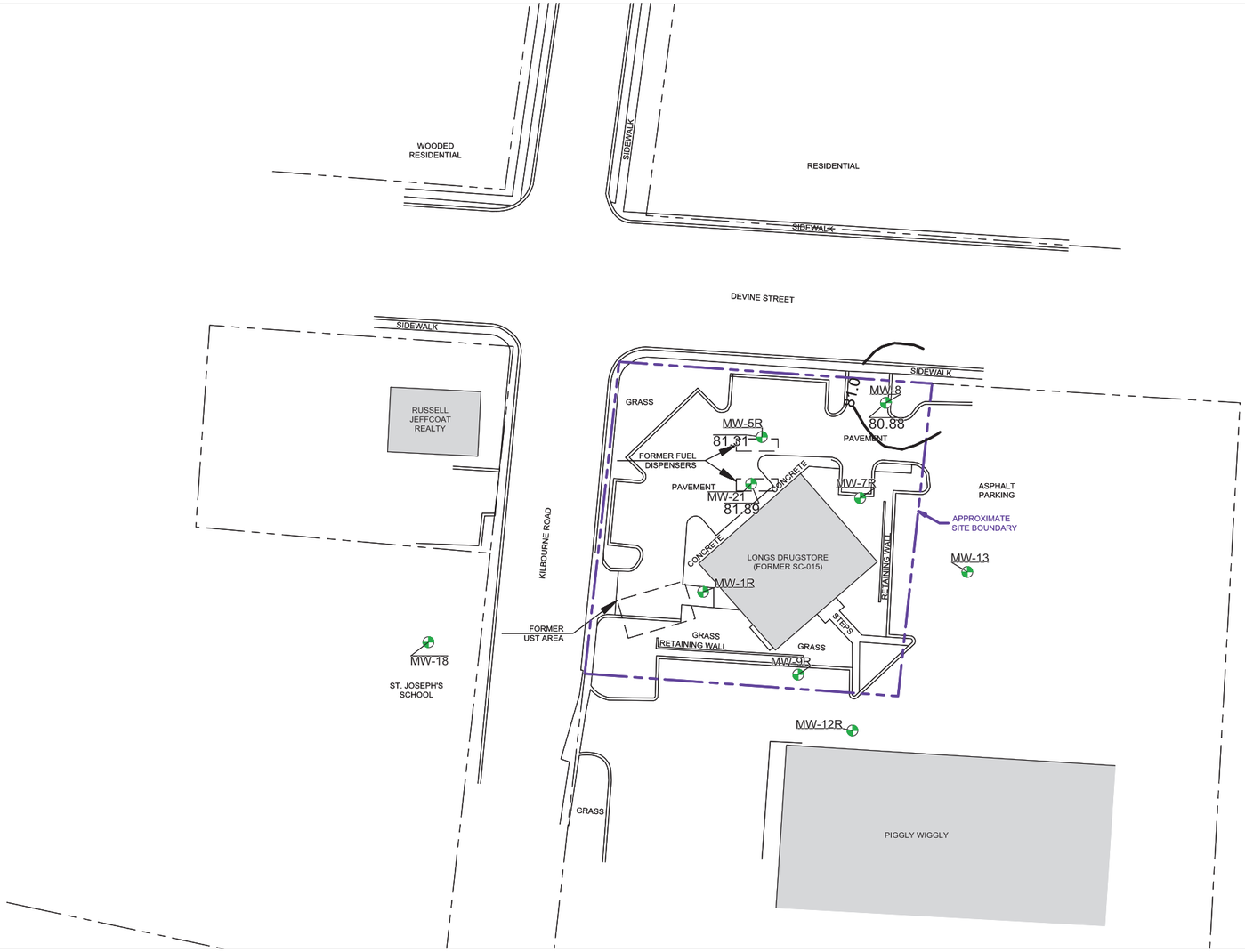

Figure 5: Potentiometric Surface Map - Upper Portion of Shallow Aquifer

Former Crown SC-015
Sample Date: October 23, 2025

3800 Devine Street,
Columbia, South Carolina
UST Permit #07680

QES
Quality Environmental Solutions, Inc
Providing PEACE of Mind since 1992

TABLES

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-1A	10/08/93	249.98	ND	33.42	ND	216.56
Well Depth	01/14/97	249.98	ND	34.40	ND	215.58
45'	09/19/03	249.98	Dry			
Screen	12/03/07	249.98	Dry			
35-45'	06/03/08	98.41	Dry			
	07/22/13	98.41	Dry			
	04/07/15	98.41	Dry			
	11/27/17	98.41	Dry			
	05/08/20	98.41	Dry @ 9.50'			
	11/16/21	98.41	Dry @ 9.20'			
	05/16/22	98.41	Dry			
	01/30/24	98.41	Dry			
	04/24/24	98.41	Dry			
	01/14/25	98.41	Dry			
MW-1R	01/08/09	98.35	ND	15.19	ND	83.16
Well Depth	07/22/13	98.35	ND	14.28	ND	84.07
28'	04/07/15	98.35	ND	15.96	ND	82.39
Screen	11/27/17	98.35	ND	20.18	ND	78.17
13-28'	05/08/20	98.35	ND	15.90	ND	82.45
	11/16/21	98.35	ND	19.70	ND	78.65
	05/16/22	98.35	ND	17.83	ND	80.52
	01/30/24	98.35	ND	17.16	ND	81.19
	04/24/24	98.35	ND	15.45	ND	82.90
	01/14/25	98.35	ND	21.80	ND	76.55
MW-1AR	05/08/20	99.34	ND	29.90	ND	69.44
Well Depth	11/16/21	99.34	ND	30.40	ND	68.94
45'	05/16/22	99.34	ND	31.65	ND	67.69
Screen	01/30/24	99.34	ND	32.33	ND	67.01
40-45'	04/24/24	99.34	ND	31.51	ND	67.83
	01/14/25	99.34	ND	30.57	ND	68.77
	10/23/25	99.34	ND	31.32	ND	68.02
MW-2	07/16/93	261.98	Dry			
Well Depth	01/14/97	261.98	ND	15.90	ND	246.08
30'	09/19/03	261.98	Dry			
Screen	12/03/07	261.98	Dry			
15-30'	06/03/08	98.45	Dry			
	07/22/13	98.45	ND	29.67	ND	68.78
	04/07/15	98.45	Dry			
	11/27/17	98.45	ND	28.62	ND	69.83
	05/08/20	98.45	ND	29.50	ND	68.95
	11/16/21	98.45	ND	27.28	ND	71.17
	05/16/22	98.45	ND	28.05	ND	70.40
	01/30/24	98.45	ND	28.21	ND	70.24
	04/24/24	98.45	ND	29.74	ND	68.71
	01/14/25	98.45	ND	28.62	ND	69.83
	10/23/25	98.45	ND	28.90	ND	69.55
MW-5R	05/14/08	98.29	ND	15.19	ND	83.10
Well Depth	01/20/09	98.29	ND	14.71	ND	83.58
20'	07/22/13	98.29	ND	12.67	ND	85.62
Screen	04/17/15	98.29	ND	14.36	ND	83.93
5-20'	11/27/17	98.29	ND	17.28	ND	81.01
	05/09/20	98.29	14.10	14.45	0.35	84.12
	11/16/21	98.29	ND	16.90	ND	81.39
	05/16/22	98.29	ND	15.94	ND	82.35
	12/11/23	98.29	17.15	17.63	0.48	81.04
	01/30/24	98.29	ND	15.30	ND	82.99
	04/24/24	98.29	ND	13.98	ND	84.31
	01/14/25	98.29	16.36	16.37	0.01	81.93
	10/23/25	98.29	ND	16.98	ND	81.31

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-5D	01/23/09	98.49	ND	49.32	ND	49.17
Well Depth	07/22/13	98.49	ND	47.90	ND	50.59
85'	04/07/15	98.49	ND	43.15	ND	55.34
Screen	11/27/17	98.49	ND	42.11	ND	56.38
80-85'	05/09/20	98.49	ND	40.41	ND	58.08
	11/16/21	98.49	ND	40.70	ND	57.79
	05/16/22	98.49	ND	42.25	ND	56.24
	01/30/24	98.49	ND	42.80	ND	55.69
	04/24/24	98.49	ND	42.46	ND	56.03
	01/14/25	98.49	ND	41.32	ND	57.17
MW-5DD	03/23/09	98.83	ND	54.16	ND	44.67
Well Depth	07/22/13	98.83	ND	54.57	ND	44.26
117'	04/07/15	98.83	ND	52.52	ND	46.31
Screen	11/27/17	98.83	ND	51.58	ND	47.25
112-117'	05/09/20	98.83	ND	50.35	ND	48.48
	11/16/21	98.83	ND	50.44	ND	48.39
	05/16/22	98.83	ND	51.18	ND	47.65
	01/30/24	98.83	ND	51.93	ND	46.90
	04/24/24	98.83	ND	51.46	ND	47.37
	01/14/25	98.83	ND	50.50	ND	48.33
MW-7R	05/14/08	98.85	ND	15.46	ND	83.39
Well Depth	01/20/09	98.85	ND	14.95	ND	83.90
25'	07/22/13	98.85	ND	12.25	ND	86.60
Screen	04/07/15	98.85	ND	14.40	ND	84.45
10-25'	11/27/17	98.85	ND	17.83	ND	81.02
	05/08/20	98.85	ND	14.25	ND	84.60
	11/16/21	98.85	ND	17.13	ND	81.72
	05/16/22	98.85	ND	15.94	ND	82.91
	01/30/24	98.85	ND	15.49	ND	83.36
	04/24/24	98.85	ND	14.43	ND	84.42
	01/14/25	98.85	ND	16.80	ND	82.05
MW-8	10/08/93	250.55	ND	19.23	ND	231.32
Well Depth	01/14/97	250.55	ND	20.53	ND	230.02
25'	09/19/03	250.55	ND	14.81	ND	235.74
Screen	12/03/07	250.55	ND	14.44	ND	236.11
8-25'	05/15/08	99.48	ND	16.21	ND	83.27
	01/20/09	99.48	ND	15.97	ND	83.51
	07/22/13	99.48	ND	13.28	ND	86.20
	04/07/15	99.48	ND	15.71	ND	83.77
	11/27/17	99.48	ND	19.01	ND	80.47
	05/08/20	99.48	ND	14.76	ND	84.72
	11/16/21	99.48	ND	17.89	ND	81.59
	05/16/22	99.48	ND	16.93	ND	82.55
	01/30/24	99.48	ND	17.27	ND	82.21
	04/24/24	99.48	ND	15.70	ND	83.78
	01/14/25	99.48	ND	18.35	ND	81.13
	10/23/25	99.48	ND	18.60	ND	80.88
MW-9R	05/14/08	93.32	ND	12.79	ND	80.53
Well Depth	01/20/09	93.32	ND	12.18	ND	81.14
20'	07/22/13	93.32	ND	9.90	ND	83.42
Screen	04/07/15	93.32	ND	11.13	ND	82.19
5-20'	11/27/17	93.32	ND	14.36	ND	78.96
	05/08/20	93.32	ND	11.27	ND	82.05
	11/15/21	93.32	ND	13.90	ND	79.42
	05/16/22	93.32	ND	12.62	ND	80.70
	01/30/24	93.32	ND	12.74	ND	80.58
	04/24/24	93.32	ND	10.89	ND	82.43
	01/14/25	93.32	ND	13.31	ND	80.01
MW-10R	05/14/08	95.71	Dry			
Well Depth	07/22/13	95.71	ND	29.99	ND	65.72
30'	04/07/15	95.71	ND	29.85	ND	65.86
Screen	11/27/17	95.71	ND	28.30	ND	67.41
15-30'	05/09/20	95.71	ND	26.75	ND	68.96
	11/15/21	95.71	ND	27.45	ND	68.26
	05/16/22	95.71	ND	28.69	ND	67.02
	01/30/24	95.71	ND	29.29	ND	66.42
	04/24/24	95.71	ND	28.55	ND	67.16
	01/14/25	95.71	ND	27.67	ND	68.04

