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ARCADIS Design & Consultancy for natural and built assets

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Mr. Tim Hornosky
State Remediation Section
SC Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Arcadis U.S., Inc.
1450 Greene Street
Suite 220
Augusta
Georgia 30901-5201
Tel 706 828 4421
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www.arcadis.com

ENVIRONMENT

Subject:
First Semiannual 2018 Groundwater Report
Brenntag Southeast, Charleston, South Carolina

Date:
21 August 2018

Contact:
Edward Hirshenson

Phone:
706.828.4421

Email:
Edward.hirshenson@arcadis.com

Our ref:
SC000204.0018

Dear Tim Hornosky:

Brenntag Southeast, Inc. has authorized ARCADIS U.S., Inc. to forward the enclosed two copies of the First Semiannual 2018 Groundwater Report, and an electronic pdf, for the Brenntag Southeast facility in Charleston, South Carolina.

Please call me at (706) 828-4421 if you have any questions.

Sincerely,

Arcadis U.S., Inc.

Edward Hirshenson

Senior Scientist

Copies:

Mr. Bill Krecker/SCDHEC Water Pollution Enforcement (without report)
Mr. Shawn Wiram/North America/Brenntag (with report)

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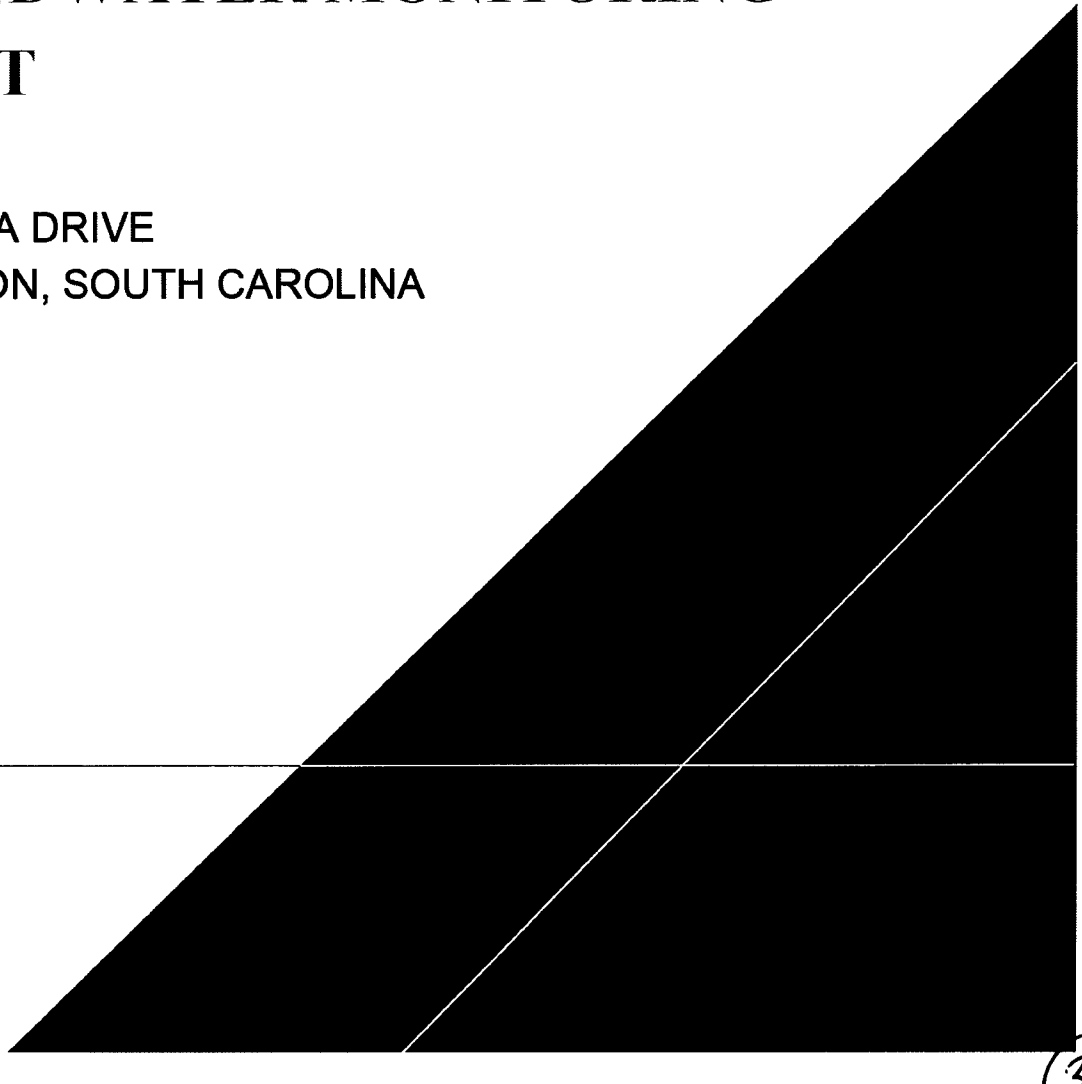
BRENNTAG SOUTHEAST, INC.

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

4200 AZALEA DRIVE
CHARLESTON, SOUTH CAROLINA

21 August 2018



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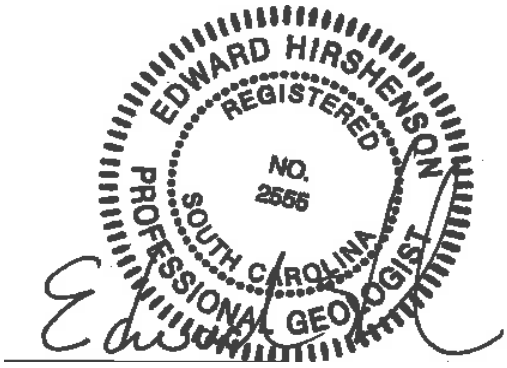
FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

Brenntag Southeast, Inc.
4200 Azalea Drive
Charleston, South Carolina

Prepared for:

Brenntag Southeast



Edward Hirshenson, P.G. #2555

Senior Scientist

Prepared by:

Arcadis U.S., Inc.
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Our Ref.:

SC000204.0017

Date:

21 August 2018

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INTRODUCTION

ARCADIS was retained by Brenntag Southeast, Inc. (Brenntag Southeast) to conduct the first semiannual 2018 sampling event for the Brenntag Southeast facility in Charleston, South Carolina. Brenntag Southeast monitors groundwater and surface water quality at the facility on a semiannual basis in accordance with a consent agreement with the South Carolina Department of Health and Environmental Control (SCDHEC). The current network of monitoring wells for the Brenntag Southeast facility includes MW-1, MW-2R, MW-5, MW-6, MW-7, MW-8, MW-13, MW-14, and MW-15 were installed to monitor groundwater impacts, from chlorinated solvents and a mixture of petroleum and solvents, in two areas, respectively; Area #1, located at the Former Solvent Storage Area and Area #2, located at the Former Above Ground Storage Tank Area, as shown on Figure 1.

Bird Company monitor wells (MW-4, MW-9, MW-10, MW-11, and MW-12), located on the adjacent Bird Company property and shown on Figure 1, are not included in the monitoring program. Groundwater quality from those wells is reported to SCDHEC under a separate consent agreement with the Bird Company.

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING FIELD ACTIVITIES

MONITOR WELL UPGRADES

Prior to the first semiannual 2018 groundwater monitoring event at the Brenntag Southeast facility, several monitor wells needed repairs. Repairs were conducted on April 2-4 of 2018 and wells that were repaired are as listed below:

- MW-1: New manhole vault and cement pad installed;
- MW-5: New protective stick up cover and cement pad installed;
- MW-6: Cement pad was uncovered;
- MW-8: New manhole vault and cement pad installed; and
- MW-14: New manhole vault and cement pad installed.

FIRST SEMIANNUAL 2018 RESULTS

ARCADIS sampled Brenntag Southeast monitoring wells MW-1, MW-2R, MW-5, MW-6, MW-7, MW-8, MW-13, MW-14, MW-15, and surface water locations SW-1, SW-2, and SW-3 at the Brenntag Southeast facility on June 4, 2018 (the first semiannual 2018 sampling event). Groundwater sampling was completed in accordance with standard ARCADIS sampling protocol. Sampling began by measuring the groundwater elevation of each well. Monitoring wells were purged of three well volumes while water quality indicators (pH, temperature, and conductivity) were measured to verify that representative groundwater samples were collected. Groundwater and surface water sampling locations from the first semiannual 2018 sampling event are shown on Figure 1 and listed on Table 1.

First semiannual 2018 groundwater elevations are summarized in Table 2. Hydrographs, illustrating water level fluctuations at the monitoring wells, are included as Appendix A. Groundwater elevation data from the sampling event were used to construct a potentiometric map provided as Figure 2. The direction of groundwater flow at the facility is west towards Brickyard Creek. The Cooper Marl underlies the shallow aquifer system and is an effective regional confining unit inhibiting the deeper migration of groundwater.

Field measurements of pH and conductivity are listed in Table 3. The first semiannual 2018 field measurements are consistent with previously reported water quality measurements. It should be noted, pH for monitor well MW-6 in the last four sampling events (December 2016, June 2017, December 2017, and June 2018) have been reported at 6.4, 7.5, 7.5, 7.5 respectively. Historical pH measurements for MW-6 have recorded high pH. Field sampling forms from the first semiannual 2018 sampling event are included as Appendix B.

Accutest Laboratories in Orlando, Florida (SCDHEC certification # 96038001) analyzed the first semiannual 2018 groundwater samples using EPA method SW-846 8260B. Analytical results are summarized in Table 4. The laboratory report is included as Appendix C.

Groundwater Flow

Water-level measurements were collected from all monitoring wells in June 2018, prior to groundwater sampling and are presented in Table 2. A potentiometric map is included as Figure 2. Water-level data indicate that the general direction of groundwater flow is west toward Brickyard Creek with an average velocity of 2.43 feet/day (888 feet/year). Groundwater velocity was calculated by determining the hydraulic gradient between upgradient well (MW-8) and downgradient well (MW-6). Hydraulic conductivities were calculated from rising head tests performed by General Engineering Labs in 1991 from monitoring wells MW-1, MW-2, MW-3 and MW-4 with an average hydraulic conductivity of 5.4 x 10-3 cm/sec (1.77 x 10-4 ft/sec or 15.29 ft/day). An effective porosity of 20% was assumed for the site. Groundwater flow was calculated from MW-8 (9.37) and MW-6 (3.64) with a distance of approximately 180 feet. The hydraulic gradient is calculated to be 0.032 ft/ft.

Water elevation at MW-13 was recorded at 2.22 feet mean sea level (ft msl) and MW-15 was recorded at 6.48 ft msl. It appears that groundwater, in the vicinity of MW-15, located west of Brickyard Creek, discharges to the creek, flowing in an east-southeast direction. Groundwater flow at the facility is flowing to the west.

Groundwater Quality Results

First semiannual 2018 analyses are summarized in Table 4, with previous groundwater analyses. The “J” qualifier reported at other monitoring wells indicates that the result was between the Reporting Limit and Method Detection Limit and is, therefore, an estimated value. Hydrocarbon constituents and less commonly detected organic compounds at the Brenntag Southeast facility are listed as “others”. Definitions of the organic compound abbreviations are listed at the end of the table.

The distribution of dissolved individual volatile organic compounds (VOCs) in groundwater, including trichloroethene (TCE), cis-1, 2-dichloroethene (cis-1,2-DCE), vinyl chloride, and chlorobenzene, as well

as total VOCs, are included as Figures 3 through 7, respectively. Graphs of individual VOC trends are included as Appendix D. Surface water analyses are summarized in Table 5.

Area #1

The Area #1 release is an area of groundwater impacted with chlorinated solvents downgradient of the Former Solvent Storage Area (see Figure 1). Monitor Wells, MW-7 and MW-13, were installed downgradient of Area #1 to monitor impacts to groundwater from the release of chlorinated solvents. Dissolved VOCs in groundwater downgradient of the source at Area #1 have shown an overall decreasing trend since discontinuation of the air sparging/soil vapor extraction (AS/SVE) system on September 20, 2001 but have increased from June 2007 to October 2010. A slight decrease in VOC concentrations is shown for the first semiannual 2018 sampling event in wells MW-7 and MW-13. The decrease is consistent with historic VOC fluctuations. Graphs showing VOC concentrations in wells MW-7 and MW-13 are shown as Figures 8 and 9, respectively.

First semiannual 2018 groundwater analyses from monitoring well MW-7 detected TCE (5.53 mg/L), cis-1,2- DCE (50.5 mg/L), 1,1-DCA (0.279 J mg/L), 1,1-DCE (0.348 J mg/L), and vinyl chloride (3.21 mg/L). The first semiannual 2018 analyses are slightly lower compared to previous VOC analyses at this well (Table 4). The relative dominance of cis-1,2-DCE and vinyl chloride in groundwater suggests that natural anaerobic biodegradation is occurring in this area.

First semiannual groundwater analyses from monitoring well MW-13 detected TCE (1.01 mg/L), cis-1,2-DCE (21.5 mg/L), 1,1-DCA (0.125 J mg/L), 1,1-DCE (0.158 J mg/L), trans-1,2-DCE (0.054 J mg/L), vinyl chloride (2.06 mg/L), chloroform (0.062 J mg/L) for the June 2018 sampling event. The current and historic appearance of TCE degradation products in groundwater indicates that anaerobic biodegradation is reducing the VOCs from groundwater in the vicinity of monitoring well MW-13.

Area #2

The Area #2 release is a mix of petroleum and solvents from a former above ground storage tank area as shown with a dashed line on Figure 1. Monitoring well MW-14 was installed directly beneath the former tanks in 2003 to monitor groundwater at the Area #2 source. No remedial activities were conducted in the vicinity of monitor well MW-14. First semiannual 2018 groundwater analyses from MW-14 detected cis-1,2-DCE (7.45 mg/L), ethylbenzene (8.84 mg/L), toluene (102 mg/L), xylenes (84.7 mg/L), and chloroform (1.36 J mg/L). Although a thin layer of light non-aqueous phase liquid (LNAPL) has intermittently been detected in this well, no LNAPL was detected in MW-14 during this sampling event.

Volatile Organic Compounds (VOCs) and Hydrocarbon Discussion

- Monitoring well MW-1 detected cis-1,2-DCE (0.022 J mg/L), 1,1-DCA (0.0006 J mg/L), chlorobenzene (0.0003 J mg/L), vinyl chloride (0.0451 mg/L), benzene (0.0022 mg/L), toluene (0.0022 mg/L), xylenes (0.0031 mg/L), and methylocyclohexane (0.00069 J mg/L);
- Monitoring well MW-2R, located upgradient of the Area #1 and #2, detected TCE (0.0019 mg/L), cis-1,2-DCE (0.0022 mg/L), 1,1-DCE (0.001 mg/L), ethylbenzene (0.017 mg/L), xylenes (0.049 mg/L), and Isopropylbenzene (0.001 mg/L);
- Monitoring well MW-5, located downgradient of the Bird Facility and MW-14, detected no VOCs for the June 2018 sampling event;

- Monitoring well MW-6 located downgradient of Solvent Tank Farm detected chlorobenzene (0.011 mg/L) for the June 2018 sampling event;
- Monitoring well MW-15 detected no VOCs for the June 2018 sampling event.

Surface Water

No constituents were detected in surface water samples for the June 2018 sampling event.

Aggressive Fluid Vapor Recovery (AFVR)

ARCADIS conducted an Aggressive Fluid Vapor Recovery (AFVR) event at monitor well MW-14 due to the high concentrations of hydrocarbons on June 6, 2018. The AFVR was recommended in the Second Semiannual 2017 Groundwater Report and approved by the South Carolina Department of Health and Environmental Control (SCDHEC) by Hornosky to Wiram (May 4, 2018). A&D Environmental conducted the test utilizing a one-inch stinger placed inside monitor well MW-14 to capture fluids and vapours. A six-hour test was conducted in which fluids were captured within vac truck and vapours were monitored. A vacuum of 20 inches of mercury was applied during the test and vapours were monitored with a photoionization meter (PID) every 30 minutes. PID readings at the pre-carbon filter ranged from 186.4 ppm to a final reading of 365 ppm. The amount of fluids recovered at end of the test was approximately 370 gallons. Total emissions in pounds removed was approximately 10.11. Field and emission data sheets are included in Appendix E.

Resampling of Monitor Well MW-14

Monitor well MW-14 was sampled approximately 3 weeks after the AFVR test. Groundwater sampling procedure was conducted as described in the above sections. No LNAPL was detected in MW-14, VOCs and hydrocarbons are listed below:

- MW-14 constituents detected consisted of cis 1-2, DCE (4.5 mg/L), TCE (0.45J mg/L), 1,2-DCB (0.45J mg/L), benzene (0.416J mg/L), ethylbenzene (10 mg/L), isopropylbenzene (0.176J mg/L), toluene (67 mg/L), 1,1,1-TCA (0.254J mg/L), and xylenes (99.5 mg/L).

The results of groundwater analysis post the AFVR test are similar to the semiannual groundwater event conducted prior to AFVR test.

CONCLUSIONS AND RECOMMENDATIONS

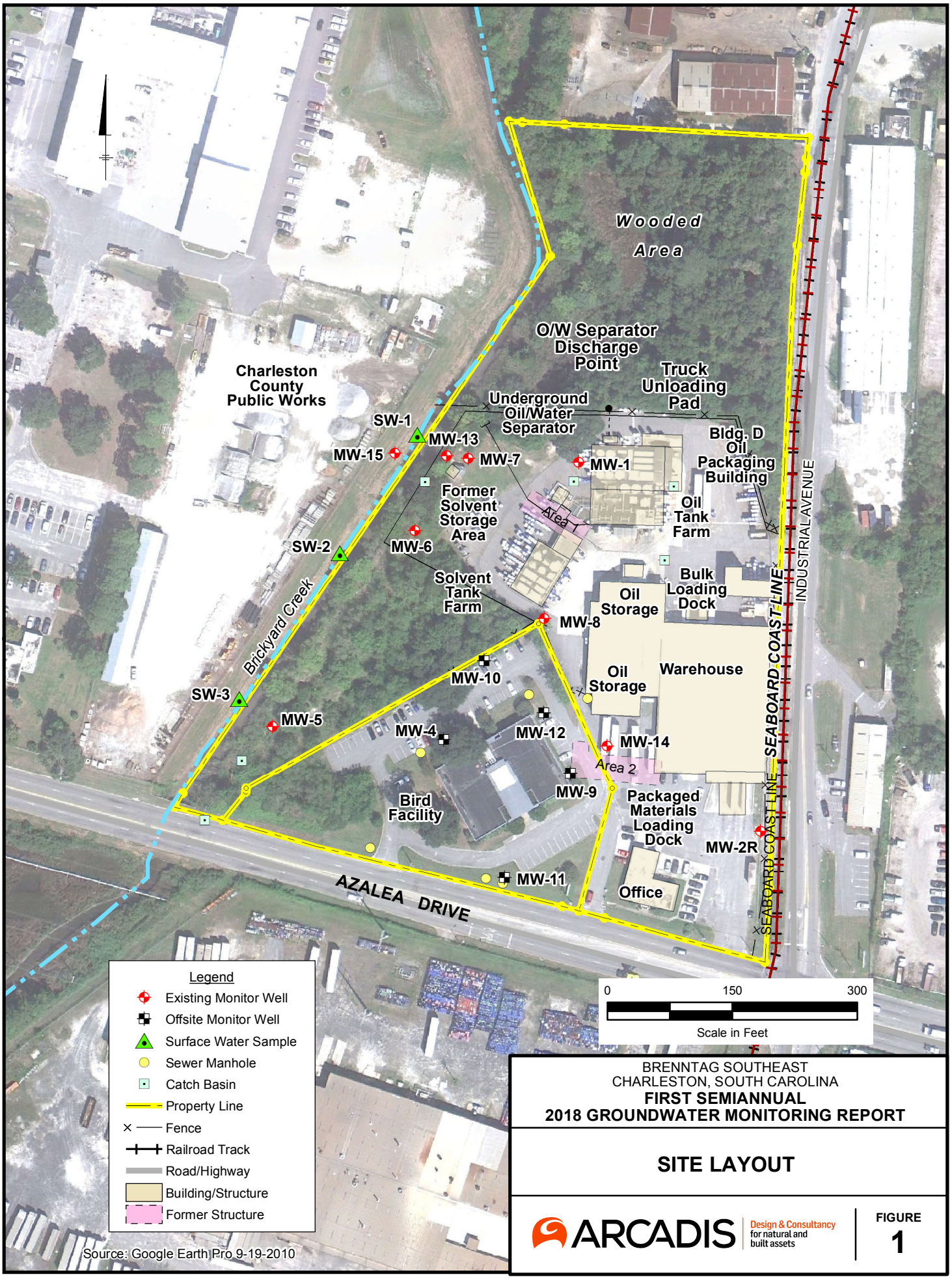
The results of the first semiannual 2017 groundwater analyses suggest that dissolved VOCs in groundwater continue to degrade prior to discharge to surface water. Groundwater trends over approximately the past 20 years are either decreasing or stable. The attenuation of VOCs suggests that biodegradation processes are removing the VOCs from the groundwater prior to discharging to Brickyard Creek and downgradient well MW-5.

The data from the AFVR test and resampling of monitor well MW-14 indicates a hydrocarbon source in the soils. Arcadis recommends conducting quarterly AFVR test at MW-14 for a period of one year (4

quarters). Upon completion of the quarterly AFVR tests, groundwater data from MW-14 will be evaluated to determine if AFVR will continue or more of an aggressive approach will be required.

ARCADIS will conduct second semiannual 2018 groundwater sampling from monitoring wells MW-1, MW-2R, MW-5, MW-6, MW-7, MW-8, MW-13, MW-14, MW-15 and surface-water locations SW-1, SW-2, and SW-3. Biogeochemical parameters will be collected once a year for the next 5 years during the December sampling events. Upon completion of biogeochemical sampling at the end of the 5 year period, a second linear regression model will be conducted in 2022.

FIGURES



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CHARLESTON, SOUTH CAROLINA
FIRST SEMIANNUAL
2018 GROUNDWATER MONITORING REPORT

SITE LAYOUT

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FIGURE
1

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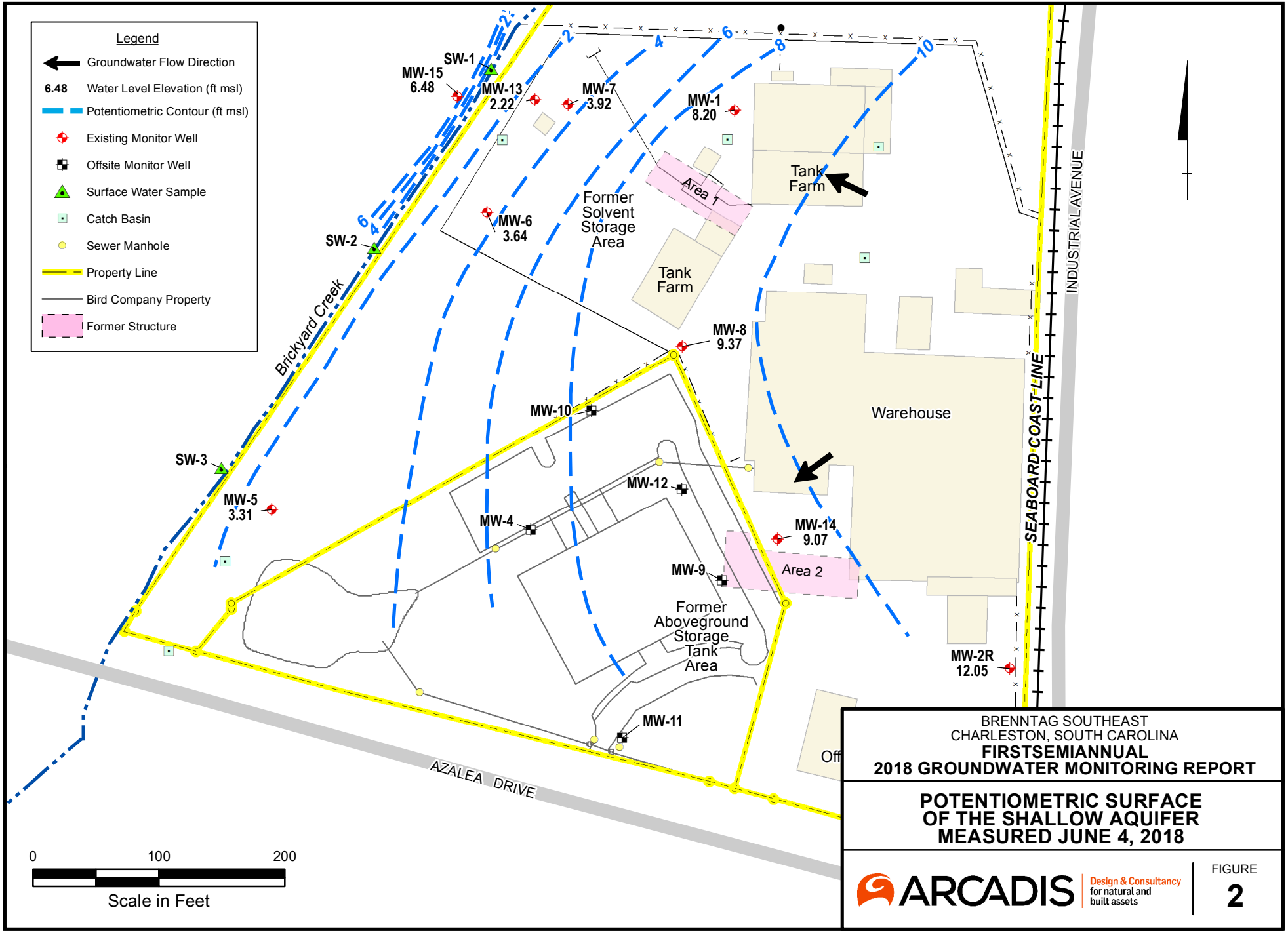

BRENNTAG SOUTHEAST
CHARLESTON, SOUTH CAROLINA
FIRSTSEMIANNUAL
2018 GROUNDWATER MONITORING REPORT

POTENTIOMETRIC SURFACE OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE
2

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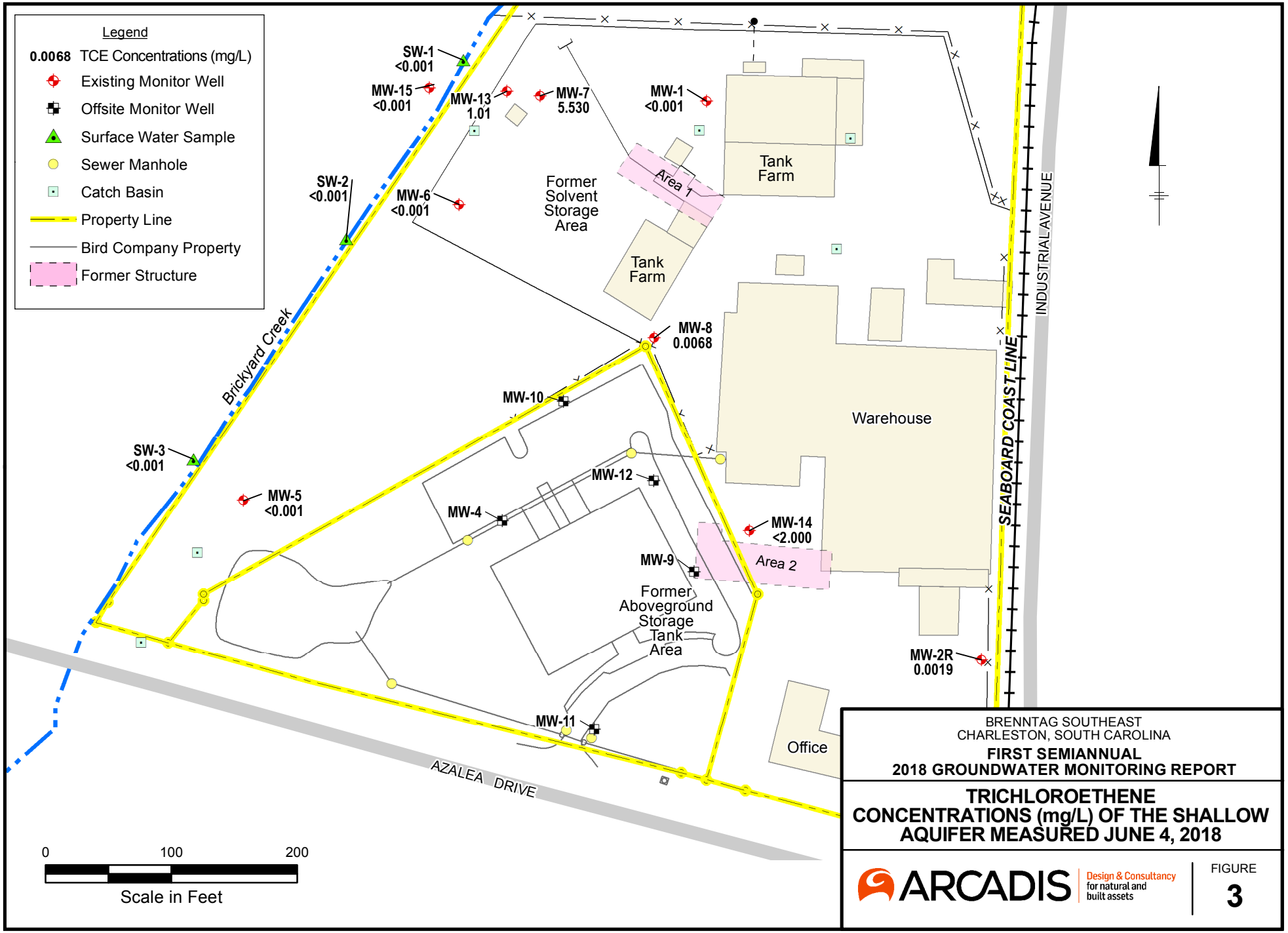

BRENNTAG SOUTHEAST
CHARLESTON, SOUTH CAROLINA

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

TRICHLOROETHENE CONCENTRATIONS (mg/L) OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE 3

CITY: AUGUSTA DIV/GROUP: ENV DB: A. Saul LD: A. Saul PIC: PM: TM: TR:
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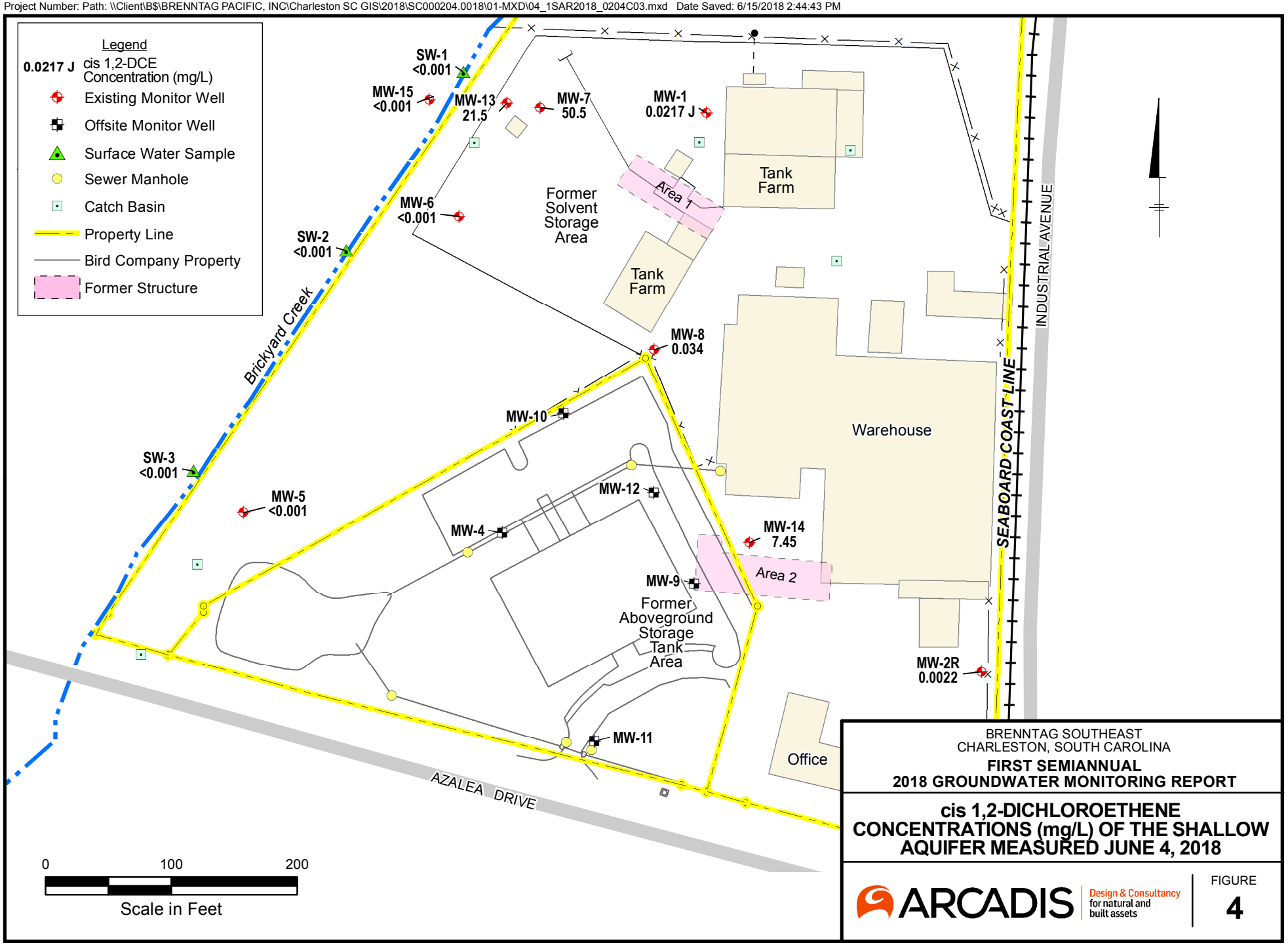