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-11R	05/14/08	92.26	ND	29.28	ND	62.98
Well Depth	01/20/09	92.26	ND	28.76	ND	63.50
30'	07/22/13	92.26	ND	28.80	ND	63.46
Screen	04/07/15	92.26	ND	26.53	ND	65.73
15-30'	11/27/17	92.26	ND	25.45	ND	66.81
	05/09/20	92.26	ND	23.95	ND	68.31
	11/15/21	92.26	ND	24.61	ND	67.65
	05/16/22	92.26	ND	25.81	ND	66.45
	01/30/24	92.26	ND	26.44	ND	65.82
	04/24/24	92.26	ND	25.70	ND	66.56
	01/14/25	92.26	ND	24.72	ND	67.54
MW-12R	05/14/08	92.43	ND	14.34	ND	78.09
Well Depth	01/20/09	92.43	ND	13.95	ND	78.48
20'	07/22/13	92.43	ND	10.62	ND	81.81
Screen	04/07/15	92.43	ND	11.55	ND	80.88
5-20'	11/27/17	92.43	ND	14.80	ND	77.63
	05/08/20	92.43	ND	11.87	ND	80.56
	11/15/21	92.43	ND	14.37	ND	78.06
	05/16/22	92.43	ND	13.20	ND	79.23
	01/30/24	92.43	ND	13.20	ND	79.23
	04/24/24	92.43	ND	11.31	ND	81.12
	01/14/25	92.43	ND	13.83	ND	78.60
MW-12D	01/20/09	92.51	ND	41.25	ND	51.26
Well Depth	07/22/13	92.51	ND	40.84	ND	51.67
75'	04/07/15	92.51	ND	38.30	ND	54.21
Screen	11/27/17	92.51	ND	36.92	ND	55.59
60-75'	05/08/20	92.51	ND	35.69	ND	56.82
	11/15/21	92.51	ND	35.97	ND	56.54
	05/16/22	92.51	ND	37.40	ND	55.11
	01/30/24	92.51	ND	38.02	ND	54.49
	04/24/24	92.51	ND	37.00	ND	55.51
	01/14/25	92.51	ND	36.15	ND	56.36
MW-13	10/08/93	243.12	ND	13.73	ND	229.39
Well Depth	01/14/97	243.12	ND	14.51	ND	228.61
16.5'	09/19/03	243.12	ND	10.85	ND	232.27
Screen	12/03/07	243.12	ND	10.91	ND	232.21
6.5-16.5'	06/03/08	94.26	ND	13.70	ND	80.56
	01/20/09	94.26	ND	14.60	ND	79.66
	07/22/13	94.26	ND	9.81	ND	84.45
	04/07/15	94.26	ND	10.40	ND	83.86
	11/27/17	94.26	Damaged - Redeveloped 2018			
	05/08/20	94.26	ND	11.00	ND	83.26
	11/15/21	94.26	ND	13.60	ND	80.66
	05/16/22	94.26	ND	12.01	ND	82.25
	01/30/24	94.26	ND	12.72	ND	81.54
	04/24/24	94.26	ND	10.89	ND	83.37
	01/14/25	94.26	ND	12.87	ND	81.39
MW-15	01/14/97	249.43	Dry			
Well Depth	09/19/03	249.43	ND	33.86	ND	215.57
35'	12/03/07	249.43	ND	34.09	ND	215.34
Screen	05/15/08	99.70	Dry			
20-35'	07/22/13	99.70	ND	34.18	ND	65.52
	04/07/15	99.70	ND	33.85	ND	65.85
	11/27/17	99.70	ND	32.29	ND	67.41
	05/08/20	99.70	ND	30.87	ND	68.83
	11/16/21	99.70	ND	31.42	ND	68.28
	05/16/22	99.70	ND	32.65	ND	67.05
	01/30/24	99.70	ND	33.25	ND	66.45
	04/24/24	99.70	ND	32.51	ND	67.19
	01/14/25	99.70	ND	31.52	ND	68.18

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-15R	01/20/09	100.47	ND	35.52	ND	64.95
Well Depth	07/22/13	100.47	Dry			
39'	04/07/15	100.47	ND	24.23	ND	76.24
Screen	11/27/17	100.47	ND	37.06	ND	63.41
24-39'	05/08/20	100.47	ND	28.50	ND	71.97
	11/16/21	100.47	ND	31.38	ND	69.09
	05/16/22	100.47	ND	32.55	ND	67.92
	01/30/24	100.47	ND	27.58	ND	72.89
	04/24/24	100.47	ND	26.10	ND	74.37
	01/14/25	100.47	ND	23.38	ND	77.09
	10/23/25	100.47	ND	23.87	ND	76.60
MW-16	01/14/97	251.74	ND	27.45	ND	224.29
Well Depth	09/19/03	251.74	ND	26.56	ND	225.18
35'	12/03/07	251.74	ND	27.89	ND	223.85
Screen	05/15/08	102.85	ND	26.96	ND	75.89
20-35'	01/20/09	102.85	ND	26.76	ND	76.09
	07/22/13	102.85	ND	26.68	ND	76.17
	04/07/15	102.85	ND	26.65	ND	76.20
	11/27/17	102.85	ND	27.79	ND	75.06
	05/09/20	102.85	ND	26.27	ND	76.58
	11/15/21	102.85	ND	27.60	ND	75.25
	05/16/22	102.85	ND	27.58	ND	75.27
	01/30/24	102.85	ND	27.42	ND	75.43
	04/24/24	102.85	ND	26.79	ND	76.06
	01/14/25	102.85	ND	27.23	ND	75.62
MW-17	05/14/08	100.84	ND	36.70	ND	64.14
Well Depth	01/20/09	100.84	ND	36.02	ND	64.82
39.5	07/22/13	100.84	ND	36.04	ND	64.80
Screen	04/07/15	100.84	ND	33.58	ND	67.26
24.5-39.5	11/27/17	100.84	ND	32.49	ND	68.35
	05/09/20	100.84	ND	30.82	ND	70.02
	11/15/21	100.84	ND	31.52	ND	69.32
	05/16/22	100.84	ND	32.94	ND	67.90
	01/30/24	100.84	ND	33.66	ND	67.18
	04/24/24	100.84	ND	32.70	ND	68.14
	01/14/25	100.84	ND	31.75	ND	69.09
MW-18	01/20/09	103.46	ND	22.21	ND	81.25
Well Depth	07/22/13	103.46	ND	19.69	ND	83.77
30'	04/07/15	103.46	ND	20.00	ND	83.46
Screen	11/27/17	103.46	ND	24.63	ND	78.83
15-30'	05/09/20	103.46	Inaccessible - no school access			
	11/16/21	103.46	ND	24.27	ND	79.19
	05/16/22	103.46	ND	22.65	ND	80.81
	01/30/24	103.46	ND	19.23	ND	84.23
	04/24/24	103.46	ND	18.00	ND	85.46
	01/14/25	103.46	ND	21.38	ND	82.08
MW-18D	01/23/09	103.28	ND	49.20	ND	54.08
Well Depth	07/22/13	103.28	ND	44.64	ND	58.64
62'	04/07/15	103.28	ND	41.60	ND	61.68
Screen	11/27/17	103.28	ND	35.26	ND	68.02
57-62'	05/09/20	103.28	Inaccessible - no school access			
	11/16/21	103.28	ND	38.58	ND	64.70
	05/16/22	103.28	ND	40.49	ND	62.79
	01/30/24	103.28	ND	8.07	ND	95.21
	04/24/24	103.28	ND	36.80	ND	66.48
	01/14/25	103.28	ND	26.65	ND	76.63
MW-19	01/20/09	95.74	ND	31.30	ND	64.44
Well Depth	07/22/13	95.74	ND	31.47	ND	64.27
35'	04/07/15	95.74	ND	29.27	ND	66.47
Screen	11/27/17	95.74	ND	28.29	ND	67.45
20-35'	05/09/20	95.74	ND	26.78	ND	68.96
	11/15/21	95.74	ND	27.49	ND	68.25
	05/16/22	95.74	ND	28.71	ND	67.03
	01/30/24	95.74	ND	29.31	ND	66.43
	04/24/24	95.74	ND	28.56	ND	67.18
	01/14/25	95.74	ND	27.63	ND	68.11

Table 2: Summary of Monitoring Well Gauging Data
Former Crown SC-015
Columbia, South Carolina
UST Permit #07680

Well #	Date	Top of Casing (feet)	Depth to LNAPL (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Potentiometric Surface (feet)
MW-20	01/20/09	92.93	ND	29.94	ND	62.99
Well Depth	07/22/13	92.93	ND	29.97	ND	62.96
34'	04/07/15	92.93	ND	27.88	ND	65.05
Screen	11/27/17	92.93	ND	26.91	ND	66.02
19-34'	05/08/20	92.93	ND	25.40	ND	67.53
	11/15/21	92.93	ND	26.11	ND	66.82
	05/16/22	92.93	ND	27.24	ND	65.69
	01/30/24	92.93	ND	27.77	ND	65.16
	04/24/24	92.93	ND	27.07	ND	65.86
	01/14/25	92.93	ND	26.10	ND	66.83
MW-21	04/16/09	98.89	ND	15.42	ND	83.47
Well Depth	07/22/13	98.89	ND	12.86	ND	86.03
20'	04/07/15	98.89	ND	14.53	ND	84.36
Screen	11/27/17	98.89	ND	17.41	ND	81.48
5-20'	05/08/20	98.89	ND	14.27	ND	84.62
	11/16/21	98.89	ND	16.72	ND	82.17
	05/16/22	98.89	ND	15.85	ND	83.04
	01/30/24	98.89	ND	15.50	ND	83.39
	04/24/24	98.89	ND	13.99	ND	84.90
	01/14/25	98.89	ND	16.41	ND	82.48
	10/23/25	98.89	ND	17.00	ND	81.89
DW-1	05/15/08	98.48	ND	35.31	ND	63.17
Well Depth	01/20/09	98.48	ND	34.84	ND	63.64
40'	07/22/13	97.48	ND	34.65	ND	62.83
Screen	04/07/15	97.48	ND	32.33	ND	65.15
35-40'	11/27/17	97.48	ND	31.31	ND	66.17
	05/09/20	97.48	ND	30.02	ND	67.46
	11/16/21	97.48	ND	30.48	ND	67.00
	05/16/22	97.48	ND	31.70	ND	65.78
	01/30/24	97.48	ND	32.40	ND	65.08
	04/24/24	97.48	ND	31.54	ND	65.94
	01/14/25	97.48	ND	30.74	ND	66.74
RW-1	07/02/18	99.25	ND	17.00	ND	82.25
Well Depth	05/09/20	99.25	ND	14.65	ND	84.60
25'	11/16/21	99.25	ND	17.21	ND	82.04
Screen	05/16/22	99.25	ND	16.17	ND	83.08
5-25'	01/30/24	99.25	ND	15.31	ND	83.94
	04/24/24	99.25	ND	13.95	ND	85.30
	01/14/25	99.25	ND	16.38	ND	82.87
	10/23/25	99.25	ND	16.96	ND	82.29
RW-2	07/02/18	99.11	17.22	17.62	0.40	81.81
Well Depth	05/09/20	99.11	14.12	15.95	1.83	84.62
25'	11/16/21	99.11	ND	17.15	ND	81.96
Screen	05/16/22	99.11	15.87	16.17	0.30	83.18
5-25'	12/11/23	99.11	15.87	16.17	0.30	83.18
	01/30/24	99.11	17.27	17.71	0.44	81.75
	04/24/24	99.11	ND	14.15	ND	84.96
	01/14/25	99.11	16.53	16.54	0.01	82.58
	10/23/25	99.11	ND	17.20	ND	81.91
RW-3	07/02/18	99.15	17.22	17.62	0.40	81.85
Well Depth	05/09/20	99.15	14.71	16.30	1.59	84.12
25'	11/16/21	99.15	ND	17.42	ND	81.73
Screen	05/16/22	99.15	16.39	16.50	0.11	82.74
5-25'	12/11/23	99.15	17.84	18.22	0.38	81.23
	01/30/24	99.15	ND	15.50	ND	83.65
	04/24/24	99.15	ND	14.00	ND	85.15
	01/14/25	99.15	16.39	16.40	0.01	82.76
	10/23/25	99.15	ND	17.00	ND	82.15

Notes:
LNAPL = Light Non-Aqueous Phase Liquid
' = Feet
ND = None Detected

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-1A	07/16/93	<1.00	<1.00	<1.00	<1.00	2.0											
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Dry															
	04/07/15	Dry															
	11/27/17	Dry															
	05/08/20	Dry @ 9.50'															
	05/16/22	Dry															
	01/30/24	Dry															
	04/24/24	Dry															
	01/15/25	Dry															
MW-1R	01/20/09	**388**	113	310	786	**546**	**89**	<0.004	**13 J**	8.4 J	<22	<1.3	<202	**280**	<1.7	911	<1.8
	07/22/13	**13**	1.6 J	207	263	16	**132**	<0.004	<0.23	<0.47	<75	<0.47	<250	<2.0	<0.48	<0.58	<0.97
	04/07/15	**185**	12	548	271	**191**	**324**	<0.006	<0.18	3.7	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**100**	4.1 J	640	74	**120**	**350**	<0.005	<4.0	<4.0	<80	<4.0	<400	<80	<4.2	310	<20
	05/10/20	**41**	4.1 J	440	100	**87**	**290**	<0.005	<4.0	<4.0	<80	<4.0	<520	<80	<4.2	210	<20
	11/16/21	**35**	2.4	151	7.6	**147**	**101**	<0.007	<0.32	<0.31	<52	<3.2	<72	87 J	<2.7	364	<29
	05/16/22	**32**	2.5	160	79	**110**	**110**	<0.005	2.3	1.8	<8.0	<0.40	<52	63	1.1 J	290	<2.0
	01/31/24	**15**	5.5	136	25	34	**146**	<0.007	<0.32	0.46 J	<52	<3.2	<72	<36	<2.7	60 J	<29
	04/24/24	**27**	3.3	232	16	**72**	**288**	<0.007	0.73 J	1.4 J	<104	<6.5	<144	<73	<5.3	165 J	<59
	01/15/25	**14**	1.4	28	28	**82**	**43**	<0.008	0.77 J	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-1AR	***SSTLs***	***39,162***	***26,540***	***3,700***	***21,680***	***6,849***	***6,700***	***283***						***42,095***			
	05/10/20	0.69 J	0.57 J	<0.40	0.41 J	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	4.0 J	<2.0
	11/16/21	<0.34	0.57 J	<0.30	1.3	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	1.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	0.90 J	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	10/23/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-2	***SSTLs***	***23,279***	***26,540***	***3,700***	***21,680***	***5,114***	***6,700***	***171***						***31,186***			
	01/14/97	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00										
	09/19/03	Dry															
	12/03/07	Dry															
	06/03/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Dry															
	11/27/17	<0.40	<0.40	<0.40	<0.40	**72**	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	22	<2.0
	05/09/20	Insufficient water to collect sample															
	11/16/21	3.5	1.7 J	1.4 J	5.5	**314**	2.1	<0.007	<0.64	1.7 J	<104	<6.5	1,440	**346**	<5.3	1,230	<59
	05/16/22	<0.40	<0.40	<0.40	<0.40	**160**	0.85 J	<0.005	<0.40	<0.40	<8.0	<0.40	140	190	0.67 J	620	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	Insufficient water to collect sample															
	01/15/25	Insufficient water to collect sample															
	10/23/25	Insufficient water to collect sample															
MW-5R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/15/08	**28,600**	**64,500**	**3,620**	**17,300**	**4,520**	**< 2,500**	**4.84**	<2,500	<500	<1,000	<500	<10,000	**46,900**	<500	**6,880**	<1,000
	01/20/09	**27,300**	**55,100**	**3,100**	**14,100**	**4,540**	**1,310 J**	**0.741**	<45	<265	<2,180	<130	<20,200	**39,500**	<174	**6,230**	<179
	07/23/13	**16,600**	**50,000**	**4,320**	**21,900**	**2,410**	**1,430 J**	**0.416**	<58	<118	<18,800	<117	<62,500	**29,300**	<120	<145	<243
	04/09/15	**17,800**	**52,400**	**5,470**	**28,500**	**1,990**	**2,360**	**0.230**	<0.18	<0.08	<1.1	<0.30	<8.0	**26,600**	124	<1.0	<1.0
	11/27/17	**13,000**	**38,000**	**3,300**	**17,000**	**1,100**	**1,400**	**0.310**	<200	<200	<4,000	<200	<20,000	**15,000**	<210	<4,000	<1,000
	05/09/20	No sample - LNAPL present															
	11/16/21	**11,500**	***37,100***	**2,560**	**13,200**	**573**	**650**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**9,500**	***46,000***	***3,700***	**18,000**	**280**	**870**	0.010 J	**270**	2.6	<8.0	<0.40	<52	**5,500**	19	620	<2.0
	01/31/24	**7,880**	***30,300***	***3,900***	**19,500**	<106	**724**	<0.007	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**7,060**	***37,500***	***3,700***	**18,900**	<106	**1,520**	**0.14**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**5,130**	**26,600**	**2,950**	**18,500**	<106	**1,170**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	10/23/25	**3,880**	**24,700**	**3,170**	***22,200***	<106	**2,750**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
MW-5D	01/12/09	**52**	346	65	331	<0.39	**29**										
	01/24/09	**124**	624	89	333	12	**34 J**	<0.004	<0.89	<5.3	<44	<2.6	<403	<16	<3.5	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	0.65 J	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	1.0	2.8	0.80 J	3.3	<0.42	0.85 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-5DD	03/23/09	1.9	11	4.0	18	<0.08	7.2	<0.004	<0.89	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/23/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.17	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	8.4	<0.006	<0.18	<0.08	<1.1	<0.30	<8.00	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/10/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.53 J	1.3	0.49 J	2.1	<0.42	0.78 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-7R	05/14/08	**37**	355	68	92	<5.0	**30**	<0.010	<25	<5.0	<10	<5.0	<100	125	<5.0	<50	<10
	01/20/09	2.3	79	126	106	<0.08	16	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.8	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	4.5	2.6	<0.40	2.9	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	7.4	12	46	<0.40	4.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	1.1	1.8	2.1	<0.42	14	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	0.96 J	12	17	<0.42	12	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	0.51 J	2.6	0.78 J	<0.42	3.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	0.51 J	1.3	<0.34	<0.42	12	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-8	***SSTLs***	***13,274***	***26,540***	***3,700***	***21,680***	***3,727***	***6,059***	***100***						***22,547***			
	07/16/93	**130**	**1,100**	73	730	<5.0											
	01/14/97	**40**	1.7	1.6	32	<1.0	**31**										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	<20	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.4 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	**18**	<0.40	<0.40	0.50 J	0.99 J	**61**	<0.005	<0.40	<0.40	<8.0	<0.40	<40	190	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.5	<0.40	0.91 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	**33**	305	89	421	2.0 J	**56**	<0.007	<0.80	<0.77	<130	<8.1	<180	109 J	<6.6	<67	<74
	04/24/24	2.7	24	14	60	0.55 J	15	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	3.3	<0.48	74	0.58 J	4.7	**34**	<0.008	<0.32	<0.31	<52	<3.2	<72	285	<2.7	<27	<29
	10/23/25	**19**	0.55 J	14	<0.34	3.4	10	<0.007	<0.32	<0.31	<52	<3.2	<72	180	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-9R	05/14/08	**35**	12	126	249	34	**175**	<0.010	<25	<5.0	<10	<5.0	<100	<50	<5.0	<50	<10
	01/20/09	4.4	<0.08	17	<0.18	12	8.9	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	6.9 J	<0.36
	07/22/13	**22**	2.8	114	25	20	**92**	<0.004	<0.12	<0.24	<38	<0.23	<125	13 J	<0.24	6.5 J	<0.49
	04/08/15	<0.16	<0.14	2.3	3.1	6.7	13	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	8.0	0.52 J	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	8.2 J	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	6.2	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	11 J	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	2.4	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.5	0.51 J	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	27	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	6.3	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	4.1	1.9	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	65 J	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	4.2	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-10R	05/14/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/08/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.63 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.52 J	1.7	0.36 J	4.1	<0.42	0.76 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-11R	05/15/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	72	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	2.5	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.7	<0.40	0.46 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.73 J	2.0	<0.30	4.3	<0.42	0.84 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-12R	05/14/08	**74**	2.5	52	25	**145**	**138**	<0.010	<5.0	<1.0	<2.0	<1.0	59	141	5.3	90	<2.0
	01/20/09	3.0	<0.08	<0.07	<0.18	**64**	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	48	<0.35	27	<0.36
	07/22/13	2.3	<0.12	<0.11	<0.18	13	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	22	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	15	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	72	<0.30	<1.0	<1.0
	11/27/17	1.0	<0.40	<0.40	0.91 J	21	7.1	0.005 J	<0.40	<0.40	<8.0	<0.40	<40	70	0.86 J	31	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	12	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	21	<0.42	20	<2.0
	11/15/21	<0.34	<0.48	<0.30	<0.34	9.2	1.9	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	0.52 J	11	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	69	<0.42	19 J	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	4.7	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	2.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	80 J	<2.7	63 J	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	5.5	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-12D	01/07/09	<0.07	<0.08	<0.07	5.6	**53**	<0.12										
	01/23/09	<0.07	1.2	<0.07	2.3 J	<0.08	2.4 J	<0.004	<0.09	<5.3	<44	<2.6	<403	<156	<3.5	<41	<3.6
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.5	<0.40	0.52 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.80 J	2.7	0.63 J	7.6	<0.42	1.1	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-13	07/26/93	<1.0	4.0	<1.0	5.0	<1.0											
	01/14/97	**18**	<1.0	<1.0	<1.0	28	1.2										
	09/19/03	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0										
	12/03/07	1.3	<1.0	<1.0	<3.0	6.0	<5.0										
	06/03/08	<1.0	<1.0	<1.0	<3.0	<1.0	<5.0	<0.010	<5.0	<1.0	<2.0	<1.0	49	<10	<1.0	<10	<2.0
	01/20/09	Dry															
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	Dry															
	05/09/20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.005	<2.0	<2.0	<40	<2.0	<260	<40	<2.1	<2.0	<10
	11/15/21	Dry															
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.60 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	Insufficient water to collect sample															

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-15	09/19/03	<1.0	<1.0	<1.0	<3.0	**300**	<5.0										
	12/03/07	<1.0	<1.0	<1.0	<3.0	**160**	<5.0										
	05/15/08	Dry															
	07/22/13	Insufficient water to collect sample															
	04/07/15	Insufficient water to collect sample															
	11/27/17	<0.40	<0.40	<0.40	<0.40	18	<0.40	0.013 J	<0.40	3.0	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	1.1	<0.40	0.48 J	2.3	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/16/21	0.62 J	2.0	<0.30	4.4	1.2	0.93 J	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	2.5	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	Insufficient water to collect sample															
	04/24/24	<0.34	<0.48	<0.30	<0.34	1.8	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	0.81 J	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-15R	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***16,338***	***6,700***	***1,262***						***102,870***			
	01/20/09	<0.07	<0.08	<0.07	<0.18	**185**	2.6 J	<0.003	0.92 J	6.1	<4.4	<0.26	<40	45	<0.35	155	<0.36
	07/22/13	Dry															
	04/09/15	<0.16	<0.14	<0.19	5.0	**185**	8.5	<0.006	1.0	8.7	75	<0.30	<8.0	131	<0.30	182	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	**93**	<0.40	<0.005	<0.40	6.1	<8.0	<0.40	<40	69	1.7 J	91	<2.0
	05/09/20	<0.40	1.7	<0.40	0.74 J	**61**	<0.40	<0.005	<0.40	4.4	<8.0	<0.40	<52	40	<0.42	65	<2.0
	11/16/21	0.39 J	1.5	<0.30	2.0	11	<0.64	<0.007	<0.32	0.94 J	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	4.9	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	15	<0.64	<0.007	<0.32	0.96 J	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	14	<0.64	<0.008	<0.32	1.1	<52	<3.2	<72	69 J	<2.7	69 J	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	15	<0.64	<0.008	<0.32	1.3	<52	<3.2	<72	<36	<2.7	<27	<29
	10/23/25	<0.34	<0.48	<0.30	<0.34	18	0.73 J	<0.008	<0.32	1.6	<52	<3.2	<72	<36	<2.7	<27	<29
MW-16	01/14/97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
	09/19/03	2.6	<1.0	<1.0	<3.0	5.7	<5.0										
	12/03/07	**59**	<1.0	<1.0	4.1	30	5.2										
	05/15/08	<1.0	<1.0	<1.0	<1.0	1.8	<1.0		<5.0	<1.0	<2.0	<1.0	44	<10	<1.0	<10	<2.0
	01/20/09	<0.07	<0.08	<0.07	<0.18	1.1	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.6	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.18	<0.18	1.2	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.014 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	2.0	<0.40	0.60 J	0.44 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.66 J	1.8	<0.30	3.6	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	0.49 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-17	05/14/08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<5.0	<1.0	<2.0	<1.0	47	<10	<1.0	<10	<2.0
	01/20/09	**7.0**	<0.08	<0.07	<0.18	0.55 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.013 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.43 J	2.1	<0.40	0.75 J	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	0.64 J	2.0	<0.30	3.1	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18	01/20/09	<0.07	<0.08	<0.07	<0.18	4.7	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.2	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	1.5	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	0.41 J	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	0.63 J	2.0	<0.30	3.9	<0.42	<0.64	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-18D	01/23/09	<0.07	<0.08	<0.07	<0.18	<0.08	2.5 J	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	<0.08	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/09/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/28/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/08/20	Inaccessible - no school access															
	11/16/21	2.1	6.2	0.89 J	9.5	<0.42	1.4	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<51.9	<3.2	<72.2	<36.4	<2.7	<26.8	<29.4
	04/24/24	Not Sampled- Well depth shallower than screened interval															
	01/15/25	Not Sampled- Well depth shallower than screened interval															