BRENNTAG SOUTHEAST
CHARLESTON, SOUTH CAROLINA

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

cis 1,2-DICHLOROETHENE CONCENTRATIONS (mg/L) OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE 4

CITY: AUGUSTA DIV/GROUP: ENV DB: A. Saul LD: A. Saul PIC: PM: TM: TR:
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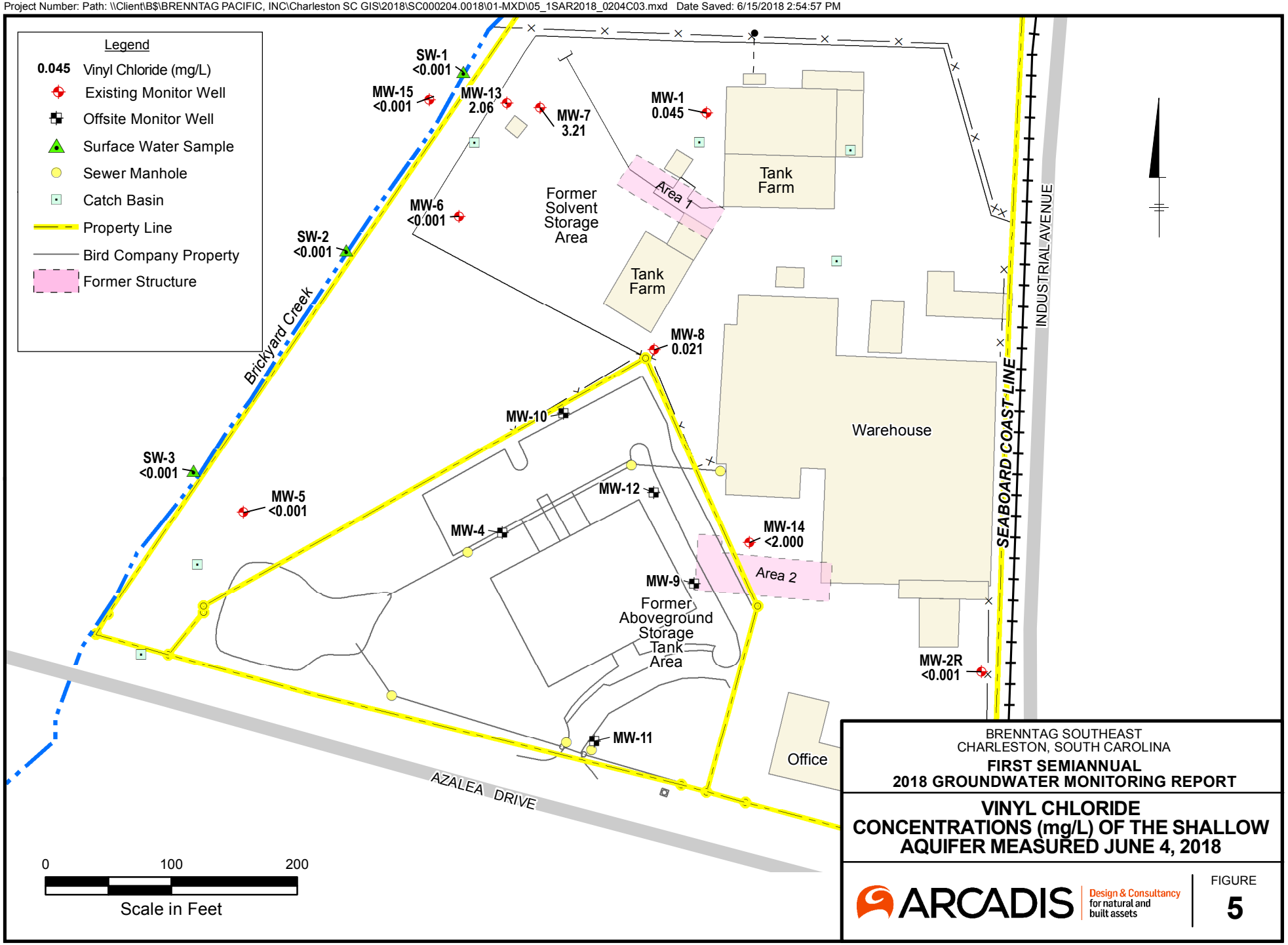

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CHARLESTON, SOUTH CAROLINA

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

VINYL CHLORIDE CONCENTRATIONS (mg/L) OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE 5

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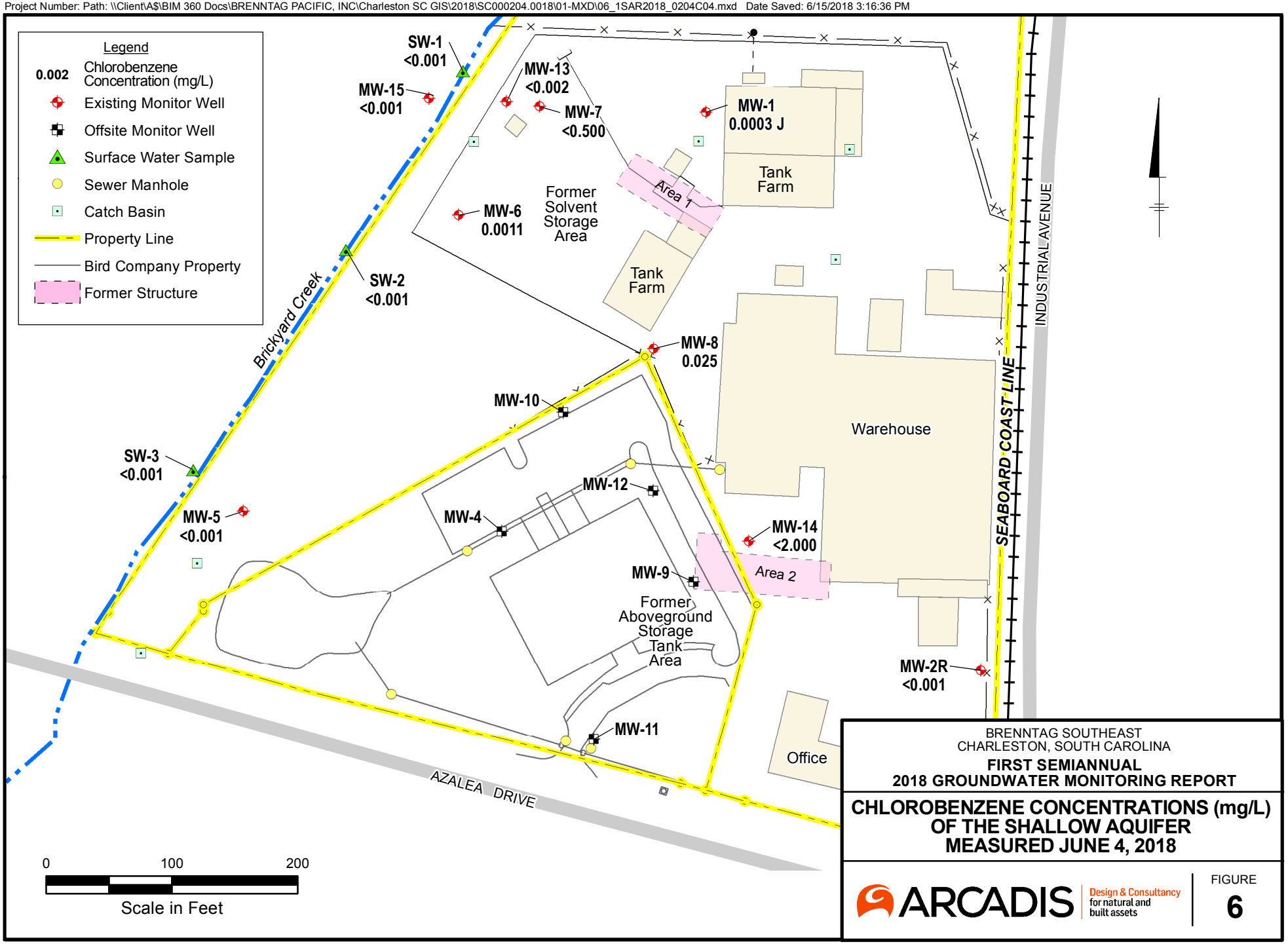

BRENNTAG SOUTHEAST
CHARLESTON, SOUTH CAROLINA

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

CHLOROBENZENE CONCENTRATIONS (mg/L) OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE 6

CITY: AUGUSTA DIV/GROUP: ENV DB: A. Saul LD: A. Saul PIC: PM: TM: TR:
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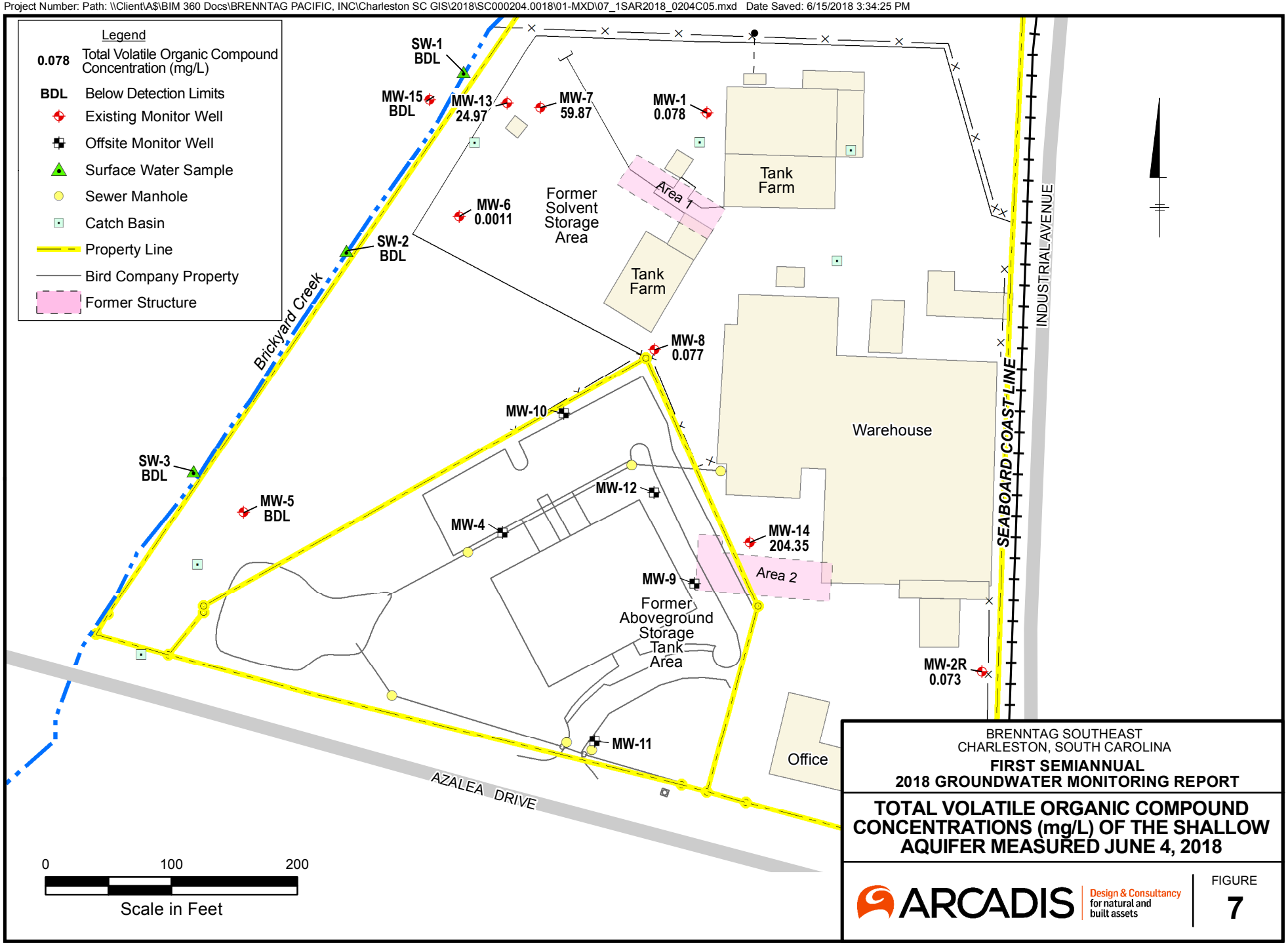

BRENNTAG SOUTHEAST
CHARLESTON, SOUTH CAROLINA

FIRST SEMIANNUAL 2018 GROUNDWATER MONITORING REPORT

TOTAL VOLATILE ORGANIC COMPOUND CONCENTRATIONS (mg/L) OF THE SHALLOW AQUIFER MEASURED JUNE 4, 2018

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FIGURE 7

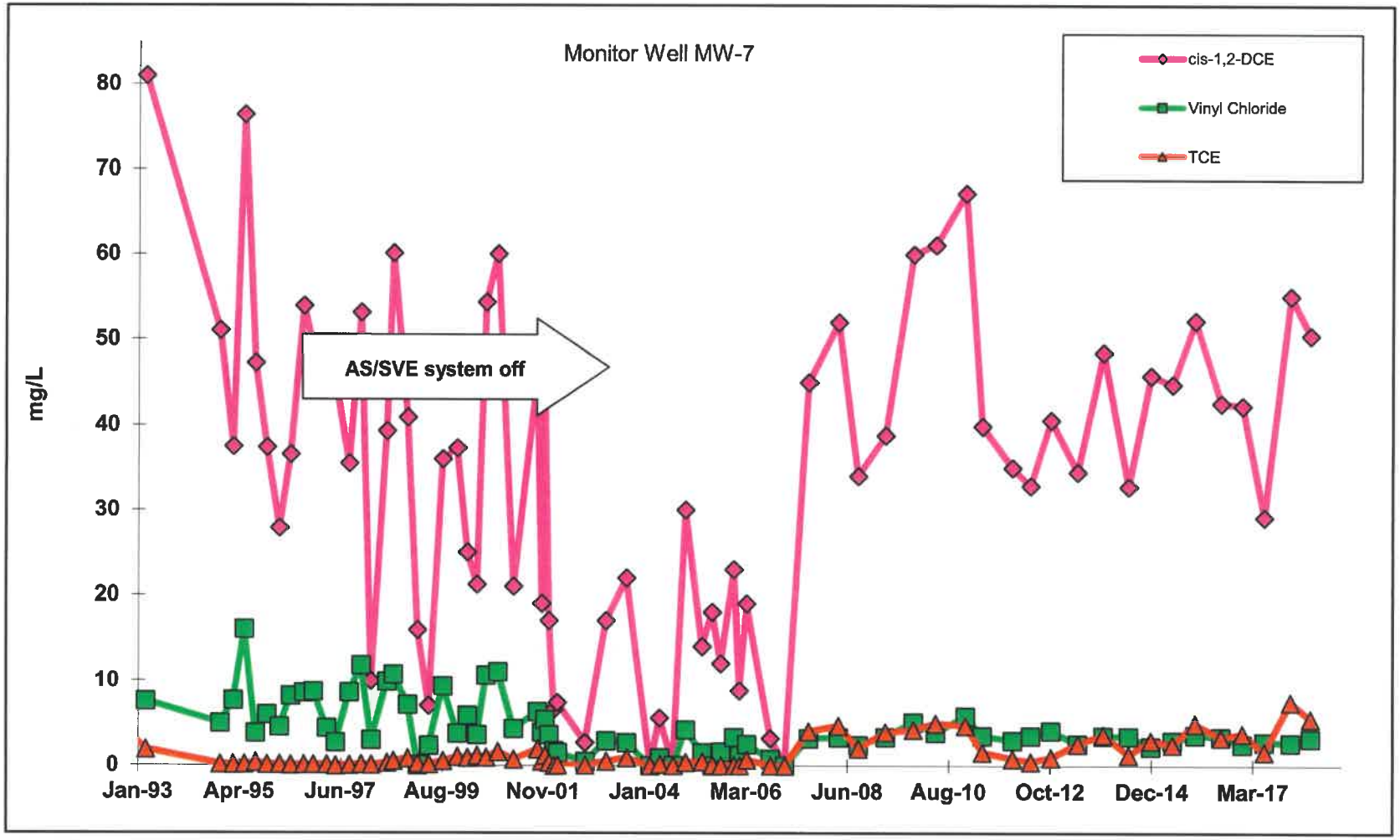

Figure 8. TCE and Degradation Product Trends at Monitor Well MW-7

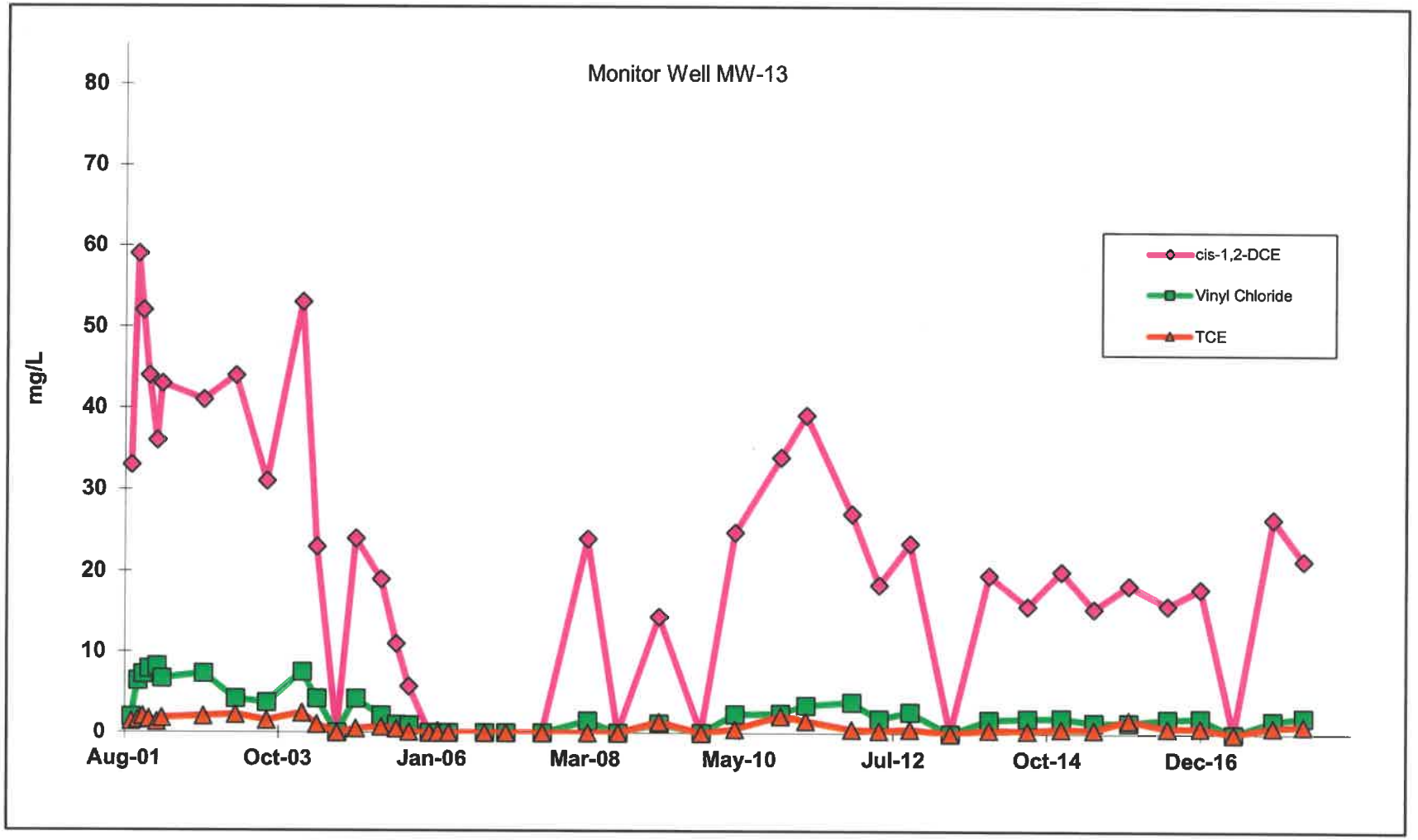

Figure 9. TCE and Degradation Product Trends at Monitor Well MW-13

TABLES

Table 1
First Semiannual 2018 Groundwater Sampling Plan
Brenntag Southeast
Charleston, South Carolina

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Sample Location	Purgeables Method 8260	Indicators [1]
MW-1	X	X
MW-2R	X	X
MW-5	X	X
MW-6	X	X
MW-7	X	X
MW-8	X	X
MW-13	X	X
MW-14	X	X
MW-15	X	X
SW-1	X	X
SW-2	X	X
SW-3	X	X

[1] Indicators are temperature, specific conductance, and pH.

SW-1, SW-2 & SW-3 are surface water sampling locations in Brickyard Creek
Monitor Well MW-15 installed in May 2012

Table 2
Groundwater Elevations
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

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		Date								
Monitor Well ID	Top of Casing (ft msl)	8/15/1991 (ft msl)	3/29/1993 (ft msl)	7/15/1993 (ft msl)	11/7/1994 (ft msl)	12/2/1994 (ft msl)	12/8/1994 (ft msl)	12/15/1994 (ft msl)	12/20/1994 (ft msl)	1/19/1995 (ft msl)
MW-1	11.74	8.5	9.24	7.78	8.45	8.23	8.66	8.49	8.42	9.06
MW-2R	16.5	12.08	---	---	11.38	---	---	---	---	---
MW-3	9.41	8.56	8.89	7.71	8.08	---	---	---	---	---
MW-5	12.01	0.22	0.26	-0.11	0.83	---	---	---	---	---
MW-6	10.62	5.31	6.58	5.15	5.86	6.17	6.38	6.32	6.24	6.65
MW-7	9.09	3.73	3.81	2.99	3.7	3.82	3.71	3.71	3.95	4.02
MW-8	15.16	---	10.53	8.99	9.68	9.32	9.74	9.66	9.61	10.21
MW-13	6.96	---	---	---	---	---	---	---	---	---
MW-14	15.17	---	---	---	---	---	---	---	---	---

		Date								
Monitor Well ID	Top of Casing (ft msl)	2/22/1995 (ft msl)	5/17/1995 (ft msl)	8/15/1995 (ft msl)	11/13/1995 (ft msl)	2/20/1996 (ft msl)	5/20/1996 (ft msl)	8/30/1996 (ft msl)	11/14/1996 (ft msl)	2/28/1997 (ft msl)
MW-1	11.74	8.67	7.54	7.99	8.43	7.58	7.49	8.09	7.55	8.04
MW-2R	16.5	11.89	10.69	11.1	11.48	10.83	10.79	11.19	10.85	11.17
MW-3	9.41	9.35	7.48	8.1	8.46	7.75	7.57	8.09	7.54	8.06
MW-5	12.01	0.96	0.55	---	1	0.45	0.93	1.41	1.71	1.08
MW-6	10.62	6.44	5.17	5.41	6.3	6.01	5.27	5.76	5.51	6.07
MW-7	9.09	3.7	3.33	3.4	---	3.27	3.2	3.68	3.47	3.58
MW-8	15.16	10.01	8.58	9.21	9.62	9.56	8.59	9.02	8.67	9.01
MW-13	6.96	---	---	---	---	---	---	---	---	---
MW-14	15.17	---	---	---	---	---	---	---	---	---

(ft msl) feet above mean sea level

Table 2
Groundwater Elevations
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

		Date								
Monitor Well ID	Top of Casing (ft msl)	5/8/1997 (ft msl)	8/26/1997 (ft msl)	11/26/1997 (ft msl)	2/14/1998 (ft msl)	6/19/1998 (ft msl)	8/8/1998 (ft msl)	11/30/1998 (ft msl)	2/15/1999 (ft msl)	5/14/1999 (ft msl)
MW-1	11.74	8.26	7.7	8.18	8.38	7.51	7.48	6.95	7.89	7.83
MW-2R	16.50	11.48	---	11.39	---	10.81	---	10.28	---	11.05
MW-3	9.41	8.38	---	8.09	---	---	---	---	---	---
MW-5	12.01	1.91	---	1.75	---	0.36	---	0.39	---	1.91
MW-6	10.62	6.2	5.31	6.08	6.06	5.02	5.1	4.8	5.94	5.41
MW-7	9.09	3.87	3.33	3.57	3.78	3.21	3.56	2.91	3.71	3.59
MW-8	15.16	9.26	8.86	9.35	9.86	8.5	8.34	7.96	9.1	8.44
MW-13	6.96	---	---	---	---	---	---	---	---	---
MW-14	15.17	---	---	---	---	---	---	---	---	---

		Date								
Monitor Well ID	Top of Casing (ft msl)	9/3/1999 (ft msl)	12/27/1999 (ft msl)	3/16/2000 (ft msl)	5/31/2000 (ft msl)	8/11/2000 (ft msl)	11/10/2000 (ft msl)	3/16/2001 (ft msl)	9/20/2001 (ft msl)	2/25/2002 (ft msl)
MW-1	11.74	7.04	7.87	7.70	6.52	7.71	6.81	8.12	7.52	7.31
MW-2R	16.50	---	11.00	11.01	10.07	---	10.32	11.55	11.19	11.03
MW-3	9.41	---	---	---	---	---	---	---	---	---
MW-5	12.01	---	1.62	1.33	1.34	1.15	1.32	1.45	1.23	1.3
MW-6	10.62	4.99	5.94	5.69	4.43	5.79	4.79	6.37	5.46	5.76
MW-7	9.09	3.77	3.56	3.47	3.44	3.67	3.33	3.8	3.88	3.45
MW-8	15.16	7.85	8.75	8.72	7.68	8.38	7.91	8.65	8.45	8.22
MW-13	6.96	---	---	---	---	---	---	---	2.37	1.66
MW-14	15.17	---	---	---	---	---	---	---	---	---

(ft msl) feet above mean sea level

Table 2
Groundwater Elevations
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

		Date								
Monitor Well ID	Top of Casing (ft msl)	9/30/2002 (ft msl)	03/17/03 (ft msl)	08/26/03 (ft msl)	02/27/04 (ft msl)	05/13/04 (ft msl)	08/26/04 (ft msl)	04/13/05 (ft msl)	07/01/05 (ft msl)	09/06/05 (ft msl)
MW-1	11.74	8.03	8.40	7.94	6.96	7.62	7.64	8.13	7.65	7.63
MW-2R	16.50	11.72	12.11	11.32	8.54	10.97	11.51	11.48	11.38	11.05
MW-3	9.41	---	---	---	---	---	---	---	---	---
MW-5	12.01	1.68	2.19	1.22	0.92	1.16	1.36	1.92	1.82	2.20
MW-6	10.62	6.35	6.59	6.24	5.33	5.40	6.04	6.26	6.16	5.35
MW-7	9.09	3.76	4.01	5.53	2.83	3.20	3.61	3.79	3.82	3.80
MW-8	15.16	8.03	8.51	8.92	7.98	8.80	9.31	9.41	9.79	8.65
MW-13	6.96	2.06	2.34	2.19	-0.55	1.53	1.97	2.09	2.25	2.24
MW-14	15.17	---	---	---	7.97	8.87	8.82	9.40	9.30	8.92

		Date								
Monitor Well ID	Top of Casing (ft msl)	12/20/05 (ft msl)	02/02/06 (ft msl)	03/30/06 (ft msl)	10/04/06 (ft msl)	1/23/2007 (ft msl)	8/1/2007 (ft msl)	3/24/2008 (ft msl)	8/27/2008 (ft msl)	3/30/2009 (ft msl)
MW-1	11.74	7.87	7.71	7.67	8.70	8.40	7.70	7.59	7.67	4.09
MW-2R	16.50	11.40	11.12	11.04	10.87	10.69	11.39	11.15	11.77	11.21
MW-3	9.41	---	---	---	---	---	---	---	---	---
MW-5	12.01	2.20	2.09	2.23	2.28	2.81	2.56	1.97	3.02	9.64
MW-6	10.62	3.24	5.96	5.47	5.08	6.41	6.04	5.94	6.36	4.73
MW-7	9.09	3.87	3.70	3.75	3.76	4.14	4.09	3.76	4.11	5.44
MW-8	15.16	9.01	9.03	8.93	9.53	9.59	8.22	8.89	9.55	6.55
MW-13	6.96	2.62	2.47	2.33	1.87	2.93	2.84	2.04	2.85	4.75
MW-14	15.17	9.29	8.75	8.74	9.13	9.47	8.47*	8.97**	---	6.58

(ft msl) feet above mean sea level

Table 2
Groundwater Elevations
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

		Date								
Monitor Well ID	Top of Casing (ft msl)	11/5/2009 (ft msl)	04/30/10 (ft msl)	12/22/10 (ft msl)	05/04/11 (ft msl)	12/28/11 (ft msl)	05/18/12 (ft msl)	10/26/12 (ft msl)	05/24/13 (ft msl)	12/12/13 (ft msl)
MW-1	11.74	6.91	7.31	6.96	7.29	6.63	7.14	6.74	7.89	7.30
MW-2R	16.50	10.71	10.99	10.76	10.81	10.43	10.71	---	---	---
MW-2R	16.20	---	---	---	---	---	---	10.05	11.17	10.68
MW-3	9.41	---	---	---	---	---	---	---	---	---
MW-5	12.01	3.86	2.97	2.10	1.77	2.86	3.12	3.76	4.28	3.37
MW-6	10.62	5.16	5.16	5.48	5.14	5.41	4.82	4.28	4.79	5.84
MW-7	9.09	3.81	3.58	3.54	3.49	3.57	3.84	3.71	4.16	3.81
MW-8	15.16	7.95	8.88	7.75	8.38	7.61	7.86	7.74	9.07	8.12
MW-13	6.96	2.14	1.93	1.96	1.76	1.97	2.26	2.10	2.69	2.21
MW-14	15.17	7.97	9.00	7.77	8.38	6.87	7.15	---	---	---
MW-14	14.92	---	---	---	---	---	---	7.22	8.98	8.11
MW-15	9.03	---	---	---	---	---	4.65	3.66	4.70	4.07

(ft msl) feet above mean sea level

Table 2
Groundwater Elevations
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Monitor Well ID	Top of Casing (ft msl)	Date 6/30/2014 (ft msl)	12/22/14 (ft msl)	06/10/15 (ft msl)	12/08/15 (ft msl)	06/28/16 (ft msl)	12/14/16 (ft msl)	06/05/17 (ft msl)	12/26/17 (ft msl)	06/04/18 (ft msl)
MW-1	11.74	6.89	7.29	7.89	7.78	7.20	7.52	7.41	7.49	8.20
MW-2R	16.50	---	---	---	---	---	---	---	---	---
MW-2R ***	16.20	10.50	10.73	11.55	11.63	11.06	11.19	11.43	11.12	12.05
MW-3	9.41	---	---	---	---	---	---	---	---	---
MW-5	12.01	3.79	4.86	3.86	4.22	3.88	4.75	3.84	2.61	3.31
MW-6	10.62	4.24	5.78	6.22	6.16	4.58	5.07	4.73	4.49	3.64
MW-7	9.09	3.65	3.97	3.97	4.28	3.65	4.24	3.89	3.43	3.92
MW-8	15.16	8.01	8.68	8.66	9.19	8.38	8.58	7.26	8.81	9.37
MW-13	6.96	1.99	1.93	2.31	2.30	1.91	2.48	1.78	1.50	2.22
MW-14	15.17	---	---	---	---	---	---	---	---	---
MW-14 ***	14.92	8.08	8.27	8.79	9.49	8.77	8.84	8.33	8.57	9.07
MW-15	9.03	5.01	4.19	6.29	4.63	4.87	6.06	5.29	3.55	6.48

(ft msl) feet above mean sea level

*Approximately 0.1 feet of product was observed on August 1, 2007. Groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581]

**Approximately 0.01 feet of product was observed on March 24, 2008. Groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581]

MW-15 was installed on May 16, 2012

*** MW-2R and MW-14 were resurveyed on October 24, 2012

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Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter pH

Monitor ID Well	Date 2/6/91	8/15/91	3/29/93	7/15/93	11/7/94	12/2/94	12/15/94	12/20/94	1/19/95	2/22/95
MW-1	6.6	6.3	6.2		5.7					6.2
MW-2R		10.4			9.9					
MW-3	6.8	6.5	6.1							
MW-5		7.1	7.0							
MW-6		11.9	11.6		9.2					
MW-7		6.8			6.1					7.1
MW-8										6.2
MW-13										
MW-14										