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Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
MW-19	01/20/09	<0.07	<0.08	<0.07	<0.18	<0.08	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	2.3	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	<0.18	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	0.57 J	3.1	<0.40	1.8	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.0	3.0	0.46 J	6.7	<0.42	1.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/30/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-20	01/20/09	<0.07	<0.08	<0.07	<0.18	0.85 J	<0.12	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	07/22/13	<0.11	<0.12	<0.11	<0.18	1.1	<0.18	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/07/15	<0.16	<0.14	<0.19	<0.20	3.1	<0.22	<0.006	<0.18	<0.08	<1.1	<0.30	<0.80	<1.1	<0.30	<1.0	<1.0
	11/27/17	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.015 J	<0.40	<0.40	<8.0	<0.40	<40	<8.0	<0.42	<8.0	<2.0
	05/09/20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<0.40	<2.0
	11/15/21	1.9	10	2.6	26	<0.42	4.0	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	<0.34	<0.48	<0.30	<0.34	1.0	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/14/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
MW-21	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	01/23/09	**23,300**	**62,900**	**4,780**	**21,600**	**2,370**	**1,650 J**	**0.405**	<45	<265	<2,180	<130	<20,200	**<7,800**	<174	<2,060	<179
	07/23/13	**12,400**	**46,300**	**4,690**	**21,500**	**160 J**	**1,110 J**	**0.068**	<29	<59	<9,400	<59	<31,200	**4,870 J**	<60	<73	<122
	04/07/15	**2,830**	**70,200**	**4,700**	**23,100**	<0.18	**1,390**	**0.161**	<0.18	<0.08	948	<0.30	<8.0	**3,800**	<0.30	<1.0	<1.0
	11/27/17	**5,200**	**43,000**	**3,700**	**18,000**	<200	**1,100**	**0.290**	<200	<200	<4,000	<200	<20,000	<4,000	<210	<4,000	<1,000
	05/10/20	**470**	**8,200**	**1,600**	8,300	<40	**680**	<0.005	<40	<40	<800	<40	<5,200	<800	<42	<40	<200
	11/16/21	**1,940**	***28,500***	**2,670**	**12,700**	<84	**938**	0.040	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	05/16/22	**1,100**	**23,000**	**3,200**	**15,000**	<80	**1,200**	0.022	<80	<80	<1,600	<80	<10,000	<1,600	<84	<1,600	<400
	01/31/24	**594**	**20,200**	**2,530**	**12,600**	<84.4	**1,210**	<0.007	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	04/24/24	**131**	**8,740**	**1,720**	**10,100**	<21	**1,300**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
	01/15/25	**161**	**5,790**	**1,320**	6,730	<21	**918**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
	10/23/25	**248**	**9,390**	**1,520**	8,060	<21	**730**	<0.007	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470

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Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
DW-1	05/15/08	**17**	97	19	104	3.5	**44**	<0.010	<5.0	<1.0	<2.0	<1.0	46	36	<1.0	<10	<2.0
	01/20/09	**5.8**	<0.08	3.7	13	<0.08	7.2	<0.003	<0.09	<0.53	<4.4	<0.26	<40	<16	<0.35	<4.1	<0.36
	08/09/13	2.0	<0.12	<0.11	0.99 J	<0.08	1.0 J	<0.004	<0.12	<0.24	<38	<0.23	<125	<1.0	<0.24	<0.29	<0.49
	04/08/15	<0.16	10	10	69	<0.18	20	<0.006	<0.18	<0.08	<1.1	<0.30	<8.0	<1.1	<0.30	<1.0	<1.0
	11/27/17	<2.0	<2.0	8.8	53	<2.0	12	0.009 J	<2.0	<2.0	<40	<2.0	<200	<40	<2.1	<40	<10
	05/10/20	<0.40	1.0	0.97 J	5.2	<0.40	2.5	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	2.9 J	<2.0
	11/16/21	<0.34	0.84 J	0.39 J	2.6	<0.42	1.6	<0.007	<0.32	<0.31	<51	<3.2	<72	<36	<2.7	<27	<29
	05/16/22	<0.40	<0.40	0.67 J	4.4	<0.40	2.4	<0.005	<0.40	<0.40	<8.0	<0.40	<52	<8.0	<0.42	<8.0	<2.0
	01/31/24	2.6	5.4	1.1	4.9	<0.42	<0.64	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	04/24/24	3.5	5.5	2.7	11	<0.42	3.5	<0.007	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
	01/15/25	<0.34	2.7	2.4	11	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
RW-1	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***19,079***	***6,700***	***1,649***						***120,659***			
	05/10/20	**6,300**	***33,000***	**3,000**	**15,000**	<200	**780**	**0.510**	<200	<200	<4,000	<200	<26,000	<4,000	<210	<200	<1,000
	11/16/21	**6,920**	***33,100***	**2,950**	**13,700**	<106	**532**	**0.350**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	**5,300**	***42,000***	**2,800**	**15,000**	<80	**560**	**0.450**	<80	<80	<1,600	<80	<10,000	**5,500**	<84	<1,600	<400
	01/31/24	**1,690**	**15,700**	**1,970**	8,840	<53	**440**	<0.007	<40	<39	<6,490	<405	<9,020	<4,550	<332	<3,350	<3,680
	04/24/24	**731**	**8,220**	**1,030**	8,140	<21	**555**	<0.008	<16	<15	<2,600	<162	<3,610	<1,820	<133	<1,340	<1,470
	01/15/25	**519**	**10,100**	**819**	2,970	<42	**305**	<0.008	<32	<31	<5,190	<324	<7,220	<3,640	<266	<2,680	<2,940
	10/23/25	**934**	**23,700**	**2,000**	8,350	<53	**428**	<0.007	<40	<39	<6,490	<405	<9,020	<4,550	<332	<3,350	<3,680
RW-2	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***27,166***	***6,700***	***1,900***						***173,582***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**8,500**	**24,400**	**2,570**	**12,400**	<106	**516**	**0.130**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**12,100**	***36,000***	**3,560**	**19,800**	<106	**1,120**	**0.27**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**12,500**	***34,000***	**2,680**	**14,600**	<106	**884**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**8,650**	**22,200**	**1,440**	7,570	<106	**466**	<0.007	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	10/23/25	**10,300**	***30,200***	**2,000**	9,720	<106	**732**	<0.008	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
RW-3	***SSTLs***	***44,390***	***26,540***	***3,700***	***21,680***	***29,670***	***6,700***	***1,900***						***190,070***			
	05/10/20	No sample - LNAPL present															
	11/16/21	**11,200**	***43,600***	**3,240**	**15,100**	<106	**538**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	05/16/22	No sample - LNAPL present															
	01/31/24	**9,650**	***39,200***	***3,810***	**19,000**	<106	**958**	**1.5**	<80.5	<77.0	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	04/24/24	**8,120**	***33,900***	**2,580**	**21,600**	<106	**844**	**1.7**	<81	<77	<13,000	<810	<18,000	<9,100	<665	<6,700	<7,350
	01/15/25	**6,900**	**20,800**	**1,220**	**12,100**	<84	**639**	**0.56**	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
	10/23/25	**8,450**	**22,800**	**1,320**	**12,500**	<84	**653**	**0.59**	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880
Duplicate	10/23/25	**9,580**	**26,400**	**1,630**	**13,500**	<84	**642**	**0.52**	<64	<62	<10,400	<648	<14,400	<7,280	<532	<5,360	<5,880

Table 3: Summary of Groundwater Analytical Data
Former Crown SC-015
Columbia, South Carolina
UST Permit # 07680

Well #	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBA (µg/L)	ETBE (µg/L)	Ethanol (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)
RBSLs		***5.0***	***1,000***	***700***	***10,000***	***40***	***25***	***0.05***	***5.0***	***150***	***NE***	***47***	***10,000***	***240***	***128***	***1,400***	***NE***
Equipment Blank	10/23/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Field Blank	10/23/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64	<0.008	<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29
Trip Blank	10/23/25	<0.34	<0.48	<0.30	<0.34	<0.42	<0.64		<0.32	<0.31	<52	<3.2	<72	<36	<2.7	<27	<29

Notes:
µg/L = micrograms per liter
"<" = not detected above the laboratory reporting limit
RBSL = SCDHEC Risk Based Screening Level (May 15, 2001)
Bold concentrations equal or exceed the corresponding RBSL
Red concentrations exceed SSTLs
-- = parameter not analyzed or data unavailable
NE = Not Established
J = estimated result

MTBE = Methyl Tert-Butyl Ether
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
DIPE = Di-Isopropyl Ether
TBA = Tert-Butyl Alcohol
TAA = Tert-Amyl Alcohol

TAME = Tert-Amyl Methyl Ether
ETBE = Ethyl Tert-Butyl Ether
ETBA = Ethyl Tert-Butyl Alcohol
TBF = Tert-Butyl Formate

Table 3A: Comparison of Baseline and Post-Injection Groundwater Analytical Data
Former Crown SC-015
Columbia, SC
UST Permit # 07680

Well #		Date	Benzene (ug/L)	% Change	Toluene (ug/L)	% Change	Ethyl-Benzene (ug/L)	% Change	Total Xylenes (ug/L)	% Change	Total BTEX (ug/L)	% Change	MTBE (ug/L)	% Change	Naphthalene (mg/l)	% Change	EDB (mg/l)	% Change	TAA (mg/l)	% Change
MW-5R	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-May-22	9,500		***46,000***		***3,700***		18,000		77,200		280		870		0.01		5,500	
		31-Jan-24	7,880	-17.1%	***30,300***	-34.1%	***4,040***	9.2%	20,100	11.7%	62,320	-19.3%	<106		724	-16.8%	<0.007		<9,100	
		24-Apr-24	7,060	-25.7%	***37,500***	-18.5%	***3,700***	0.0%	18,900	5.0%	67,160	-13.0%	<106		1,520	74.7%	0.14	1300%	<9,100	
sample under LNAPL (0.01')		15-Jan-25	5,130	-46.0%	***26,600***	-42.2%	2,950	-20.3%	18,500	2.8%	53,180	-31.1%	<106		1,170	34.5%	<0.007		<9,100	
		23-Oct-25	3,880	-59.2%	24,700	-46.3%	3,170	-14.3%	***22,200***	23.3%	53,950	-30.1%	<106		2,750	216.1%	<0.008		<9,100	
MW-21	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	1,100		23,000		3,200		15,000		42,300		<80		1,200		0.02		<1,600	
		31-Jan-24	594	-46.0%	20,200	-12.2%	2,530	-20.9%	12,600	-16.0%	35,924	-15.1%	<84		1,210	0.8%	<0.007		<7,280	
		24-Apr-24	131	-88.1%	8,740	-62.0%	1,720	-46.3%	10,100	-32.7%	20,691	-51.1%	<21		1,300	8.3%	<0.008		<1,820	
		15-Jan-25	161	-85.4%	5,790	-74.8%	1,320	-58.8%	6,730	-55.1%	14,001	-66.9%	<21		918	-23.5%	<0.008		<1,820	
		23-Oct-25	248	-77.5%	9,390	-59.2%	1,520	-52.5%	8,060	-46.3%	19,218	-54.6%	<21		730	-39.2%	<0.008		<1,820	
RW-1	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***19,079***		***6,700***		***1,649***		***120,659***	
	Baseline	16-May-22	5,300		***42,000***		2,800		15,000		65,100		<80		560		0.45		5,500	
		31-Jan-24	1,690	-68.1%	15,700	-62.6%	1,970	-29.6%	8,840	-41.1%	28,200	-56.7%	<53		440	-21.4%	<0.007		<4,550	
		24-Apr-24	731	-86.2%	8,220	-80.4%	1,030	-63.2%	8,140	-45.7%	18,121	-72.2%	<21		555	-0.9%	<0.008		<1,820	
		15-Jan-25	519	-90.2%	10,100	-76.0%	819	-70.8%	2,970	-80.2%	14,408	-77.9%	<42		305	-45.5%	<0.008		<3,640	
		23-Oct-25	934	-82.4%	23,700	-43.6%	2,000	-28.6%	8,350	-44.3%	34,984	-46.3%	<53		428	-23.6%	<0.008		<4,550	
RW-2	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	8,500		24,400		2,570		12,400		47,870		<106		516		0.13		<9,100	
		16-May-22	LNAPL (0.30') Present - no sample																	
sample under LNAPL (0.07')		31-Jan-24	12,100	42.4%	***36,000***	47.5%	3,560	38.5%	19,800	59.7%	71,460	49.3%	<106		1,120	117.1%	0.27	107.7%	<9,100	
		24-Apr-24	12,500	47.1%	***34,000***	39.3%	2,680	4.3%	14,600	17.7%	63,780	33.2%	<106		884	71.3%	<0.008		<9,100	
sample under LNAPL (0.01')		15-Jan-25	8,650	1.8%	22,200	-9.0%	1,440	-44.0%	7,570	-39.0%	39,860	-16.7%	<106		466	-9.7%	<0.008		<9,100	
		23-Oct-25	10,300	21.2%	***30,200***	13.8%	2,000	-22.2%	9,720	-21.6%	52,220	9.1%	<106		732	41.9%	<0.008		<9,100	
RW-3	***SSTLs***		***44,390***		***26,540***		***3,700***		***21,680***		**96,310**		***29,670***		***6,700***		***1,900***		***190,070***	
	Baseline	16-Nov-21	11,200		***43,600***		3,240		15,100		73,140		<106		538		1.70		<9,100	
		16-May-22	LNAPL (0.11') Present - no sample																	
		31-Jan-24	9,650	-13.8%	***39,200***	-10.1%	***3,810***	17.6%	19,000	25.8%	71,660	-2.0%	<106		958	78.1%	1.50	-11.8%	<9,100	
		24-Apr-24	8,120	-27.5%	***33,900***	-22.2%	2,580	-20.4%	21,600	43.0%	66,200	-9.5%	<106		844	56.9%	1.70	0.0%	<9,100	
sample under LNAPL (0.01')		15-Jan-25	6,900	-38.4%	20,800	-52.3%	1,220	-62.3%	12,100	-19.9%	41,020	-43.9%	<84		639	18.8%	0.56	-67.1%	<7,280	
		23-Oct-25	8,450	-24.6%	22,800	-47.7%	1,320	-59.3%	12,500	-17.2%	45,070	-38.4%	<84		653	21.4%	0.59	-65.3%	<7,280	
Duplicate		23-Oct-25	9,580	-14.5%	26,400	-39.4%	1,630	-49.7%	13,500	-10.6%	51,110	-30.1%	<84		642	19.3%	0.52	-69.4%	<7,280	

APPENDIX B

SAMPLING LOGS, EQUIPMENT CALIBRATION, LABORATORY DATA SHEETS & CHAIN-OF-CUSTODY

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
MW-1A										
MW-1R										
SP MW-1AR	—	31.32	—		950	✓	✓	2/2	✓	✓
D MW-2	—	28.90	—		921	✓	✓	0/2	✓	✓
P MW-5R	—	16.98	—		1214	✓	✓	0/2	✓	✓
MW-5D										
MW-5DD										
MW-7R										
P MW-8	—	18.60	—		1002	✓	✓	0/2	✓	✓
MW-9R										
MW-10R										
MW-11R										
MW-12R										
MW-12D										
MW-13										
MW-15										
NP MW-15R	—	23.87	—		926	✓	✓	2/2	✓	✓
MW-16										
MW-17										
MW-18										
MW-18D										
MW-19										
MW-20										

Comments (Discussion, Required Action, Health and Safety Concerns):

switch RW-3, 5R Fig 2B

switch 1AR + 1A Fig 2B

Quality Environmental Solutions, Inc.
Water/Product Level Measurement Form

Gauging Date:	10/23/25	**QES Associate(s):**	A. Smith. Jbm
Project Number:	SC-015, UST #07680	**Others Present:**	
Project Name:	*Former Crown SC-015*	**QES Associate Signature:**	

Well ID	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Total Depth	Time Gauged	Pad	Vault	Bolts	Cap/Lock	ID Tag
P MW-21	—	17.00	—		1034	✓	✓	0/2	✓	✓
P RW-1	—	16.96	—		1040	✓	✓	0/2	✓	✓
P RW-2	—	17.20	—		1122	✓	✓	0/2	✓	✓
P RW-3	—	17.00	—		1146	✓	✓	0/2	✓	✓
DW-1										

Comments (Discussion, Required Action, Health and Safety Concerns):

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) ~~Ethanol (8015C)~~	**Purge Type:**	Low Flow ~~3 Purge Volumes~~ No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
858	350	Start Purge (0)							
903		1.75	20.00	4.79	7.05	0.07	367	4.8	
908	|	3.50	20.84	4.87	6.85	0.07	362	1.2	
913	|	5.25	21.05	4.95	6.78	0.07	364	3.1	
918		7.00	21.34	4.97	6.74	0.07	370	1.9	

Gauging Time:	850	**Sample Time:**	919
Depth to Water (ft.):	31.32		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW1AR

Stabilization = 3 successive readings of:
+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Ground

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1217 ~~1215~~	250	Start Purge (0)							
1222		1.25	23.83	6.83	0.03	1.09	-78	32	
1227		2.50	24.05	6.99	0.04	6.82	-72	34	
1232		3.75	DRY @ 1229						
			Recharge 10 mins then sample						

Gauging Time:	1214	**Sample Time:**	1239
Depth to Water (ft.):	16.98		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW5R DRUM 1 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	~~BTEX+M+N+DCA+Oxy (8260B)~~ EDB (8011) Ethanol (8015C)	**Purge Type:**	~~Low Flow~~ 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1008	250	Start Purge (0)							
1013	〃	1.25	23.95	9.97	9.79	0.47	44	34	
1018	〃	2.50	23.59	9.00	4.72	0.41	38	37	
1023	〃	3.75	DRY @		1020				
			recharge until 1030, then collect						

Gauging Time:	1002	**Sample Time:**	1031
Depth to Water (ft.):	18.60		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW8 Grund

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
930	350	Start Purge (0)							
935	↓	1.75	20.63	5.91	1.36	0.30	91	239	
940		3.50	21.59	5.90	1.24	0.31	92	176	
945		5.25	22.82	5.92	0.92	0.31	91	172	
950		7.00	22.29	5.97	0.84	0.31	91	173	
953		8.05	22.16	5.99	0.74	0.31	89	171	

Gauging Time:	926	**Sample Time:**	954
Depth to Water (ft.):	23.87		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW15R

Stabilization = 3 successive readings of: Ground

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1038	250	Start Purge (0)							
1043	1	1.25	22.23	6.60	0.18	1.01	-47	12	
1048	1	2.50	22.45	6.56	0.17	1.02	-51	11	
1053	1	3.75	22.39	6.60	0.17	1.02	-54	10	

Gauging Time:	1054	**Sample Time:**	1054
Depth to Water (ft.):	17.00		
Well Depth (ft.):		**# of Containers:**	6

Well Number: MW21 DRUM 1.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) ~~Submersible Pump (deep wells)~~
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1100	250	Start Purge (0)							
1105	1	1.25	22.48	6.49	0.08	0.93	-43	11	
1110		2.50	22.57	6.50	0.07	0.93	-44	9.2	
1115		3.75	22.92	6.49	0.08	0.93	-42	6.4	

Gauging Time:	1040	**Sample Time:**	1116
Depth to Water (ft.):	16.96		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW1 DRUM 1 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time (24 hour)	Purge Rate (ml/min)	Cum. Vol. Purged (Liters)	Temp. (Celsius)	pH	D.O. (mg/L)	Cond. (mS/cm)	ORP (mV)	Turbidity (NTU)	Comments:
1127	250	Start Purge (0)							
1132	〃	1.25	23.94	6.48	0.04	0.78	-65	10	
1137	〃	2.50	23.82	6.49	0.03	0.78	-67	5.0	
1142		3.75	24.22	6.48	0.04	0.77	-73	2.1	

Gauging Time:	1122	**Sample Time:**	1143
Depth to Water (ft.):	17.20		
Well Depth (ft.):		**# of Containers:**	6

Well Number: RW-2

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

DRUM 1.25 SAL

Quality Environmental Solutions, Inc.
Groundwater Sampling Field Form

Date:	10/23/25	**QES Associate(s):**	A. Smith-Jones
Project Number:	SC-015/UST #07680	**Others Present:**	
Project Name:	Former Crown SC-015 (Long's Drugstore)	**QES Signature:**	
Analytical Laboratory:	Pace Analytical	**Purge Method:**	Peristaltic Pump (shallow wells) Submersible Pump (deep wells)
Analysis Requested:	BTEX+M+N+DCA+Oxy (8260B) EDB (8011) Ethanol (8015C)	**Purge Type:**	Low Flow 3 Purge Volumes No Purge (Grab)

Time *(24 hour)*	Purge Rate *(ml/min)*	Cum. Vol. Purged *(Liters)*	Temp. *(Celsius)*	pH	D.O. *(mg/L)*	Cond. *(mS/cm)*	ORP *(mV)*	Turbidity *(NTU)*	Comments:
1153	250	Start Purge (0)							
1158		1.25	24.07	6.78	0.04	0.69	-70	41	
1203		2.50	24.36	6.780	0.04	0.68	-87	44	
1208		3.75	24.65	6.75	0.03	0.70	-93	42	
~~1209~~									

Gauging Time:	1146	**Sample Time:**	1209
Depth to Water (ft.):	17.00		
Well Depth (ft.):		**# of Containers:**	6 + 6

Well Number: RW3

DRUM

Dup 1.25 gal

Stabilization = 3 successive readings of:

+/- 1 C° +/- 0.1 pH +/- 0.2 mg/L D.O. +/- 5% mS/cm +/- 50 mV +/- 5% NTU

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	533964
Created	10/23/2025

[redacted]

Serial Number	1057552
Last Calibrated	10/23/2025

Calibration Details

Calibration Point 1

pH of Buffer	4.000 pH
pH mV	138.0 mV
Temperature	18.11 °C

Pre Measurement

pH	4.507 pH
pH mV	138.8 mV

Post Measurement

pH	4.000 pH
pH mV	134.8 mV

Calibration Point 2

pH of Buffer	7.040 pH
pH mV	-40.2 mV
Temperature	16.00 °C

Pre Measurement

pH	6.946 pH
pH mV	-39.8 mV

Post Measurement

pH	7.040 pH
pH mV	-39.0 mV

Calibration Point 3

pH of Buffer	10.11 pH
pH mV	-207.0 mV
Temperature	15.61 °C

Pre Measurement

pH	9.960 pH
pH mV	-202.4 mV

Post Measurement

pH	10.11 pH
pH mV	-200.5 mV

Slope and Offset 1

Slope	-58.61 mV/pH
Offset	-37.8 mV

Slope and Offset 2

Slope	-54.35 mV/pH
Offset	-38.0 mV

ORP

ORP Solution	Quick Cal
Offset	144.9 mV
Temperature	22.11 °C
Pre Measurement	58.8 mV
Post Measurement	227.9 mV

[redacted]

Serial Number	916665
Last Calibrated	9/16/2025

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.183
Offset	0.000 µS/cm
Reference Temperature	25.00 °C

Calibration Point 1

Pre Measurement

Actual Conductivity	6,081 µS/cm
Specific Conductivity	6,437 µS/cm

Post Measurement

Actual Conductivity	7,558 µS/cm
Specific Conductivity	8,000 µS/cm

[redacted]

Serial Number	1100471
Last Calibrated	Factory Defaults

[redacted]

Serial Number	1084930
Last Calibrated	Factory Defaults

[redacted]

Serial Number	533964
Last Calibrated	Factory Defaults

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

October 31, 2025

Don Jones
Quality Environmental Solutions
2112 Loblolly Lane
Johns Island, SC 29455

RE: Project: Former Crown SC-015
Pace Project No.: 92825636

Dear Don Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Blake Hilton

Blake Hilton
blake.hilton@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Austin Smith-Jones, Quality Environmental Solutions

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CERTIFICATIONS

Project: Former Crown SC-015
Pace Project No.: 92825636

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: Former Crown SC-015
Pace Project No.: 92825636