Field Parameter pH

Monitor ID Well	Date 5/17/95	8/15/95	11/13/95	2/20/96	5/20/96	8/30/96	11/14/96	2/28/97	5/8/97	8/26/97
MW-1	5.6	5.8	6.1	6.0	6.2	6.2	6.2	5.9	6.6	5.4
MW-2R	11.6		11.5		12.0		12.4		11.2	
MW-3	5.1		6.4		6.1		6.2		6.1	
MW-5	6.6		7.1		6.8		6.9		6.7	
MW-6										
MW-7	6.8	7.0	7.1	6.8	6.9	7.0	6.6	6.7	7.3	7.5
MW-8	7.5	6.8	6.6	7.6	7.6	7.3	7.2	7.2	7.8	7.5
MW-13										
MW-14										

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter pH

Monitor ID Well	Date 11/26/97	2/14/98	6/19/98	8/8/98	11/30/98	2/15/99	5/14/99	9/3/99	12/27/99	3/16/00
MW-1	6.3	6.7	6.4	5.7	5.9	6.2	6.0	5.9	6.3	6.0
MW-2R	10.8		10.3		10.6		10.4		10.8	
MW-3	6.0									
MW-5	6.7		7.0		6.8		6.7		6.8	
MW-6									12.2	11.7
MW-7	6.7	7.0	7.2	7.1	7.0	6.9	6.9	6.7	6.7	6.7
MW-8	6.6	6.3	6.9	7.3	7.6	7.1	7.3	7.1	7.5	7.3
MW-13										
MW-14										

Field Parameter pH

Monitor ID Well	Date 5/31/00	8/11/00	11/10/00	3/16/01	9/20/01	2/25/02	9/30/02	3/17/03	8/26/03	2/27/04
MW-1	6.1	6.0	6.1	7.1	6.5	6.4	5.8	6.1	9.8	6.9
MW-2R	9.7		9.8	9.7	9.9	10.1	9.7	10.58	11.99	12.86
MW-3										
MW-5	6.4		6.6	6.8	7.7	6.9	7	7.31	11.56	7.72
MW-6	11.2	11.5	11.9	8.7	10.1	9.7	10.4	9.81	14.03	8.78
MW-7	6.6	6.7		6.8	7.5	7	7.1	7.19	11.36	7.84
MW-8	7.1	7.5	7.2	6.7	7.4	6.6	6.2	5.54	9.26	7.85
MW-13					7.5	6.9	6.9	7.18	10.34	7.76
MW-14										7.43

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter pH

Monitor ID Well	Date 5/13/04	8/26/04	12/2/04	4/13/05	7/1/05	9/6/05	12/20/05	2/2/06	3/30/06	10/4/06
MW-1	6.42	6.2	5.92	6.71	6.69	6.65	6.70	6.75	6.36	5.97
MW-2R		10.07		10.05		9.85		10.11	10.21	9.86
MW-3										
MW-5		6.79		6.95		6.79		7.22	7.56	6.63
MW-6		10.08		9.96		9.57		9.73	9.24	9.20
MW-7	7.05	6.93	6.35	6.92	6.99	6.98	7.04	7.15	6.61	6.54
MW-8		6.31		6.39		6.47		7.19	6.42	6.29
MW-13	6.80	6.73	6.37	6.72	6.72	6.59	7.1	7.22	7.12	7.02
MW-14		7.02		6.79		6.81		6.98	6.62	6.43

Field Parameter pH

Monitor ID Well	Date 1/23/07	8/1/07	3/24/08	8/27/08	3/30/09	11/5/09	4/30/10	12/22/10	5/4/11	12/28/11
MW-1	6.02	6.73	7.38	6.54	7.27	6.7	7.26	7.0	6.89	7.2
MW-2R	9.06	9.60	10.56	9.75	10.56	10.03	11.36	7.7	10.30	7.25
MW-3										
MW-5	6.68	6.81	7.86	6.85	7.01	6.96	7.60	7.21	6.84	7.03
MW-6	9.30	11.59	10.9	9.23	8.06	10.1	10.51	7.49	11.20	12.31
MW-7	6.62	7.11	7.47	6.73	7.43	6.92	7.24	7.05	6.81	7.2
MW-8	6.26	6.59	7.2	6.38	6.75	6.14	6.79	6.54	6.14	6.72
MW-13	7.26	6.87	7.4	7.18	7.45	7.09	7.37	7.03	6.84	7.17
MW-14	6.47	NA	NA	NA	7.20	6.81	7.15	6.95	5.75	6.99

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter pH

Monitor ID Well	Date 5/18/12	10/26/12	5/24/13	12/12/13	6/30/14	12/22/14	6/10/15	12/8/15	6/28/16	12/14/16
MW-1	6.96	6.4	6.22	6.65	6.38	6.50	6.45	6.8	7.24	6.48
MW-2R	10.47	8.71	10.23	7.19	10.19	8.73	7.91	9.89	10.13	6.85
MW-3										
MW-5	7.01	6.99	6.97	7.53	6.78	6.95	6.67	6.87	7.36	6.63
MW-6	12.81	8.74	8.7	12.28	11.4	11.76	10.4	6.87	12.6	6.40
MW-7	7.14	6.72	6.75	6.91	7.54	6.55	6.79	6.92	7.21	6.74
MW-8	5.90	6.43	6.08	6.03	6.11	5.42	6.1	6.3	6.12	6.13
MW-13	7.06	6.85	6.59	6.92	6.93	6.68	6.9	6.89	7.31	6.68
MW-14	6.92	6.90	6.68	6.89	6.63	6.62	6.72	6.92	7.17	6.68
MW-15	7.17	6.88	6.39	6.35	6.44	5.92	6.65	6.52	7.25	6.46

Field Parameter pH

Monitor ID Well	Date 6/5/17	12/26/17	6/4/18
MW-1	5.98	6.11	5.99
MW-2R	7.4	6.79	8.97
MW-3			
MW-5	7.57	6.74	6.66
MW-6	7.54	7.54	7.50
MW-7	6.72	6.79	6.41
MW-8	5.75	6.53	5.38
MW-13	7.19	7.82	6.52
MW-14	7.36	6.58	6.31
MW-15	7.54	6.66	6.45

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 2/6/91	8/15/91	3/29/93	7/15/93	11/7/94	12/2/94	12/15/94	12/20/94	1/19/95	2/22/95
MW-1	2044	1610	2140		2680					3080
MW-2R		1410			3400					
MW-3	1669	21800	880							
MW-5		324	2720							
MW-6		268	1850		1560					
MW-7		225			2860					4210
MW-8			3980							2770
MW-13										
MW-14										

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 5/17/95	8/15/95	11/13/95	2/20/96	5/20/96	8/30/96	11/14/96	2/28/97	5/8/97	8/26/97
MW-1	5580	1440	1032	1600	735	976	1250	798	392	958
MW-2R	4390		2940		3070		2920		1750	
MW-3	1630		1171	719			1297		977	
MW-5	16100		3900		6030		12370		6970	
MW-6										
MW-7	4010	>20000	3200	2900	2610	2760	2460	4120	3320	4040
MW-8	4600	2360	2480	2730	2430	2510	2500	2790	2830	2610
MW-13										
MW-14										

µmhos/cm = micromhos/centimeter

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 11/26/97	2/14/98	6/19/98	8/8/98	11/30/98	2/15/99	5/14/99	9/3/99	12/27/99	3/16/00
MW-1	769	465	1062	1052	1264	5070	1123	1486	1259	1065
MW-2R	2080		1621		1356		1325		1953	
MW-3	1085									
MW-5	4040		5450		7160		8600		8690	
MW-6									2720	2440
MW-7	3540	3530	2850	2490	2330	2700	2610	2220	2790	2460
MW-8	2640	1810	2330	2560	2060	1832	1990	1790	2440	1937
MW-13										
MW-14										

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 5/31/00	8/11/00	11/10/00	3/16/01	9/20/01	2/25/02	9/30/02	3/17/03	8/26/03	2/27/04
MW-1	2650	981	1797	220	634	1780	130	122	870	1632
MW-2R	1186		867	762	770	519	99	185	1080	1411
MW-3										
MW-5	14850		10260	9450	775	1560	1370	297	5010	5693
MW-6	2570	2380	2610	892	1343	1060	90	102	1310	1107
MW-7	2200	1915	2060	2520	2975	2940	245	265	2630	2872
MW-8	1806	1897	1904	187	357	198	260	16	491	122
MW-13					2800	2340	211	199	2160	1968
MW-14										1130

µmhos/cm = micromhos/centimeter

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

ARCADIS Design & Consultancy for natural and built assets

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 5/13/04	8/26/04	12/2/04	4/13/05	7/1/05	9/6/05	12/20/05	2/2/06	3/30/06	10/4/06
MW-1	1477	2783	1530	2590	50	3450	1470	2210	1820	770
MW-2R		815		1075		1071		1020	1350	1300
MW-3										
MW-5		1326		3720		3470		8100	6930	13730
MW-6		943		766		647		790	880	960
MW-7	1974	2578	2300	1930	40	1750	2080	2230	2330	2300
MW-8		454		229		326		1130	560	960
MW-13	1536	2333	2600	1357	1420	1296	790	1100	1170	1190
MW-14		1790		1354		1401		1900	1810	1250

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 1/23/07	8/1/07	3/24/08	8/27/08	3/30/09	11/5/09	4/30/10	12/22/10	5/4/11	12/28/11
MW-1	840	903	3000	3200	1120	2050	1080	2630	2160	3190
MW-2R	1220	754	1500	663	860	756	1950	609	1590	440
MW-3										
MW-5	8760	15500	6100	15700	1140	23700	10300	19300	12100	30000
MW-6	970	2550	910	950	1050	669	712	20200	1230	1940
MW-7	2570	2280	1900	2470	2120	1870	2060	1690	2090	2400
MW-8	140	415	1000	459	434	271	770	573	385	741
MW-13	930	1940	1800	880	2380	1960	2080	1670	2200	7.17
MW-14	1230	NA	NA	NA	1360	1980	1960	1770	2050	1.77

µmhos/cm = micromhos/centimeter

Table 3
Summary of Measured Field Parameters
Brenntag Southeast
Charleston, South Carolina
(revised 6/7/2018)

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 5/18/12	10/26/12	5/24/13	12/12/13	6/30/14	12/22/14	6/10/15	12/8/15	6/28/16	12/14/16
MW-1	1500	6	701	479	605	331	291	979	513	6.48
MW-2R	951	557	1310	10	1430	898	562	1190	692	489
MW-3										
MW-5	28100	18800	18000	21000	20500	13900	11000	5890	13400	9350
MW-6	3210	1160	1020	2550	1890	2260	556	5660	2130	9370
MW-7	2120	2080	1840	1990	2	1970	1990	2300	1800	1880
MW-8	94	383	1	159	371	252	300	1060	398	515
MW-13	6150	1840	688	1760	2400	1840	1610	1870	1880	2070
MW-14	1650	2240	1460	2030	1790	2200	2020	1690	1860	2140
MW-15	565	812	434	470	685	1080	1030	978	750	783

Field Parameter Specific Conductance (µmhos/cm)

Monitor ID Well	Date 6/5/17	12/26/17	6/4/18
MW-1	307	300	588
MW-2R	335	388	561
MW-3			
MW-5	15900	13600	6500
MW-6	15600	1410	282
MW-7	1950	2109	1390
MW-8	236	291	260
MW-13	15000	1350	1370
MW-14	1970	1980	1100
MW-15	199	668	561

µmhos/cm = micromhos/centimeter

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-1	2/6/91	0.064		0.087	<0.020	0.098	0.316	0.054	<0.020	<0.020	<0.020	<0.020	<0.020	0.638	B(0.233), T(0.068)
	8/15/91	0.121		0.127	<0.020	0.165	0.286	0.053	<0.020	<0.020	0.032	<0.020	<0.020	0.971	B(0.525), T(0.040)
	3/30/93	0.020	1.390	0.016	<0.005	0.061	0.007	<0.005	<0.005	0.046	0.003	<0.005	<0.005	0.094	B(0.047), T(0.006)
	11/7/94	0.007	0.016	0.001	0.024	0.036	0.011	0.002	<0.001	0.016	<0.001	<0.001	<0.001	0.020	
	2/22/95	0.006	0.012	<0.001	0.024	0.020	0.010	0.003	<0.001	0.008	<0.001	<0.001	<0.001	0.026	
	5/18/95	0.007	0.016	<0.005	0.032	0.060	0.006	<0.005	<0.005	0.037	<0.005	<0.005	<0.005	0.052	B(0.003), T(0.120), X(0.006)
	8/15/95	0.003	0.007	0.002	0.006	0.033	0.006	0.002	<0.001	0.020	<0.001	<0.001	<0.001	0.016	
	11/13/95	<0.005	0.007	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.010	T(0.018)
	2/20/96	<0.001	0.086	0.004	0.006	0.024	0.006	0.002	<0.001	0.013	<0.001	<0.001	<0.001	0.060	B(0.006), T(0.067), X(0.003)
	5/20/96	<0.001	0.038	<0.001	<0.001	0.011	<0.001	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	0.014	B(0.001), T(0.007)
	8/30/96	<0.001	0.018	0.003	<0.001	0.024	0.003	<0.001	<0.001	0.009	<0.001	<0.001	<0.001	0.036	
	11/14/96	<0.001	0.099	0.005	0.005	0.027	0.006	0.002	<0.001	0.005	<0.001	<0.001	<0.001	0.067	B(0.008), T(0.043), X(0.001)
	2/28/97	<0.001	0.020	<0.001	<0.001	0.010	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.014	
	5/8/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/26/97	<0.001	0.012	0.009	0.002	0.034	0.002	<0.001	<0.001	0.009	<0.001	<0.001	<0.001	0.245	
	11/26/97	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.010	
	2/14/98	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	
	6/19/98	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	0.015	
	8/8/98	<0.005	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	0.019	
	11/30/98	<0.005	0.129	<0.005	<0.005	0.015	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	0.135	B(0.009)
	2/15/99	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.002	
	5/15/99	<0.005	0.015	<0.005	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.018	
	9/3/99	<0.005	0.066	<0.005	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.190	T(0.006)
	12/27/99	<0.002	0.037	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.027	
	3/16/00	<0.001	0.067	<0.001	0.001	0.011	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.064	B(0.005), T(0.002)
	5/31/00	0.009	0.650	0.013	<0.001	0.037	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.033), T(0.018), X(0.0046)
	8/11/00	0.009	0.032	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.003)
	11/10/00	0.002	0.210	<0.002	<0.002	0.021	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.350	B(0.015), T(0.009)
	3/16/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	
	9/20/01	<0.002	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.008	
	10/24/01	<0.002	0.007	<0.002	<0.002	0.003	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.013	
	11/19/01	0.003	0.420	0.006	<0.002	0.022	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.580	B(0.023) T(0.006)
	12/20/01	<0.002	0.006	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.012	
	1/30/02	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.009	
	2/25/02	<0.002	0.011	<0.002	<0.002	0.003	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.014	
	9/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.004	
	3/17/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.002	
	8/26/03	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.006	
	2/27/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.005	
	5/13/04	<0.002	0.003	<0.002	<0.002	0.003	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.014	
	8/26/04	<0.002	0.040	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.240	B(0.009), T(0.003)
	12/3/04	<0.001	0.002	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010	0.022	B(0.0013)
	4/13/05	<0.001	0.004	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.031	B(0.0027), 2CHT(0.0025), T(0.001), X(0.002)
	7/1/05	<0.002	0.170	<0.002	<0.002	0.006	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.220	B(0.0063), T(0.0038)
	9/6/05	<0.001	0.069	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	0.004	0.002	<0.001	<0.001	0.260	X(0.0046)
	12/20/05	<0.001	0.042	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.100	2-CHT(0.0016), T(0.0013), X(0.0021)
	2/2/06	<0.001	0.0028	0.0012	<0.001	<0.001	0.0059	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB (0.0032), N (0.032), 1,2,4-TMB (0.0011), X (0.0088)
	3/30/06	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.033	B(0.0012)
	10/4/06	<0.001	0.027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	
	1/23/07	<0.001	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015	
	8/1/07	<0.001	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0045	
	3/24/08	0.002	0.026	<0.001	<0.001	<0.001	0.120	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.021	2-CHT(0.0011), T(0.0055)
	8/27/08	0.006	0.280	0.003	<0.001	0.004	0.110	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.036	B(0.001), 2-CHT(0.0011), T(0.0014)
	3/30/09	0.002	0.119	<0.001	<0.001	<0.001	0.042	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.009	1,2-DCE(0.127)
	11/5/09	0.004 J	0.232	<0.005	<0.005	0.0022 J	0.0648	<0.005	0.0013 J	<0.010	<0.005	<0.005	<0.005	0.0182	
	4/30/10	0.001	0.082	0.0005 J	<0.001	0.0007 J	0.0324	<0.001	0.0021	<0.002	0.0003 J	<0.001	<0.001	0.0056	T(0.00053 J)