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92825636001	**MW 1AR**	Water	10/23/25 09:19	10/23/25 14:27
92825636002	**MW 5R**	Water	10/23/25 12:39	10/23/25 14:27
92825636003	**MW 8**	Water	10/23/25 10:31	10/23/25 14:27
92825636004	**MW 15R**	Water	10/23/25 09:54	10/23/25 14:27
92825636005	**MW 21**	Water	10/23/25 10:54	10/23/25 14:27
92825636006	**RW 1**	Water	10/23/25 11:16	10/23/25 14:27
92825636007	**RW 2**	Water	10/23/25 11:43	10/23/25 14:27
92825636008	**RW 3**	Water	10/23/25 12:09	10/23/25 14:27
92825636009	**DUP**	Water	10/23/25 12:00	10/23/25 14:27
92825636010	**FB**	Water	10/23/25 12:00	10/23/25 14:27
92825636011	**EQUIP**	Water	10/23/25 12:00	10/23/25 14:27
92825636012	**TB**	Water	10/23/25 00:00	10/23/25 14:27

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SAMPLE ANALYTE COUNT

Project: Former Crown SC-015
Pace Project No.: 92825636

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92825636001	**MW 1AR**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636002	**MW 5R**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636003	**MW 8**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636004	**MW 15R**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636005	**MW 21**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636006	**RW 1**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636007	**RW 2**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636008	**RW 3**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636009	**DUP**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	LMB	18	PASI-C
92825636010	**FB**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92825636011	**EQUIP**	EPA 8011	BAJ	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92825636012	**TB**	EPA 8260D	SAS	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: MW 1AR **Lab ID: 92825636001** Collected: 10/23/25 09:19 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	10/30/25 08:22	10/30/25 20:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	10/30/25 08:22	10/30/25 20:17	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		10/28/25 13:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/28/25 13:26	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		10/28/25 13:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/28/25 13:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/28/25 13:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/28/25 13:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/28/25 13:26	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		10/28/25 13:26	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/28/25 13:26	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/28/25 13:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/28/25 13:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		10/28/25 13:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		10/28/25 13:26	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		10/28/25 13:26	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/28/25 13:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		10/28/25 13:26	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		10/28/25 13:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		10/28/25 13:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: MW 5R **Lab ID: 92825636002** Collected: 10/23/25 12:39 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	10/30/25 08:22	10/30/25 20:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	73	%	60-140		1	10/30/25 08:22	10/30/25 20:28	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		10/29/25 20:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		10/29/25 20:00	994-05-8	
Benzene	**3880**	ug/L	250	86.2	250		10/29/25 20:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		10/29/25 20:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		10/29/25 20:00	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		10/29/25 20:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		10/29/25 20:00	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		10/29/25 20:00	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		10/29/25 20:00	64-17-5	
Ethylbenzene	**3170**	ug/L	250	76.0	250		10/29/25 20:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		10/29/25 20:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		10/29/25 20:00	1634-04-4	
Naphthalene	**2750**	ug/L	250	161	250		10/29/25 20:00	91-20-3	
Toluene	**24700**	ug/L	250	121	250		10/29/25 20:00	108-88-3	
Xylene (Total)	**22200**	ug/L	250	84.5	250		10/29/25 20:00	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		250		10/29/25 20:00	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		250		10/29/25 20:00	17060-07-0	
Toluene-d8 (S)	99	%	70-130		250		10/29/25 20:00	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: MW 8 **Lab ID: 92825636003** Collected: 10/23/25 10:31 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.0073	1	10/30/25 08:22	10/30/25 20:39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	142	%	60-140		1	10/30/25 08:22	10/30/25 20:39	301-79-56	S3
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	**180**	ug/L	100	36.4	1		10/28/25 13:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/28/25 13:44	994-05-8	
Benzene	**18.8**	ug/L	1.0	0.34	1		10/28/25 13:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/28/25 13:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/28/25 13:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/28/25 13:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/28/25 13:44	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		10/28/25 13:44	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/28/25 13:44	64-17-5	
Ethylbenzene	**13.6**	ug/L	1.0	0.30	1		10/28/25 13:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/28/25 13:44	637-92-3	
Methyl-tert-butyl ether	**3.4**	ug/L	1.0	0.42	1		10/28/25 13:44	1634-04-4	
Naphthalene	**9.6**	ug/L	1.0	0.64	1		10/28/25 13:44	91-20-3	
Toluene	**0.55J**	ug/L	1.0	0.48	1		10/28/25 13:44	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/28/25 13:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		10/28/25 13:44	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		10/28/25 13:44	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		10/28/25 13:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: MW 15R **Lab ID: 92825636004** Collected: 10/23/25 09:54 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0076	1	10/30/25 08:22	10/30/25 20:50	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	10/30/25 08:22	10/30/25 20:50	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		10/28/25 14:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/28/25 14:02	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		10/28/25 14:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/28/25 14:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/28/25 14:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/28/25 14:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/28/25 14:02	107-06-2	
Diisopropyl ether	**1.6**	ug/L	1.0	0.31	1		10/28/25 14:02	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/28/25 14:02	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/28/25 14:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/28/25 14:02	637-92-3	
Methyl-tert-butyl ether	**17.8**	ug/L	1.0	0.42	1		10/28/25 14:02	1634-04-4	
Naphthalene	**0.73J**	ug/L	1.0	0.64	1		10/28/25 14:02	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		10/28/25 14:02	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/28/25 14:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		10/28/25 14:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/28/25 14:02	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		10/28/25 14:02	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: MW 21 **Lab ID: 92825636005** Collected: 10/23/25 10:54 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0074	1	10/30/25 08:22	10/30/25 21:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	120	%	60-140		1	10/30/25 08:22	10/30/25 21:02	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	5000	1820	50		10/29/25 19:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	133	50		10/29/25 19:06	994-05-8	
Benzene	**248**	ug/L	50.0	17.2	50		10/29/25 19:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2600	50		10/29/25 19:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1340	50		10/29/25 19:06	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	1470	50		10/29/25 19:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	16.1	50		10/29/25 19:06	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	15.4	50		10/29/25 19:06	108-20-3	
Ethanol	ND	ug/L	10000	3610	50		10/29/25 19:06	64-17-5	
Ethylbenzene	**1520**	ug/L	50.0	15.2	50		10/29/25 19:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	162	50		10/29/25 19:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	21.1	50		10/29/25 19:06	1634-04-4	
Naphthalene	**730**	ug/L	50.0	32.2	50		10/29/25 19:06	91-20-3	
Toluene	**9390**	ug/L	50.0	24.2	50		10/29/25 19:06	108-88-3	
Xylene (Total)	**8060**	ug/L	50.0	16.9	50		10/29/25 19:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		50		10/29/25 19:06	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		50		10/29/25 19:06	17060-07-0	
Toluene-d8 (S)	99	%	70-130		50		10/29/25 19:06	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: RW 1 **Lab ID: 92825636006** Collected: 10/23/25 11:16 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0073	1	10/30/25 08:22	10/30/25 21:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	10/30/25 08:22	10/30/25 21:13	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	12500	4550	125		10/30/25 13:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	332	125		10/30/25 13:50	994-05-8	
Benzene	**934**	ug/L	125	43.1	125		10/30/25 13:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	6490	125		10/30/25 13:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	3350	125		10/30/25 13:50	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	3680	125		10/30/25 13:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	40.2	125		10/30/25 13:50	107-06-2	
Diisopropyl ether	ND	ug/L	125	38.5	125		10/30/25 13:50	108-20-3	
Ethanol	ND	ug/L	25000	9020	125		10/30/25 13:50	64-17-5	v1
Ethylbenzene	**2000**	ug/L	125	38.0	125		10/30/25 13:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	405	125		10/30/25 13:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	52.8	125		10/30/25 13:50	1634-04-4	
Naphthalene	**428**	ug/L	125	80.6	125		10/30/25 13:50	91-20-3	v1
Toluene	**23700**	ug/L	125	60.6	125		10/30/25 13:50	108-88-3	
Xylene (Total)	**8350**	ug/L	125	42.2	125		10/30/25 13:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		125		10/30/25 13:50	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		125		10/30/25 13:50	17060-07-0	
Toluene-d8 (S)	101	%	70-130		125		10/30/25 13:50	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: RW 2 **Lab ID: 92825636007** Collected: 10/23/25 11:43 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	10/30/25 08:22	10/30/25 21:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	126	%	60-140		1	10/30/25 08:22	10/30/25 21:24	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	25000	9100	250		10/29/25 20:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	665	250		10/29/25 20:19	994-05-8	
Benzene	**10300**	ug/L	250	86.2	250		10/29/25 20:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13000	250		10/29/25 20:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6700	250		10/29/25 20:19	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	7350	250		10/29/25 20:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	80.5	250		10/29/25 20:19	107-06-2	
Diisopropyl ether	ND	ug/L	250	77.0	250		10/29/25 20:19	108-20-3	
Ethanol	ND	ug/L	50000	18000	250		10/29/25 20:19	64-17-5	
Ethylbenzene	**2000**	ug/L	250	76.0	250		10/29/25 20:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	810	250		10/29/25 20:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	106	250		10/29/25 20:19	1634-04-4	
Naphthalene	**732**	ug/L	250	161	250		10/29/25 20:19	91-20-3	
Toluene	**30200**	ug/L	250	121	250		10/29/25 20:19	108-88-3	
Xylene (Total)	**9720**	ug/L	250	84.5	250		10/29/25 20:19	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		250		10/29/25 20:19	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		250		10/29/25 20:19	17060-07-0	
Toluene-d8 (S)	99	%	70-130		250		10/29/25 20:19	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: RW 3 **Lab ID: 92825636008** Collected: 10/23/25 12:09 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.59**	ug/L	0.020	0.0076	1	10/30/25 08:22	10/30/25 21:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	10/30/25 08:22	10/30/25 21:35	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	20000	7280	200		10/29/25 19:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	532	200		10/29/25 19:42	994-05-8	
Benzene	**8450**	ug/L	200	69.0	200		10/29/25 19:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	10400	200		10/29/25 19:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5360	200		10/29/25 19:42	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	5880	200		10/29/25 19:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	64.4	200		10/29/25 19:42	107-06-2	
Diisopropyl ether	ND	ug/L	200	61.6	200		10/29/25 19:42	108-20-3	
Ethanol	ND	ug/L	40000	14400	200		10/29/25 19:42	64-17-5	
Ethylbenzene	**1320**	ug/L	200	60.8	200		10/29/25 19:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	648	200		10/29/25 19:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	84.4	200		10/29/25 19:42	1634-04-4	
Naphthalene	**653**	ug/L	200	129	200		10/29/25 19:42	91-20-3	
Toluene	**22800**	ug/L	200	97.0	200		10/29/25 19:42	108-88-3	
Xylene (Total)	**12500**	ug/L	200	67.6	200		10/29/25 19:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		200		10/29/25 19:42	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		200		10/29/25 19:42	17060-07-0	
Toluene-d8 (S)	99	%	70-130		200		10/29/25 19:42	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: DUP **Lab ID: 92825636009** Collected: 10/23/25 12:00 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	**0.52**	ug/L	0.020	0.0076	1	10/30/25 08:22	10/30/25 21:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	10/30/25 08:22	10/30/25 21:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	20000	7280	200		10/30/25 14:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	532	200		10/30/25 14:27	994-05-8	
Benzene	**9580**	ug/L	200	69.0	200		10/30/25 14:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	10400	200		10/30/25 14:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5360	200		10/30/25 14:27	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	5880	200		10/30/25 14:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	64.4	200		10/30/25 14:27	107-06-2	
Diisopropyl ether	ND	ug/L	200	61.6	200		10/30/25 14:27	108-20-3	
Ethanol	ND	ug/L	40000	14400	200		10/30/25 14:27	64-17-5	v1
Ethylbenzene	**1630**	ug/L	200	60.8	200		10/30/25 14:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	648	200		10/30/25 14:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	200	84.4	200		10/30/25 14:27	1634-04-4	
Naphthalene	**642**	ug/L	200	129	200		10/30/25 14:27	91-20-3	v1
Toluene	**26400**	ug/L	200	97.0	200		10/30/25 14:27	108-88-3	
Xylene (Total)	**13500**	ug/L	200	67.6	200		10/30/25 14:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		200		10/30/25 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		200		10/30/25 14:27	17060-07-0	
Toluene-d8 (S)	101	%	70-130		200		10/30/25 14:27	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: FB **Lab ID: 92825636010** Collected: 10/23/25 12:00 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0077	1	10/30/25 08:22	10/30/25 21:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	10/30/25 08:22	10/30/25 21:58	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		10/26/25 12:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/26/25 12:04	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		10/26/25 12:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/26/25 12:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/26/25 12:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/26/25 12:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/26/25 12:04	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		10/26/25 12:04	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/26/25 12:04	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/26/25 12:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/26/25 12:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		10/26/25 12:04	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		10/26/25 12:04	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		10/26/25 12:04	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/26/25 12:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		10/26/25 12:04	460-00-4	
1,2-Dichloroethane-d4 (S)	82	%	70-130		1		10/26/25 12:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		10/26/25 12:04	2037-26-5	

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: EQUIP **Lab ID: 92825636011** Collected: 10/23/25 12:00 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Charlotte								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0075	1	10/30/25 08:22	10/30/25 22:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	10/30/25 08:22	10/30/25 22:54	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		10/26/25 12:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/26/25 12:22	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		10/26/25 12:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/26/25 12:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/26/25 12:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/26/25 12:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/26/25 12:22	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		10/26/25 12:22	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/26/25 12:22	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/26/25 12:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/26/25 12:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		10/26/25 12:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		10/26/25 12:22	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		10/26/25 12:22	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/26/25 12:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	83	%	70-130		1		10/26/25 12:22	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130		1		10/26/25 12:22	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		10/26/25 12:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Former Crown SC-015
Pace Project No.: 92825636

Sample: TB **Lab ID: 92825636012** Collected: 10/23/25 00:00 Received: 10/23/25 14:27 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte								
tert-Amyl Alcohol	ND	ug/L	100	36.4	1		10/26/25 12:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	2.7	1		10/26/25 12:40	994-05-8	
Benzene	ND	ug/L	1.0	0.34	1		10/26/25 12:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	51.9	1		10/26/25 12:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	26.8	1		10/26/25 12:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	29.4	1		10/26/25 12:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.32	1		10/26/25 12:40	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.31	1		10/26/25 12:40	108-20-3	
Ethanol	ND	ug/L	200	72.2	1		10/26/25 12:40	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/26/25 12:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.2	1		10/26/25 12:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.42	1		10/26/25 12:40	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.64	1		10/26/25 12:40	91-20-3	
Toluene	ND	ug/L	1.0	0.48	1		10/26/25 12:40	108-88-3	
Xylene (Total)	ND	ug/L	1.0	0.34	1		10/26/25 12:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		10/26/25 12:40	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130		1		10/26/25 12:40	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		10/26/25 12:40	2037-26-5	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 969322
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636010, 92825636011, 92825636012

METHOD BLANK: 4982069 Matrix: Water
Associated Lab Samples: 92825636010, 92825636011, 92825636012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	10/26/25 09:18	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	10/26/25 09:18	
Benzene	ug/L	ND	1.0	0.34	10/26/25 09:18	
Diisopropyl ether	ug/L	ND	1.0	0.31	10/26/25 09:18	
Ethanol	ug/L	ND	200	72.2	10/26/25 09:18	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	10/26/25 09:18	
Ethylbenzene	ug/L	ND	1.0	0.30	10/26/25 09:18	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	10/26/25 09:18	
Naphthalene	ug/L	ND	1.0	0.64	10/26/25 09:18	
tert-Amyl Alcohol	ug/L	ND	100	36.4	10/26/25 09:18	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	10/26/25 09:18	
tert-Butyl Alcohol	ug/L	ND	100	26.8	10/26/25 09:18	
tert-Butyl Formate	ug/L	ND	50.0	29.4	10/26/25 09:18	
Toluene	ug/L	ND	1.0	0.48	10/26/25 09:18	
Xylene (Total)	ug/L	ND	1.0	0.34	10/26/25 09:18	
1,2-Dichloroethane-d4 (S)	%	84	70-130		10/26/25 09:18	
4-Bromofluorobenzene (S)	%	92	70-130		10/26/25 09:18	
Toluene-d8 (S)	%	112	70-130		10/26/25 09:18	

LABORATORY CONTROL SAMPLE: 4982070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	18.1	90	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	395	99	70-130	
Benzene	ug/L	20	20.3	101	70-130	
Diisopropyl ether	ug/L	20	19.2	96	70-130	
Ethanol	ug/L	800	668	84	70-130	
Ethyl-tert-butyl ether	ug/L	40	39.9	100	70-130	
Ethylbenzene	ug/L	20	21.2	106	70-130	
Methyl-tert-butyl ether	ug/L	20	18.3	92	70-130	
Naphthalene	ug/L	20	22.6	113	70-130	
tert-Amyl Alcohol	ug/L	400	363	91	70-130	
tert-Amylmethyl ether	ug/L	40	34.0	85	70-130	
tert-Butyl Alcohol	ug/L	200	169	85	70-130	
tert-Butyl Formate	ug/L	160	128	80	70-130	
Toluene	ug/L	20	19.1	95	70-130	
Xylene (Total)	ug/L	60	64.9	108	70-130	
1,2-Dichloroethane-d4 (S)	%			83	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

LABORATORY CONTROL SAMPLE: 4982070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			90	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4982071 4982072

Parameter	Units	92825515007 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	20	20	22.9	21.6	114	108	70-137	6	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	464	429	116	107	39-157	8	30	
Benzene	ug/L	ND	20	20	24.0	22.6	120	113	70-151	6	30	
Diisopropyl ether	ug/L	ND	20	20	23.3	22.0	117	110	63-144	6	30	
Ethanol	ug/L	ND	800	800	1310	1280	164	160	39-176	2	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	45.4	42.5	113	106	66-137	7	30	
Ethylbenzene	ug/L	ND	20	20	24.7	22.2	124	111	66-153	11	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	22.5	20.3	112	102	54-156	10	30	
Naphthalene	ug/L	ND	20	20	28.2	26.1	141	131	61-148	8	30	
tert-Amyl Alcohol	ug/L	ND	400	400	487	459	122	115	54-153	6	30	
tert-Amylmethyl ether	ug/L	ND	40	40	44.0	40.6	110	102	69-139	8	30	
tert-Butyl Alcohol	ug/L	ND	200	200	304	291	152	145	43-188	5	30	
tert-Butyl Formate	ug/L	ND	160	160	ND	ND	12	8	10-170		30	P5
Toluene	ug/L	ND	20	20	23.9	22.0	120	110	59-148	8	30	
Xylene (Total)	ug/L	ND	60	60	73.9	67.4	123	112	63-158	9	30	
1,2-Dichloroethane-d4 (S)	%						105	101	70-130			
4-Bromofluorobenzene (S)	%						100	98	70-130			
Toluene-d8 (S)	%						100	100	70-130			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 969534
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636002, 92825636005, 92825636007, 92825636008

METHOD BLANK: 4983035 Matrix: Water
Associated Lab Samples: 92825636002, 92825636005, 92825636007, 92825636008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	10/29/25 13:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	10/29/25 13:03	
Benzene	ug/L	ND	1.0	0.34	10/29/25 13:03	
Diisopropyl ether	ug/L	ND	1.0	0.31	10/29/25 13:03	
Ethanol	ug/L	ND	200	72.2	10/29/25 13:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	10/29/25 13:03	
Ethylbenzene	ug/L	ND	1.0	0.30	10/29/25 13:03	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	10/29/25 13:03	
Naphthalene	ug/L	ND	1.0	0.64	10/29/25 13:03	
tert-Amyl Alcohol	ug/L	ND	100	36.4	10/29/25 13:03	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	10/29/25 13:03	
tert-Butyl Alcohol	ug/L	ND	100	26.8	10/29/25 13:03	
tert-Butyl Formate	ug/L	ND	50.0	29.4	10/29/25 13:03	
Toluene	ug/L	ND	1.0	0.48	10/29/25 13:03	
Xylene (Total)	ug/L	ND	1.0	0.34	10/29/25 13:03	
1,2-Dichloroethane-d4 (S)	%	95	70-130		10/29/25 13:03	
4-Bromofluorobenzene (S)	%	97	70-130		10/29/25 13:03	
Toluene-d8 (S)	%	102	70-130		10/29/25 13:03	

LABORATORY CONTROL SAMPLE: 4983036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	19.1	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	373	93	70-130	
Benzene	ug/L	20	19.8	99	70-130	
Diisopropyl ether	ug/L	20	17.7	89	70-130	
Ethanol	ug/L	800	720	90	70-130	
Ethyl-tert-butyl ether	ug/L	40	37.5	94	70-130	
Ethylbenzene	ug/L	20	19.0	95	70-130	
Methyl-tert-butyl ether	ug/L	20	18.1	91	70-130	
Naphthalene	ug/L	20	18.4	92	70-130	
tert-Amyl Alcohol	ug/L	400	370	93	70-130	
tert-Amylmethyl ether	ug/L	40	37.4	93	70-130	
tert-Butyl Alcohol	ug/L	200	175	88	70-130	
tert-Butyl Formate	ug/L	160	151	94	70-130	
Toluene	ug/L	20	19.1	95	70-130	
Xylene (Total)	ug/L	60	58.6	98	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

LABORATORY CONTROL SAMPLE: 4983036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 4983037

Parameter	Units	92825583027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.1	100	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	371	93	39-157	
Benzene	ug/L	ND	20	19.7	99	70-151	
Diisopropyl ether	ug/L	ND	20	18.0	90	63-144	
Ethanol	ug/L	ND	800	685	86	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	38.0	95	66-137	
Ethylbenzene	ug/L	ND	20	18.6	93	66-153	
Methyl-tert-butyl ether	ug/L	1.4	20	20.1	93	54-156	
Naphthalene	ug/L	ND	20	15.2	76	61-148	
tert-Amyl Alcohol	ug/L	ND	400	357	89	54-153	
tert-Amylmethyl ether	ug/L	ND	40	36.8	92	69-139	
tert-Butyl Alcohol	ug/L	ND	200	215	96	43-188	
tert-Butyl Formate	ug/L	ND	160	130	81	10-170	
Toluene	ug/L	ND	20	18.6	93	59-148	
Xylene (Total)	ug/L	ND	60	56.1	93	63-158	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 4983038

Parameter	Units	92825515003 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)	%	101	100			
4-Bromofluorobenzene (S)	%	98	97			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

SAMPLE DUPLICATE: 4983038

Parameter	Units	92825515003 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	101	97			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 969536
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636001, 92825636003, 92825636004

METHOD BLANK: 4983043 Matrix: Water
Associated Lab Samples: 92825636001, 92825636003, 92825636004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	10/28/25 09:31	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	10/28/25 09:31	
Benzene	ug/L	ND	1.0	0.34	10/28/25 09:31	
Diisopropyl ether	ug/L	ND	1.0	0.31	10/28/25 09:31	
Ethanol	ug/L	ND	200	72.2	10/28/25 09:31	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	10/28/25 09:31	
Ethylbenzene	ug/L	ND	1.0	0.30	10/28/25 09:31	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	10/28/25 09:31	
Naphthalene	ug/L	ND	1.0	0.64	10/28/25 09:31	
tert-Amyl Alcohol	ug/L	ND	100	36.4	10/28/25 09:31	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	10/28/25 09:31	
tert-Butyl Alcohol	ug/L	ND	100	26.8	10/28/25 09:31	
tert-Butyl Formate	ug/L	ND	50.0	29.4	10/28/25 09:31	
Toluene	ug/L	ND	1.0	0.48	10/28/25 09:31	
Xylene (Total)	ug/L	ND	1.0	0.34	10/28/25 09:31	
1,2-Dichloroethane-d4 (S)	%	96	70-130		10/28/25 09:31	
4-Bromofluorobenzene (S)	%	99	70-130		10/28/25 09:31	
Toluene-d8 (S)	%	100	70-130		10/28/25 09:31	

LABORATORY CONTROL SAMPLE: 4983044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	19.8	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	378	94	70-130	
Benzene	ug/L	20	20.1	100	70-130	
Diisopropyl ether	ug/L	20	18.9	95	70-130	
Ethanol	ug/L	800	735	92	70-130	
Ethyl-tert-butyl ether	ug/L	40	39.1	98	70-130	
Ethylbenzene	ug/L	20	19.5	98	70-130	
Methyl-tert-butyl ether	ug/L	20	19.0	95	70-130	
Naphthalene	ug/L	20	18.7	94	70-130	
tert-Amyl Alcohol	ug/L	400	360	90	70-130	
tert-Amylmethyl ether	ug/L	40	36.7	92	70-130	
tert-Butyl Alcohol	ug/L	200	171	86	70-130	
tert-Butyl Formate	ug/L	160	157	98	70-130	
Toluene	ug/L	20	19.2	96	70-130	
Xylene (Total)	ug/L	60	60.5	101	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