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-1	12/22/10	0.007	0.391	0.0021	<0.001	0.004	0.0991	<0.001	0.0023	<0.002	0.0017	<0.001	<0.001	0.0281	B(0.00088), EB(0.00047J), T(0.0017), X(0.0023J)
(cont'd)	5/4/11	<0.001	0.0016	<0.001	<0.001	0.0004 J	<0.001	<0.001	<0.001	<0.002	0.00099 J	<0.001	<0.001	0.0058	B(0.0004J), X(0.0014J)
	12/28/11	<0.001	0.00092	<0.001	<0.001	0.001 J	<0.001	<0.001	<0.001	<0.002	0.0013	<0.001	0.00029 J	0.0054	B(0.00054J)
	5/18/12	0.0097	0.42500	0.0034	<0.001	0.00420	0.0235	<0.001	0.0039	<0.002	0.0014	<0.001	<0.001	0.4000	B(0.00099), EB(0.00048), T(0.0022), X(0.00083)
	10/26/12	0.0060	0.43500	0.0024 J	<0.005	0.0034 J	0.0397	<0.005	0.0031 J	<0.010	0.0017 J	<0.005	<0.005	0.0375	T (0.0018J),
	5/24/13	0.0010	0.11400	0.00067 J	<0.002	0.0009 J	0.0078	<0.002	<0.002	<0.004	<0.002	<0.002	<0.002	0.0066	
	12/12/13	<0.001	0.09370	<0.001	<0.001	0.0008 J	0.0035	<0.001	<0.001	<0.002	0.0003 J	<0.001	<0.001	0.0038	
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	0.00035	
	12/22/14	<0.001	0.00085 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/8/15	<0.001	0.00046 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	0.00045 J	<0.001	<0.001	0.00096 J	
	6/28/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/14/16	<0.001	0.00041 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	0.00046 J	<0.001	<0.001	0.00049 J	T (0.00055 J)
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/28/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/4/18	<0.001	0.02170 J	<0.001	<0.001	0.0006 J	<0.001	<0.001	0.0003 J	<0.002	0.0030	<0.001	<0.001	0.0451	B(0.0022), MCH(0.00069J), T(0.0022), X(0.0031)
MW-2R	8/15/91	<0.010		<0.010	<0.010	<0.010	0.192	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	EB(0.119), X(0.381)
	11/7/94	<0.005	0.033	0.032	<0.005	<0.005	0.553	<0.005	<0.005	<0.010				0.003	EB(0.031), X(0.099)
	5/18/95	<0.005	0.035	0.032	<0.005	<0.005	0.477	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.010	EB(0.039), X(0.122)
	11/13/95	<0.005	0.028	0.022	<0.005	<0.005	0.412	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.010	EB(0.057), X(0.196)
	5/20/96	<0.010	0.022	0.030	<0.010	<0.010	0.390	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	EB(0.011), X(0.044)
	11/14/96	<0.001	0.022	0.023	<0.001	<0.001	0.295	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	EB(0.005), X(0.020)
	5/8/97	<0.001	0.021	0.022	<0.001	<0.001	0.192	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	EB(0.035), X(0.098)
	11/26/97	<0.005	0.020	0.012	<0.005	<0.005	0.124	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.010	EB(0.042), X(0.126)
	6/19/98	<0.005	0.016	0.019	<0.005	<0.005	0.121	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	EB(0.008), X(0.037)
	11/30/98	<0.005	0.016	0.020	<0.005	<0.005	0.188	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.002	EB(0.018), X(0.074)
	5/15/99	<0.005	0.009	0.011	<0.005	<0.005	0.109	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	P-IP(0.024), N(0.063), (0.015)
	12/27/99	<0.002	0.011	0.013	<0.002	<0.002	0.102	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	EB(0.0037), X(0.014)
	5/31/00	<0.001	0.007	0.007	<0.001	<0.001	0.041	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	P-IP(0.016), N(0.039)
	11/10/00	<0.002	0.004	0.003	<0.002	<0.002	0.020	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	EB(0.002),P-IP(0.016),N(0.026)
	3/16/01	<0.002	0.003	0.002	<0.002	<0.002	0.020	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	N(0.024), X(0.005)
	9/20/01	<0.002	0.003	0.003	<0.002	<0.002	0.017	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	EB(0.004),P-IP(0.021),N(0.032)
	2/25/02	<0.002	0.004	0.003	<0.002	<0.002	0.025	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	P-IP(0.023), N(0.025), X(0.009)
	9/30/02	<0.002	0.004	0.003	<0.002	<0.002	0.021	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	EB(0.006), P-IP(0.043), N(0.053)
	3/17/03	<0.002	0.006	0.005	<0.002	<0.002	0.030	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	P-IP(0.027), X(0.017)
	8/26/03	<0.002	0.003	0.002	<0.002	<0.002	0.016	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	P-IP(0.039), N(0.038), X(0.006)
	2/27/04	<0.002	0.004	0.002	<0.002	<0.002	0.016	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	8/26/04	<0.002	0.006	0.002	<0.002	<0.002	0.012	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	EB(0.0032), N(0.031), P-IP(0.022), X(0.0079)
	4/13/05	<0.001	0.003	0.001	<0.001	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.039), IP(0.001), P-IP(0.0097), N(0.0019)
	9/6/05	<0.001	0.003	<0.001	<0.001	<0.001	0.010	<0.001	<0.001	<0.001	0.008	<0.001	0.002	<0.001	T(0.170), 1,2,4-TMB(0.003), 1,3,5-TMB(0.0014)
	2/2/06	<0.001	0.0026	0.0012	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.0064), P-CY(0.022), N(0.029)
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	0.0085	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00045	EB(0.0071), P-IP(0.012), N(0.020), 1,2,4-TMB(0.0012),
	10/4/06	<0.001	0.003	0.0018	<0.001	<0.001	0.0062	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	1/23/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.013), P-IP(0.0066), N(0.014), 1,2,4-TMB, X(0.024)
	8/1/07	<0.001	0.0017	<0.001	<0.001	<0.001	0.0033	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.030), P-IP(0.011), N(0.027),
	3/24/08	<0.001	0.0049	0.0024	<0.001	<0.001	0.0071	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1,2,4-TMB(0.0018), X(0.068)
	8/27/08	<0.001	0.0130	<0.001	<0.001	<0.001	0.0071	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.0055), P-IP(0.0023), N(0.0081), X(0.013)
	3/30/09	<0.001	0.0032	0.0016	<0.001	<0.001	0.0039	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1,2-DCE(0.00489), EB(0.00375), P-IP(0.00847),
	11/5/09	<0.001	0.0029	0.0013	<0.001	<0.001	0.0027	<0.001	<0.001	<0.002	0.0003 J	<0.001	<0.001	<0.001	EB(0.00059 J), IPB(0.00024 J), T(0.00046 J),
	4/30/10	0.0007 J	0.0227	0.0046	<0.001	<0.001	0.0166	<0.001	<0.001	<0.002	0.0017	<0.001	<0.001	0.0038	B(0.00027 J), CS_2(0.00085 J), EB(0.0542), IPB
	12/22/10	<0.001	0.0163	<0.001	<0.001	<0.001	0.0059	<0.001	0.0004 J	<0.002	<0.001	<0.001	<0.001	0.0013	EB(0.00032J)
	5/4/11	<0.001	0.0052	0.0026	<0.001	<0.001	0.0040	<0.001	0.0008 J	<0.002	0.0004 J	<0.001	<0.001	0.0011	EB(0.0029), X(0.009)
	12/28/11	0.0008 J	0.0522	0.0004 J	<0.001	0.0004 J	0.0086	<0.001	0.0006 J	<0.002	0.0003 J	<0.001	<0.001	0.0037	EB(0.00032J), T(0.00021J), X(0.00078J)
	5/18/12	<0.001	0.0060	0.0014	<0.001	<0.001	0.0025	<0.001	0.0014	<0.200	0.0003 J	<0.001	<0.001	<0.001	EB(0.0039), IPB(0.00029J), X(0.0129)
	10/26/12	<0.001	0.0035	0.0005 J	<0.001	<0.001	0.0014	<0.001	0.0005 J	<0.001	<0.001	<0.001	<0.001	<0.001	EB(0.00049J), T(0.00053J), X(0.0014J)
	5/24/13	<0.001	0.0087	0.0023	<0.001	<0.001	0.0049	<0.001	<0.001	<0.002	0.0005 J	<0.001	<0.001	0.0009	EB(0.0234), IPB (0.0014), X (0.0343)
	12/12/13	<0.001	0.0080	<0.001	<0.001	<0.001	0.0019	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/30/14	<0.001	0.0061	0.0027	<0.001	<0.001	0.0032	<0.001	<0.001	<0.002	0.0005 J	<0.001	<0.001	0.0009 J	EB(0.0044), IPB(0.00026J), X(0.0071)
	12/22/14	<0.001	0.0027	0.0008 J	<0.001	<0.001	0.0016	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.0033), X(0.004)
	6/10/15	<0.001	0.0025	0.0010 J	<0.001	<0.001	0.0018	<0.001	<0.001	<0.002	0.0002 J	<0.001	<0.001	<0.001	EB(0.0034), IPB(0.00022J), X(0.009)
	12/8/15	<0.001	0.0021	0.0010	<0.001	<0.001	0.0019	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.0076), IPB (0.00026J), X(0.0091)
	6/28/16	<0.001	0.0022	0.0009 J	<0.001	<0.001	0.0014	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.0008J), T(0.00029J), X(0.0016J)
	12/14/16	<0.001	0.00099 J	<0.001	<0.001	<0.001	0.0010 J	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/5/17	<0.001	0.0007 J	0.0003 J	<0.001	<0.001	0.0009 J	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/26/17	<0.001	0.0007 J	<0.001	<0.001	<0.001	0.0009 J	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.00041J), X(0.00093 J)
	6/4/18	0.0010	0.0022	<0.001	<0.001	<0.001	0.0019	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.0176),IPB(0.001), X(0.0498)

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-3	2/6/91	0.022		<0.010	<0.010	0.017	0.029	<0.010	0.051	<0.010	0.013	<0.010	0.048	0.058	B(0.052), T(0.064)
	8/15/91	0.070		0.010	0.025	0.025	0.045	0.010	0.085	<0.010	0.080	<0.010	0.020	0.085	B(0.015), EB(0.015), T(0.015)
	3/30/93	0.014	0.081	0.005	0.010	0.012	0.025	<0.005	0.060	<0.010	0.034	0.003	0.013	0.020	B(0.042), EB(0.005), T(0.011), X(0.020)
	5/18/95	0.007	0.063	0.040	0.004	0.008	0.019	<0.005	0.074	<0.010	0.031	<0.005	0.017	0.027	B(0.038), EB(0.002), T(0.002)
	11/13/95	<0.005	0.020	<0.005	<0.005	0.004	0.005	<0.005	0.057	<0.010	0.029	<0.005	0.014	0.018	B(0.029)
	5/20/96	0.003	0.023	0.003	<0.001	0.004	0.009	<0.001	0.040	<0.001	0.020	0.002	0.010	0.013	B(0.019), EB(0.002), T(0.002), X(0.004)
	11/14/96	0.003	0.038	0.002	<0.001	0.005	0.007	<0.001	0.059	<0.001	0.020	0.010	0.002	0.015	B(0.025)
	5/8/97	0.004	0.051	<0.001	<0.001	<0.001	0.008	<0.001	0.040	<0.001	0.015	0.002	0.008	0.017	B(0.018)
	11/26/97	<0.005	0.023	<0.005	<0.005	<0.005	<0.005	<0.005	0.063	<0.010	0.014	<0.005	0.011	0.014	B(0.028)
MW-5	8/15/91	<0.002		0.002	<0.002	<0.002	<0.002	<0.002	0.051	<0.002	0.019	<0.002	0.004	0.089	B(0.004), T(0.003)
	3/30/93	<0.005	0.096	0.002	<0.005	<0.005	<0.005	<0.005	0.003	<0.010	0.004	<0.005	<0.005	0.079	B(0.002)
	5/18/95	<0.005	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.010	0.003	<0.005	<0.005	0.005	
	11/13/95	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.010	<0.005	<0.005	<0.005	<0.010	
	5/20/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.021	<0.001	0.010	<0.001	0.002	0.039	B(0.001)
	11/14/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.426	0.002	0.271	0.015	0.062	0.062	B(0.017), EB(0.004), T(0.004), X(0.014)
	5/8/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
	11/26/97	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	0.016	<0.005	<0.010	
	6/19/98	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	<0.010	<0.005	<0.005	<0.005	<0.002	
	11/30/98	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.010	<0.005	<0.005	<0.005	<0.002	
	5/15/99	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	
	12/27/99	<0.002	0.011	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	
	5/31/00	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	11/10/00	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	
	3/16/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	
	9/20/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	2/25/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	9/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	3/17/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	8/26/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.002	
	2/27/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	8/26/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	4/13/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	
	9/6/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	CM(0.0016)
	2/2/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0017	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	1/23/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/1/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/24/08	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/27/08	<0.001	0.020	<0.001	<0.001	<0.001	0.0074	<0.001	0.0013	<0.001	<0.001	<0.001	<0.001	0.0011	
	3/30/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	N(0.00561)
	11/5/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.00055 J)
	4/30/10	<0.001	0.0089	<0.001	<0.001	<0.001	0.0057	<0.001	0.00065 J	<0.002	<0.001	<0.001	<0.001	0.00061 J	EB(0.00054 J), X(0.0015 J)
	12/22/10	0.0012	0.0706	0.00039J	<0.001	0.00065J	0.0204	<0.001	0.0055	<0.002	0.00044	<0.001	<0.001	0.0036	B(0.00027J), EB(0.00026J), T(0.00046J)
	5/4/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0064	<0.002	<0.001	<0.001	<0.001	<0.001	B(0.0003J)
	12/28/11	0.0022	0.1180	0.00086J	<0.001	0.0011	0.0189	<0.001	0.0017	<0.002	0.00031J	<0.001	<0.001	0.0089	B(0.00021J), T(0.00040J)
	5/18/12	<0.001	0.0023	<0.001	<0.001	<0.001	0.00026	<0.001	0.0028	<0.002	<0.001	<0.001	<0.001	<0.001	B(0.00023J)
	10/26/12	<0.001	0.0085	<0.001	<0.001	<0.001	0.00048J	<0.001	0.0016	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.0032J), X(0.00072J)
	5/24/13	<0.001	0.0078	<0.001	<0.001	<0.001	0.0012	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/12/13	<0.001	0.0384	0.00037 J	<0.001	<0.001	0.0028	<0.001	0.0087	<0.002	<0.001	<0.001	<0.001	0.00065 J	B(0.00088J), CS_2(0.00062 J), T(0.00026 J)
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/22/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.00038 J)
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00021 J	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/28/16	<0.001	0.0030	<0.001	<0.001	<0.001	0.0004 J	<0.001	0.0011	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.00022J)
	12/14/16	<0.001	0.0158	<0.001	<0.001	<0.001	0.0034	<0.001	0.00025 J	<0.002	<0.001	<0.001	<0.001	0.00075 J	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/26/17	0.00068 J	0.0048	0.00033 J	<0.001	<0.001	0.0109	<0.001	0.001	<0.002	<0.001	<0.001	<0.001	0.0023	
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-6	8/15/91	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	0.045	<0.002	<0.002	<0.002	<0.002	0.047	B(0.023), EB(0.003), T(0.004)
	3/30/93	<0.005	0.044	<0.005	<0.005	<0.005	<0.005	<0.005	0.063	<0.010	0.002	<0.005	<0.005	0.027	B(0.032), EB(0.003), T(0.004), X(0.003)
	11/7/94	<0.001	0.151	<0.001	<0.001	<0.001	<0.001	<0.001	0.119	<0.002	<0.001	<0.001	<0.001	0.017	
	12/27/99	<0.002	0.025	<0.002	<0.002	<0.002	<0.002	<0.002	0.103	<0.002	<0.002	<0.002	<0.002	0.023	B(0.041), EB(0.0029), P-IP(0.002), T(0.005) 1,2,4-TMB(0.006), X(0.003)
	3/16/00	<0.001	0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.072	<0.001	0.002	<0.001	<0.001	0.019	B(0.026), EB(0.001), P-IP(0.002) MC(0.003), T(0.003), X(0.002)
	5/31/00	<0.001	0.042	<0.001	<0.001	<0.001	<0.001	<0.001	0.071	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.030)
	8/11/00	<0.001	0.023	<0.001	<0.001	<0.001	<0.001	<0.001	0.087	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.029), EB(0.0017), T(0.0035) X(0.0057)
	11/10/00	<0.002	0.018	<0.002	<0.002	<0.002	<0.002	<0.002	0.077	<0.005	<0.010	<0.010	<0.010	0.027	B(0.033), EB(0.002), T(0.004)
	3/16/01	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	0.034	<0.005	<0.010	<0.010	<0.010	<0.010	B(0.007)
	9/20/01	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.003	B(0.007)
	10/24/01	<0.002	0.013	<0.002	<0.002	<0.002	<0.002	<0.002	0.080	<0.005	<0.010	<0.010	<0.010	0.009	B(0.029), EB(0.002), T(0.004)
	11/19/01	<0.002	0.014	<0.002	<0.002	<0.002	<0.002	<0.002	0.065	<0.005	<0.010	<0.010	<0.010	0.008	B(0.029), EB(0.002), T(0.005)
	12/20/01	<0.002	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	0.065	<0.005	<0.010	<0.010	<0.010	0.005	B(0.021), T(0.003)
	1/30/02	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	0.037	<0.005	<0.010	<0.010	<0.010	0.003	B(0.011)
	2/25/02	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	0.044	<0.005	<0.010	<0.010	<0.010	0.003	B(0.012)
	9/30/02	<0.002	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	0.055	<0.005	<0.010	<0.010	<0.010	0.005	B(0.020), T(0.002)
	3/17/03	<0.002	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	0.058	<0.005	<0.010	<0.010	<0.010	0.004	B(0.017),T(0.003)
	8/26/03	<0.002	0.009	<0.002	<0.002	<0.002	<0.002	<0.002	0.083	<0.005	<0.010	<0.010	<0.010	0.004	B(0.026),T(0.004),EB(0.002)
	2/27/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	8/26/04	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	0.036	<0.005	<0.010	<0.010	<0.010	0.003	B(0.012)
	4/13/05	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	0.056	<0.001	0.001	<0.001	<0.001	0.003	B(0.016), EB(0.0016), T(0.0025), X(0.0027)
	9/6/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	2/2/06	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	0.038	<0.001	0.001	<0.001	<0.001	<0.001	B(0.0088), EB (0.001), T(0.0013), X(0.0029)
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	1/23/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0023	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/1/07	<0.001	0.0033	<0.001	<0.001	<0.001	<0.001	<0.001	0.079	<0.001	0.0016	<0.001	<0.001	0.0025	B(0.029), EB(0.0019), P-IP(0.0011), T(0.003), X(0.0035)
	3/24/08	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	0.047	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.015), T(0.0014)
	8/27/08	<0.001	0.0150	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	T(1.5)
	3/30/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	N(0.00553)
	11/5/09	<0.001	0.00066 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0196	<0.002	0.0006 J	<0.001	<0.001	<0.001	X(0.0019 J)
	4/30/10	0.003 J	0.6790	<0.010	<0.010	0.0046 J	0.156	<0.010	0.0307	<0.020	<0.010	<0.010	<0.010	0.0141	B(0.0128)
	12/22/10	0.001	0.0772	<0.001	<0.001	0.00069 J	0.022	<0.001	0.0048	<0.002	0.0003 J	<0.001	0.00025 J	0.0050	T(0.0038J)
	5/4/11	<0.001	0.00068 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0122	<0.002	<0.001	<0.001	<0.001	0.0005 J	Ac(0.0148 J), B (0.0032), T(0.00039J)
	12/28/11	0.008	0.48900	0.0031	<0.001	0.0042	0.076	<0.001	0.0454	<0.002	0.0014	<0.001	0.00042 J	0.0358	Ac(0.0114J), B(0.0096), EB(0.00057) T(0.0021), X(0.0013J)
	5/18/12	<0.001	0.01450	<0.001	<0.001	<0.001	0.004 J	<0.001	0.0923	<0.002	0.0012	<0.001	0.00083 J	0.0029	B(0.0243), EB(0.0017), T(0.0025), X(0.0028J)
	10/26/12	<0.001	0.02260	<0.001	<0.001	<0.001	0.00045 J	<0.001	0.0735	<0.002	0.0007 J	<0.001	0.00055 J	0.0026	Ac(0.0158J), B(0.0185), CS2(0.00076J) EB(0.0012), T(0.0019J), X(0.0022J)
	5/24/13	<0.001	0.00690	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/12/13	0.00035 J	0.04110	<0.001	<0.001	0.00037 J	0.003	<0.001	0.0833	<0.002	0.0012	<0.001	0.00065 J	0.0018	Ac(0.0197J), B(0.013), CS_2(0.00055 J), EB(0.0011), T(0.0014), X(0.0015 J)
	6/30/14	<0.001	0.00085 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0274	<0.002	<0.001	<0.001	<0.001	<0.001	Ac(0.0248J), B(0.0089), EB(0.00046J), T(0.00081J)
	12/22/14	<0.001	0.00079 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0536	<0.002	0.0006 J	<0.001	0.00044 J	<0.001	B(0.0116), EB(0.00068 J), T(0.0014), X(0.00087 J)
	6/10/15	<0.001	0.00035 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0201	<0.002	0.0003 J	<0.001	<0.001	<0.001	Ac(0.0124J), B(0.0034), MEK(0.0018J), EB(0.00039J) T(0.00049J), X(0.00064J)
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	EB(0.0025J)
	6/28/16	<0.001	0.0037	<0.001	<0.001	<0.001	0.00031 J	<0.001	0.0021	<0.002	<0.001	<0.001	<0.001	<0.001	B(0.00037J), T(0.00021J)
	12/14/16	0.00028 J	0.0199	<0.001	<0.001	<0.001	0.004	<0.001	0.0003 J	<0.002	<0.001	<0.001	<0.001	0.001	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/26/17	0.015	25.1000	0.0793	<0.001	0.1550	0.919	<0.001	0.0318	<0.002	0.004	<0.001	0.00081 J	1.870	B(0.0234), EB(0.00048J), T(0.011), X(0.0016J)
	1/19/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0045	<0.002	<0.001	<0.001	<0.001	<0.001	B(0.00045J)
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	<0.002	<0.001	<0.001	<0.001	<0.001	
MW-7	8/15/91	1.550		<1	<1	3.300	10.500	<1	<1	<1	<1	<1	<1	1.500	
	3/30/93	0.673	81.000	0.194	<0.1	3.080	1.910	0.032	0.035	<0.2	<0.1	<0.1	<0.1	7.610	B(0.041), EB(0.096), T(0.805), X(0.052)
	11/7/94	0.527	51.000	0.109	<0.1	2.220	0.184	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	4.990	
	2/22/95	0.254	37.500	0.072	<0.050	1.890	0.155	<0.050	<0.050	<0.1	<0.050	<0.050	<0.050	7.680	