LABORATORY CONTROL SAMPLE: 4983044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4983045

Parameter	Units	92825519002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.0	100	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	412	103	39-157	
Benzene	ug/L	ND	20	20.6	103	70-151	
Diisopropyl ether	ug/L	ND	20	19.4	97	63-144	
Ethanol	ug/L	ND	800	755	94	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	40.1	100	66-137	
Ethylbenzene	ug/L	ND	20	20.6	103	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	19.5	98	54-156	
Naphthalene	ug/L	ND	20	21.1	106	61-148	
tert-Amyl Alcohol	ug/L	ND	400	396	99	54-153	
tert-Amylmethyl ether	ug/L	ND	40	38.3	96	69-139	
tert-Butyl Alcohol	ug/L	ND	200	227	114	43-188	
tert-Butyl Formate	ug/L	ND	160	77.0	48	10-170	
Toluene	ug/L	ND	20	19.8	99	59-148	
Xylene (Total)	ug/L	ND	60	62.0	103	63-158	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 4983046

Parameter	Units	92825519003 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)	%	98	96			
4-Bromofluorobenzene (S)	%	97	97			

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REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

SAMPLE DUPLICATE: 4983046

Parameter	Units	92825519003 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	101	101			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 970239
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260 MSV Low Level SC
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636006, 92825636009

METHOD BLANK: 4986521 Matrix: Water
Associated Lab Samples: 92825636006, 92825636009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	0.32	10/30/25 08:54	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	51.9	10/30/25 08:54	
Benzene	ug/L	ND	1.0	0.34	10/30/25 08:54	
Diisopropyl ether	ug/L	ND	1.0	0.31	10/30/25 08:54	
Ethanol	ug/L	ND	200	72.2	10/30/25 08:54	v1
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.2	10/30/25 08:54	
Ethylbenzene	ug/L	ND	1.0	0.30	10/30/25 08:54	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.42	10/30/25 08:54	
Naphthalene	ug/L	ND	1.0	0.64	10/30/25 08:54	v1
tert-Amyl Alcohol	ug/L	ND	100	36.4	10/30/25 08:54	
tert-Amylmethyl ether	ug/L	ND	10.0	2.7	10/30/25 08:54	
tert-Butyl Alcohol	ug/L	ND	100	26.8	10/30/25 08:54	
tert-Butyl Formate	ug/L	ND	50.0	29.4	10/30/25 08:54	
Toluene	ug/L	ND	1.0	0.48	10/30/25 08:54	
Xylene (Total)	ug/L	ND	1.0	0.34	10/30/25 08:54	
1,2-Dichloroethane-d4 (S)	%	94	70-130		10/30/25 08:54	
4-Bromofluorobenzene (S)	%	97	70-130		10/30/25 08:54	
Toluene-d8 (S)	%	101	70-130		10/30/25 08:54	

LABORATORY CONTROL SAMPLE: 4986522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	20.3	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	400	404	101	70-130	
Benzene	ug/L	20	21.7	109	70-130	
Diisopropyl ether	ug/L	20	20.7	104	70-130	
Ethanol	ug/L	800	980	123	70-130	v1
Ethyl-tert-butyl ether	ug/L	40	40.5	101	70-130	
Ethylbenzene	ug/L	20	22.2	111	70-130	
Methyl-tert-butyl ether	ug/L	20	20.4	102	70-130	
Naphthalene	ug/L	20	25.0	125	70-130	v1
tert-Amyl Alcohol	ug/L	400	415	104	70-130	
tert-Amylmethyl ether	ug/L	40	38.9	97	70-130	
tert-Butyl Alcohol	ug/L	200	194	97	70-130	
tert-Butyl Formate	ug/L	160	154	97	70-130	
Toluene	ug/L	20	20.7	104	70-130	
Xylene (Total)	ug/L	60	66.6	111	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

LABORATORY CONTROL SAMPLE: 4986522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 4986524

Parameter	Units	92825435024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.1	106	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	422	106	39-157	
Benzene	ug/L	ND	20	22.8	114	70-151	
Diisopropyl ether	ug/L	ND	20	21.7	108	63-144	
Ethanol	ug/L	ND	800	1260	158	39-176	v1
Ethyl-tert-butyl ether	ug/L	ND	40	41.7	104	66-137	
Ethylbenzene	ug/L	ND	20	23.4	117	66-153	
Methyl-tert-butyl ether	ug/L	ND	20	20.4	102	54-156	
Naphthalene	ug/L	ND	20	25.5	128	61-148	
tert-Amyl Alcohol	ug/L	ND	400	428	107	54-153	
tert-Amylmethyl ether	ug/L	ND	40	40.4	101	69-139	
tert-Butyl Alcohol	ug/L	ND	200	216	108	43-188	
tert-Butyl Formate	ug/L	ND	160	136	85	10-170	
Toluene	ug/L	ND	20	22.3	111	59-148	
Xylene (Total)	ug/L	ND	60	71.0	118	63-158	
1,2-Dichloroethane-d4 (S)	%				96	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 4986523

Parameter	Units	92825435023 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	v1
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)	%	97	87			
4-Bromofluorobenzene (S)	%	93	96			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

SAMPLE DUPLICATE: 4986523

Parameter	Units	92825435023 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	107	102			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 970205
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636001, 92825636002, 92825636003, 92825636004, 92825636005, 92825636006, 92825636007, 92825636008, 92825636009, 92825636010

METHOD BLANK: 4986447 Matrix: Water
Associated Lab Samples: 92825636001, 92825636002, 92825636003, 92825636004, 92825636005, 92825636006, 92825636007, 92825636008, 92825636009, 92825636010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	10/30/25 17:18	
1-Chloro-2-bromopropane (S)	%	128	60-140		10/30/25 17:18	

LABORATORY CONTROL SAMPLE & LCSD: 4986448 4986449

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.30	0.27	122	110	60-140	11	20	
1-Chloro-2-bromopropane (S)	%				122	112	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4986451 4986452

Parameter	Units	92825552038 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.28	0.30	115	121	60-140	5	20	
1-Chloro-2-bromopropane (S)	%						116	122	60-140			

SAMPLE DUPLICATE: 4986450

Parameter	Units	92825552037 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	110	132			

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QUALITY CONTROL DATA

Project: Former Crown SC-015
Pace Project No.: 92825636

QC Batch: 970206
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92825636011

METHOD BLANK: 4986453 Matrix: Water
Associated Lab Samples: 92825636011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0074	10/30/25 22:20	
1-Chloro-2-bromopropane (S)	%	140	60-140		10/30/25 22:20	

LABORATORY CONTROL SAMPLE & LCSD: 4986454 4986455

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.27	0.28	108	111	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				109	114	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4986457 4986458

Parameter	Units	92826544002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.26	0.26	0.31	0.33	120	129	60-140	7	20	
1-Chloro-2-bromopropane (S)	%						117	125	60-140			

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(704)875-9092

QUALIFIERS

Project: Former Crown SC-015
Pace Project No.: 92825636

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Former Crown SC-015
Pace Project No.: 92825636

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92825636001	**MW 1AR**	EPA 8011	970205	EPA 8011	970249
92825636002	**MW 5R**	EPA 8011	970205	EPA 8011	970249
92825636003	**MW 8**	EPA 8011	970205	EPA 8011	970249
92825636004	**MW 15R**	EPA 8011	970205	EPA 8011	970249
92825636005	**MW 21**	EPA 8011	970205	EPA 8011	970249
92825636006	**RW 1**	EPA 8011	970205	EPA 8011	970249
92825636007	**RW 2**	EPA 8011	970205	EPA 8011	970249
92825636008	**RW 3**	EPA 8011	970205	EPA 8011	970249
92825636009	**DUP**	EPA 8011	970205	EPA 8011	970249
92825636010	**FB**	EPA 8011	970205	EPA 8011	970249
92825636011	**EQUIP**	EPA 8011	970206	EPA 8011	970250
92825636001	**MW 1AR**	EPA 8260D	969536		
92825636002	**MW 5R**	EPA 8260D	969534		
92825636003	**MW 8**	EPA 8260D	969536		
92825636004	**MW 15R**	EPA 8260D	969536		
92825636005	**MW 21**	EPA 8260D	969534		
92825636006	**RW 1**	EPA 8260D	970239		
92825636007	**RW 2**	EPA 8260D	969534		
92825636008	**RW 3**	EPA 8260D	969534		
92825636009	**DUP**	EPA 8260D	970239		
92825636010	**FB**	EPA 8260D	969322		
92825636011	**EQUIP**	EPA 8260D	969322		
92825636012	**TB**	EPA 8260D	969322		

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Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Quality Environmental

Project #:

WO# : 92825636

92825636

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No ☑ N/A

Date/Initials Person Examining Contents: JCL 10-24-25

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: G2283

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.1 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 3.1

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: Date:

Project Manager SRF Review: Date:

*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 bottles
***Check all unpreserved Nitrates for chlorine

Project # **WO#: 92825636**

PM: BH Due Date: 11/04/25
CLIENT: 92-QualEnv

Laboratory Receiving location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client Quality Env Profile (EZ) (Circle one) 331464 Notes

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)	BP4B-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)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)		BP3R-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
CC																	4H													
1																	6													
2																	6													
3																	6													
4																	6													
5																	6													
6																	6													
7																	6													
8																	6													
9																	6													
10																	6													
11																	6													
12																	2													

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 DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): South Carolina

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 6 6

Identify Container Preservative Type***: 4 4

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: Blake Hilton; AcctNum / Client ID:; Table #:; Profile / Template: 14987; Prelog / Bottle Ord. ID: EZ 3314694

Preservation non-conformance identified for sample.

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB	8260 MSV Low Level SC - BTEXNM, DCA, Oxys	Sample Comment
MW1AR	GW	G			10/23	919	6			X	X	
MW5R	GW	G			10/23	1234	6			X	X	
MW8	GW	G			10/23	1031	6			X	X	
MW15R	GW	G			10/23	954	6			X	X	
MW21	GW	G			10/23	1054	6			X	X	
RW1	GW	G			10/23	1116	6			X	X	
RW2	GW	G			10/23	1143	6			X	X	
RW3	GW	G			10/23	1209	6			X	X	
Dup	GW	G			10/23	1200	6			X	X	
FB	GW	G			10/23	1200	6			X	X	

Additional Instructions from Pace®:

Collected By: (Printed Name) Austin Smith-Jones

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C) | Corrected Temp. (°C) | On Ice:

Relinquished by/Company: (Signature) QES	Date/Time: 10/23/25 1427	Received by/Company: (Signature)	Date/Time: 10/23/25 1427	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

Pace® Location Requested (City/State):
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100, Huntersville, NC 28078

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	Quality Environmental Solutions, Inc.	Contact/Report To:	Don Jones
Street Address:	2112 Loblolly Lane Johns Island, SC 29455	Phone #:	410-841-5522
		E-Mail:	djones@qualityenvironmental.net
		Cc E-Mail:	
Customer Project #:			
Project Name:	Former Crown SC-015	Invoice To:	Don Jones
		Invoice E-Mail:	djones@qualityenvironmental.net
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	19802

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s): South Carolina

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	8011 GCS EDB	8260 MSV Low Level SC - BTEXNM, DCA, Oxys									Sample Comment
Specify Container Size **										6	6									
Identify Container Preservative Type***										4	4									
Equip	GW	G			10/23	1200	6			X	X									
TB	Lab		Provided				2				X									

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: **Blake Hilton**
AcctNum / Client ID:
Table #:
Profile / Template: **14987**
Prelog / Bottle Ord. ID: **EZ 3314694**

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By:
(Printed Name) Austin Smith-Jones
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
	10/23/25 1427	PACE	10/23/25 1427	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

APPENDIX G

DISPOSAL MANIFEST

APPENDIX K

DATA VERIFICATION CHECKLIST

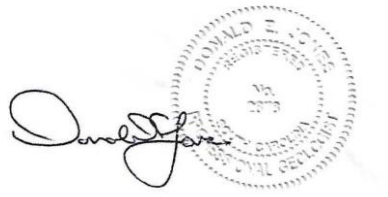
Contractor Checklist

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is 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

Item #	Item	Yes	No	N/A
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
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 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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		

Item #	Item	Yes	No	N/A
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)			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 A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs, DHEC Form 2099, and DHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? (Appendix G)		X	
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			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?	X		

Exceptions: Disposal manifest will be forwarded upon reciept for inclusion in Appendix G.



Signed By: Donald E. Jones, RPG Date: November 10, 2025