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-7	5/18/95	0.471	76.400	0.115	<0.050	3.530	0.176	<0.050	0.034	<0.1	<0.050	<0.050	<0.050	16.000	B(0.069), EB(0.030), T(0.577), X(0.013)
(cont'd)	8/15/95	0.375	47.200	0.143	<0.1	1.340	0.383	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	3.800	
	11/13/95	0.261	37.400	0.064	<0.050	1.300	0.144	<0.050	<0.050	<0.1	<0.050	<0.050	<0.050	6.010	T(0.244)
	2/20/96	0.160	27.900	0.052	<0.001	1.240	0.140	<0.001	0.024	<0.001	0.003	<0.001	<0.001	4.570	B(0.026), EB(0.026), T(0.210), (X(0.014)
	5/20/96	0.345	36.560	0.096	<0.001	1.720	0.090	<0.001	0.023	<0.001	0.005	<0.001	0.001	8.200	B(0.025), EB(0.023), T(0.330), X(0.013)
	8/30/96	0.511	53.870	0.093	<0.001	1.885	0.112	4.762	<0.001	<0.001	<0.001	<0.001	<0.001	8.560	
	11/14/96	0.274	48.745	0.080	<0.050	1.615	0.130	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	8.700	T(0.294)
	2/28/97	0.453	49.400	0.067	<0.001	2.500	0.110	<0.001	0.008	<0.001	<0.001	<0.001	<0.001	4.420	
	5/8/97	0.077	45.030	0.021	<0.001	0.358	0.007	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	2.731	B(0.007), EB(0.004), T(0.055)
	8/26/97	0.233	35.500	0.062	0.004	1.310	0.073	<0.001	0.025	0.007	0.004	0.001	0.001	8.610	
	11/26/97	0.191	53.100	0.110	0.007	1.560	0.162	<0.005	0.022	<0.010	<0.005	<0.005	<0.005	11.800	B(0.020), EB(0.012), T(0.228)
	2/14/98	0.098	9.938	0.134	<0.005	0.392	0.091	0.002	0.008	<0.005	<0.005	<0.005	<0.005	3.000	
	6/19/98	0.521	39.300	0.157	<0.005	2.180	0.299	<0.005	0.017	<0.010	<0.005	<0.005	<0.005	9.870	B(0.017), EB(0.014), T(0.183)
	8/8/98	0.295	60.100	0.121	<0.005	1.510	0.524	<0.005	0.030	<0.010	<0.005	<0.005	<0.005	10.700	
	11/30/98	0.289	40.900	0.170	<0.005	0.995	0.846	<0.005	0.030	<0.010	<0.005	<0.005	<0.005	7.150	B(0.025), EB(0.023), T(0.128)
	2/15/99	0.110	15.900	0.032	<0.005	0.349	0.245	<0.005	0.007	<0.010	<0.005	<0.005	<0.005	0.054	B(0.006), T(0.069)
	5/15/99	0.039	7.040	0.023	<0.005	0.254	0.145	<0.005	<0.005	0.007	<0.005	<0.005	<0.005	2.350	T(0.043), X(0.016)
	9/3/99	<0.005	36.000	0.510	<0.005	1.100	0.520	<0.005	0.029	0.039	<0.005	<0.005	<0.005	9.300	B(0.025), EB(0.024), T(0.250), X(0.017)
	12/27/99	0.235	37.300	0.107	<0.002	1.000	1.030	<0.002	0.020	<0.002	0.005	<0.002	<0.002	3.760	B(0.018), CS_2(0.007), T(0.153) CM(0.037), EB(0.014),
	3/16/00	0.677	25.000	<0.001	0.003	1.130	0.919	<0.001	0.026	0.019	0.003	<0.001	<0.001	5.880	B(0.024), EB(0.017), T(0.151) X(0.006)
	5/31/00	0.297	21.230	0.132	0.003	1.170	1.140	<0.001	0.018	<0.001	<0.001	<0.001	<0.001	3.590	EB(0.0142), T(0.135), X(0.0085)
	8/11/00	<0.001	54.300	0.435	<0.001	0.617	0.925	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	10.600	B(0.0225), EB(0.018), T(0.130) X(0.009)
	11/10/00	0.410	60.000	0.130	<0.100	1.100	1.600	<0.100	<0.500	<0.250	<0.500	<0.500	<0.500	11.000	T(0.160)
	3/16/01	<0.200	21.000	<0.200	<0.200	0.580	0.720	<0.200	<1.000	<0.500	<1.000	<1.000	<1.000	4.300	
	9/20/01	0.360	46.000	<0.200	<0.200	1.100	1.900	<0.200	<1.000	<0.500	<1.000	<1.000	<1.000	6.300	
	10/24/01	<0.400	19.000	<0.400	<0.400	0.410	0.500	<0.400	<2.000	<1.000	<2.000	<2.000	<2.000	3.900	
	11/19/01	<0.400	44.000	1.800	<0.400	0.870	1.200	<0.400	<2.000	<1.000	<2.000	<2.000	<2.000	5.400	
	12/20/01	0.140	17.000	0.180	<0.100	0.440	0.370	<0.100	<0.500	<0.250	<0.500	<0.500	<0.500	3.600	
	1/30/02	0.051	6.600	0.047	<0.040	0.150	<0.040	<0.040	<0.200	<0.100	<0.200	<0.200	<0.200	1.700	
	2/25/02	<0.050	7.400	<0.050	<0.050	0.180	0.068	<0.050	<0.250	<0.050	<0.250	<0.250	<0.250	1.500	
	9/30/02	<0.020	2.700	<0.020	<0.020	0.059	0.053	<0.020	<0.100	<0.050	<0.100	<0.100	<0.100	0.460	
	3/17/03	0.120	17.000	0.048	0.040	0.380	0.500	0.040	0.200	0.100	0.200	0.200	0.200	2.900	T(0.057)
	8/26/03	0.400	22.000	<0.400	<0.400	0.450	0.910	<0.400	<2.00	<1.00	<2.00	<2.00	<2.00	2.700	
	2/27/04	<0.002	0.015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.013	
	5/13/04	0.044	5.600	0.038	<0.002	0.140	0.150	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.920	T(0.018), B(0.004)
	8/26/04	<0.002	0.067	<0.002	<0.002	0.005	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.022	
	12/3/04	0.200	30.000	0.210	<0.200	0.520	0.380	<0.200	<0.200	<0.200	<0.010	<0.010	<0.010	4.200	
	4/13/05	<0.200	14.000	<0.200	<0.200	0.270	0.470	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	1.500	
	7/1/05	0.094	18.000	0.140	<0.020	0.240	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
	9/6/05	0.074	12.000	0.071	<0.050	0.200	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.600	
	12/20/05	<0.200	23.000	<0.200	<0.200	0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	3.300	
	2/2/06	<0.1	8.8	<0.1	<0.1	0.14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	
	3/30/06	<0.5	19	<0.5	<0.5	<0.5	0.680	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	T(0.030 J), MC(0.055 JB)
	10/4/06	<0.025	3.200	<0.025	<0.025	0.073	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.770	
	1/23/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/1/07	0.240	45.000	0.140	<0.025	0.560	4.000	<0.025	0.029	<0.025	<0.025	<0.025	<0.025	3.200	B(0.049), EB(0.200), T(3.300), X(1.400), 1,1,1-
	3/24/08	<0.005	52.000	<0.005	<0.005	0.660	4.700	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3.300	
	8/27/08	0.280	34.000	<0.250	<0.250	0.440	2.000	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	2.400	
	3/30/09	0.362	38.800	2.230	<0.001	0.579	3.900	<0.001	0.024	<0.001	0.006	<0.001	0.001	3.330	DCE (42.6)
	11/5/09	0.521	60.000	<0.500	<0.500	0.743	4.220	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	5.130	T(0.723)
	4/30/10	0.349 J	61.100	<1.000	<1.000	0.640 J	4.980	<1.000	<1.000	<2.000	<1.000	<1.000	<1.000	3.870	
	12/22/10	0.529 J	67.200	<1.000	<1.000	0.850 J	4.690	<1.000	<1.000	<2.000	<1.000	<1.000	<1.000	5.800	
	5/4/11	0.296 J	39.900	<1.000	<1.000	0.412 J	1.560	<1.000	<1.000	<2.000	<1.000	<1.000	<1.000	3.510	
	12/28/11	0.217 J	35.000	<0.500	<0.500	0.347 J	0.816	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.980	
	5/18/12	<0.500	32.900	<0.500	<0.500	0.302 J	0.459 J	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.500	
	10/26/12	0.289 J	40.600	<0.500	<0.500	0.398 J	0.922	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	4.090	
	5/24/13	0.283 J	34.500	<0.500	<0.500	0.308 J	2.530	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.550	

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-7	12/12/13	0.365 J	48.500	<0.500	<0.500	0.460 J	3.640	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.500	
(cont'd)	6/30/14	0.291	32.800	0.148 E	0.001 J	0.339	1.260	<0.001	0.047	<0.002	0.009	0.00033 J	0.001	3.440	B(0.0188), CS_2(0.0003J), CHX(0.00062J), EB(0.0042),
	12/22/14	0.361 J	45.800	<0.500	<0.500	0.414 J	2.930	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.260	
	6/10/15	0.298 J	44.800	<0.500	<0.500	0.330 J	2.470	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.950	MC (1.420)
	12/8/15	0.544	52.200	0.159 J	<0.250	0.491	4.900	<0.250	0.131 J	<0.500	<0.250	<0.250	<0.250	3.600	MC(0.691 JB)
	6/28/16	0.323 J	42.600	<0.500	<0.500	0.360 J	3.300	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.360	
	12/14/16	0.272 J	42.300	<0.500	<0.500	0.311 J	3.750	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.510	
	6/5/17	0.191 J	29.200	<0.500	<0.500	0.198 J	1.630	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	2.770	
	12/28/17	0.382 J	55.100	0.150 J	<0.500	0.359 J	7.510	<0.500	0.120 J	<1.000	<0.500	<0.500	<0.500	2.680	
	6/4/18	0.348 J	50.500	<0.500	<0.500	0.279 J	5.530	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.210	
MW-8	3/30/93	<0.050	0.172	<0.050	<0.050	0.010	2.470	0.034	0.012	<0.1	0.008	<0.050	0.006	<0.1	
	2/22/95	<0.025	0.392	<0.025	<0.025	<0.025	5.130	<0.025	<0.025	<0.050	<0.025	<0.025	<0.025	<0.050	
	5/18/95	0.003	0.131	0.003	<0.005	0.007	1.650	0.004	0.055	<0.010	0.026	<0.005	0.029	0.003	B(0.022), T(0.003), X(0.003)
	8/15/95	<0.050	0.253	<0.050	<0.050	<0.050	2.240	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.1	
	11/13/95	0.004	0.227	<0.005	<0.005	0.006	3.650	0.015	0.026	<0.010	0.012	<0.005	0.013	<0.010	
	2/20/96	0.004	0.900	0.002	<0.001	0.005	1.140	0.004	0.043	<0.001	0.013	0.003	0.015	0.002	B(0.009)
	5/20/96	0.002	0.376	<0.001	<0.001	0.005	1.694	0.003	0.049	<0.001	0.018	0.005	0.027	0.002	B(0.014), X(0.002)
	8/30/96	<0.001	0.233	<0.001	<0.001	0.007	1.750	0.003	0.065	<0.001	0.033	0.006	<0.001	0.001	
	11/14/96	<0.001	0.356	0.002	<0.001	0.007	3.475	0.006	0.045	<0.001	0.017	0.006	0.032	<0.001	B(0.012), X(0.003)
	2/28/97	0.006	0.474	<0.001	<0.001	<0.001	3.695	0.008	0.031	<0.001	0.009	0.004	<0.001	0.005	
	5/8/97	0.002	0.186	0.003	<0.001	<0.001	0.631	<0.001	0.039	<0.001	0.013	0.004	0.018	0.008	B(0.019)
	8/26/97	<0.001	0.520	0.001	<0.001	0.006	3.920	0.012	0.018	<0.001	0.006	0.003	0.003	0.003	
	11/26/97	0.006	0.632	<0.005	<0.005	<0.005	5.950	0.012	0.007	<0.010	<0.005	<0.005	<0.005	<0.010	
	2/14/98	<0.005	0.458	<0.005	<0.005	<0.005	3.170	0.019	0.012	<0.005	<0.005	<0.005	<0.005	<0.002	
	6/19/98	0.008	0.358	<0.005	<0.005	<0.005	4.010	0.007	0.023	<0.010	0.008	<0.005	0.011	0.034	B(0.012)
	8/8/98	<0.005	0.236	<0.005	<0.005	0.008	2.080	<0.005	0.041	<0.010	0.025	<0.005	0.023	0.138	
	11/30/98	<0.005	0.179	<0.005	<0.005	0.009	2.180	<0.005	0.033	<0.010	0.102	0.010	0.036	0.182	B(0.077), T(0.008)
	2/15/99	<0.005	0.028	<0.005	<0.005	<0.005	2.420	<0.005	<0.005	<0.010	0.010	<0.005	<0.005	0.022	
	5/15/99	<0.005	0.243	<0.005	<0.005	0.013	2.580	<0.005	0.024	0.006	0.138	0.052	0.010	0.296	B(0.061), X(0.027)
	9/3/99	<0.005	0.150	<0.005	<0.005	0.008	0.990	<0.005	0.019	<0.005	0.140	0.013	0.041	0.140	B(0.130), T(0.010), X(0.016)
	12/27/99	0.008	0.182	<0.002	<0.002	0.015	1.190	0.005	0.008	<0.002	0.031	0.008	0.019	0.175	B(0.041)
	3/16/00	0.021	0.095	<0.001	<0.001	0.013	1.170	0.003	0.007	0.001	0.041	0.006	0.018	0.222	B(0.060), 2-CHT(0.014), 4-CHT(0.012), T(0.001), 1,2,4-B(0.001), X(0.003)
	5/31/00	0.005	0.290	0.003	<0.001	0.023	2.050	0.003	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.166), X(0.0079)
	8/11/00	0.006	0.283	0.003	<0.001	0.021	0.924	<0.001	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	B(0.049), T(0.002)
	11/10/00	<0.010	0.300	<0.010	<0.010	0.018	0.940	<0.010	<0.050	<0.025	0.062	<0.050	<0.050	0.140	B(0.019)
	3/16/01	<0.002	0.079	<0.002	<0.002	<0.002	0.140	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	
	9/20/01	0.004	0.270	<0.002	<0.002	0.002	0.210	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.078	B(0.005)
	2/25/02	<0.002	0.180	<0.002	<0.002	<0.002	0.009	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.008	
	9/30/02	0.002	0.085	<0.002	<0.002	<0.002	0.027	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.046	
	3/17/03	0.003	0.230	<0.002	<0.002	<0.002	0.095	<0.200	<0.010	<0.005	<0.010	<0.010	<0.010	0.009	
	8/26/03	<0.002	0.089	<0.002	<0.002	0.005	0.004	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.038	B(0.025),T(0.004)
	2/27/04	<0.002	0.007	<0.002	<0.002	<0.002	0.004	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	
	8/26/04	<0.002	0.099	<0.002	<0.002	0.003	0.034	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.094	B(0.005)
	4/13/05	<0.001	0.053	<0.001	<0.001	<0.001	0.017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.040	
	9/6/05	<0.001	0.037	<0.001	<0.001	<0.001	0.002	<0.001	0.008	0.003	0.002	<0.001	0.001	0.015	Ac(0.034), B(0.0042), 2-But(0.016)
	2/2/06	<0.001	0.019	<0.001	<0.001	<0.001	0.0066	<0.001	0.037	<0.001	0.0047	<0.001	0.0061	0.0044	X(0.0029)
	3/30/06	<0.005	0.0099	<0.005	<0.005	<0.005	<0.005	<0.005	0.015	0.0032	<0.005	<0.005	<0.005	0.018	B(0.0037)
	10/4/06	<0.001	0.0380	0.00230	<0.001	0.0014	<0.001	<0.001	0.017	<0.001	0.0034	<0.001	0.0047	0.079	B(0.0041), T(0.0035)
	1/23/07	<0.001	0.012	<0.001	<0.001	<0.001	0.0025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0035	2-CHT(0.0018)
	8/1/07	<0.001	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	0.0083	<0.001	<0.001	<0.001	0.0016	0.0018	T(0.0032)
	3/24/08	0.0042	0.150	0.0024	<0.001	0.001	<0.001	<0.001	0.071	0.0041	0.027	0.0021	0.0099	0.140	B(0.0028), T(0.002), X(0.001)
	8/27/08	0.002	0.130	0.001	<0.001	0.002	0.035	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	0.016	
	3/30/09	<0.001	0.094	0.001	<0.001	0.002	0.024	<0.001	0.006	<0.001	0.007	<0.001	0.003	0.017	T(0.00197), B(0.00211), 1,2-DCE(0.0996)
	11/5/09	0.0018 J	0.163	0.001 J	<0.002	0.0017 J	0.034	<0.002	0.0069	<0.004	0.003	0.0005 J	0.002	0.0106	B(0.003), T(0.00099 J)
	4/30/10	<0.005	0.192	<0.005	<0.005	0.0086	0.0197	<0.005	0.0053	<0.010	0.024	0.0018 J	0.0062	0.5900	B(0.0347), MCH (0.0024 J), T(0.0043 J)
	12/22/10	0.0052 J	0.476	<0.010	<0.010	0.0045 J	0.0942	<0.010	0.0360	<0.020	0.004	<0.010	<0.010	0.0196	B(0.0067J), T(0.0037J)
	5/4/11	<0.001	0.0282	0.00067 J	<0.001	0.0015	0.0018	<0.001	0.0125	0.003	0.0028	0.0006 J	0.0024	0.0788	B(0.0097), CS_2(0.00058J), T(0.001)
	12/28/11	0.0006 J	0.0346	0.0005 J	<0.001	0.0011	0.0063	0.0008	0.0280	0.0013 J	0.0201	0.0028	0.0089	0.0144	B(0.0031), MCH(0.00048J)
	5/18/12	0.0036	0.1960	0.0014	<0.001	0.0018	0.0128	0.0007 J	0.0041	<0.002	0.0015	0.0003 J	0.0008 J	0.0141	B(0.0007J), T(0.00093J)
	10/26/12	0.0026	0.1870	0.0014 J	<0.002	0.0023	0.0174	<0.002	0.0085	<0.004	0.0012 J	<0.002	0.0014 J	0.0357	B(0.0014J), T(0.0014J)
	5/24/13	0.0048	0.2600	0.0024	<0.002	0.0030	0.0275	0.0010 J	0.0042	<0.004	0.0046	0.0008 J	0.0024	0.1070	B(0.001J), T(0.00041 J)
	12/12/13	<0.001	0.0693	<0.001	<0.001	0.0075 J	0.0078	0.0009 J	0.0108	<0.002	0.0014	0.0008 J	0.0031	0.0051	B(0.00074J), T(0.00042J)

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-8	6/30/14	<0.001	0.0212	0.0004 J	<0.001	0.0013	0.0026	0.0006 J	0.0015	0.0011 J	0.0007 J	<0.001	0.0005 J	0.0453	B(0.0028), CS_2(0.00032J), T(0.00053J)
(cont'd)	12/22/14	<0.001	0.0022	<0.001	<0.001	<0.001	0.0026	0.0008 J	0.0010 J	<0.002	<0.001	<0.001	0.00075 J	0.0004 J	Ac(0.0113 J)
	6/10/15	<0.001	0.0097	<0.001	<0.001	0.001	0.0020	0.0006 J	0.0016	0.0011 J	0.001	0.0003 J	0.0010	0.0458	Ac(0.0129), B(0.0028), MEK(0.0033), T(0.0021)
	12/8/15	0.0017	0.1460	0.003	<0.001	0.003	0.0098	0.0007 J	0.0129	<0.002	0.008	0.0013	0.0050	0.1470	B(0.002), MCH (0.00047J), T(0.0007J)
	6/28/16	0.0004 J	0.0677	0.001 J	<0.001	0.0015	0.0154	0.0017	0.0031	<0.002	0.0035	0.0004 J	0.0012	0.0345	Ac(0.0215J), B(0.00098J), MEK(0.0035J), T(0.0005J)
	12/14/16	0.0016	0.1140	0.001	<0.001	0.0022	0.0240	0.0004 J	0.0099	<0.002	0.0144	0.0018	0.0057	0.1250	B(0.002), MCH (0.00066J), T(0.00086J)
	6/5/17	<0.001	0.0049	<0.001	<0.001	0.0020	0.0012	0.0003 J	0.0073	<0.002	0.0035	0.0007 J	0.0025	0.0170	B(0.0022), T(0.00054J)
	12/28/17	0.0005 J	0.0341	0.000 J	<0.001	0.0005 J	0.0037	<0.001	0.0124	<0.002	0.0024	0.0012	0.0041	0.0154	B(0.00051J, MCH (0.00047J)
	6/4/18	0.0009 J	0.0337	0.00026 J	<0.001	0.0006 J	0.00680	0.00048 J	0.0025	<0.002	0.0054 J	0.0007 J	0.0025	0.0211	X(0.0011J)
MW-13	9/20/01	0.310	33.000	0.260	<0.100	0.630	1.400	<0.100	<0.500	<0.250	<0.500	<0.500	<0.500	1.900	
	10/24/01	<1.000	59.000	<1.000	<1.000	1.300	1.600	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	6.400	
	11/19/01	<1.000	52.000	2.300	<1.000	1.300	2.000	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	7.200	
	12/20/01	0.420	44.000	0.790	<0.100	1.500	1.700	<0.100	<0.500	0.330	<0.500	<0.500	<0.500	7.900	T(0.230)
	1/30/02	<1.000	36.000	<1.000	<1.000	1.000	1.300	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	8.200	
	2/25/02	<0.400	43.000	<0.400	<0.400	1.100	1.800	<0.400	<2.000	<0.400	<2.000	<2.000	<2.000	6.700	
	9/30/02	<1.000	41.000	<1.000	<1.000	1.100	2.000	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	7.300	
	3/17/03	<1.000	44.000	<1.000	<1.000	<1.000	2.200	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	4.200	
	8/26/03	<0.500	31.000	<0.500	<0.500	0.600	1.500	<0.500	<2.500	<1.300	<2.500	<2.500	<2.500	3.700	
	2/27/04	<1.000	53.000	<1.000	<1.000	<1.000	2.400	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	7.500	
	5/13/04	<1.000	23.000	<1.000	<1.000	<1.000	1.000	<1.000	<5.000	<2.500	<5.000	<5.000	<5.000	4.200	
	8/26/04	<0.002	0.075	<0.002	<0.002	<0.002	0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	0.012	
	12/3/04	<0.200	24.000	<0.200	<0.200	0.420	0.470	<0.200	<0.200	0.220	<0.010	<0.010	<0.010	4.200	CH(0.220)
	4/13/05	<0.200	19.000	<0.200	<0.200	0.350	0.720	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	2.100	
	7/1/05	0.093	11.000	0.160	<0.020	<0.020	0.490	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.970	
	9/6/05	0.038	5.700	0.029	<0.020	0.096	0.110	<0.020	<0.020	0.036	<0.020	<0.020	<0.020	0.910	
	12/20/05	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	2/2/06	0.0013	0.19	0.0015	<0.001	0.0026	0.0046	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.011	
	3/30/06	<0.00020	0.0018	<0.00020	<0.00020	0.00029	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	MC(0.00080 JB)
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	1/23/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/1/07	<0.001	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	
	3/24/08	<0.200	24.000	<0.200	<0.200	0.260	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	1.5000	
	8/28/08	<0.001	0.013	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/30/09	0.166	14.400	0.122	<0.001	0.193	1.370	<0.001	0.011	<0.001	0.004	<0.001	<0.001	1.1800	(18.6)
	11/5/09	<0.001	0.0005 J	<0.001	<0.001	<0.001	<0.001	<0.001	0.0153	<0.002	0.00046 J	<0.001	<0.001	<0.001	X(0.0018 J)
	4/30/10	0.156 J	24.800	<0.250	<0.250	0.235 J	0.484	<0.250	<0.250	<0.500	<0.250	<0.250	<0.250	2.3200	
	12/22/10	0.241 J	34.000	0.0931 J	<0.250	0.372	2.100	<0.250	<0.250	<0.500	<0.250	<0.250	<0.250	2.4200	
	5/4/11	0.290 J	39.200	<0.500	<0.500	0.431 J	1.530	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.4400	
	12/28/11	0.227 J	27.100	<0.500	<0.500	0.280	0.492 J	<0.500	<0.500	<1.000	<0.500	<0.500	<0.500	3.8600	
	5/18/12	0.146 J	18.400	<0.200	<0.200	<0.200	0.350	<0.200	<0.200	<0.400	<0.200	<0.200	<0.200	1.8100	MC(0.800)
	10/26/12	0.151 J	23.500 b	0.0718 J	<0.200	0.210	0.502	<0.200	<0.200	<0.400	<0.200	<0.200	<0.200	2.6600	
	5/24/13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/12/13	0.183 E	19.600	0.078	<0.001	0.193	0.451	<0.001	0.032	0.0006	0.004	<0.001	0.0009	1.7100	B(0.020), EB(0.0006), MC(0.00069), T(0.016), X(0.0013)
	6/30/14	0.128 J	15.800	0.181 E	0.00026 J	0.149 J	0.357	<0.001	0.031	<0.002	0.004	0.00023 J	0.0008 J	1.8900	B(0.0191), EB(0.0007), MC(0.0036), T(0.0138), X(0.0017J)
	12/22/14	0.164 J	20.100	<0.250	<0.250	0.176 J	0.591	<0.250	0.0834 J	<0.500	<0.250	<0.250	<0.250	1.9600	CS_2(0.247 J)
	6/10/15	0.107 J	15.500	0.0469 J	<0.200	0.115 J	0.482	<0.200	<0.200	<0.400	<0.200	<0.200	<0.200	1.3800	
	12/8/15	0.172 J	18.400	<0.250	<0.250	0.164 J	1.680	<0.250	0.0825 J	<0.500	<0.250	<0.250	<0.250	1.4000	MC(0.652 JB)
	6/28/16	0.123 J	15.900	<0.200	<0.200	0.126 J	0.672	<0.200	0.0401 J	<0.400	<0.200	<0.200	<0.200	1.8600	
	12/14/16	0.133 J	18.000	0.070 J	<0.200	0.132 J	0.739	<0.200	<0.200	<0.400	<0.200	<0.200	<0.200	1.9500	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/26/17	0.140	26.600	0.088	<0.001	0.145	0.828	<0.001	0.032	<0.002	0.004	<0.001	0.00075 J	1.6700	B(0.024), EB(0.00051J), T(0.0011), X(0.0016J)
	6/4/18	0.158 J	21.500	0.0536 J	<0.200	0.125 J	1.010	<0.200	<0.002	<0.400	<0.200	<0.200	<0.200	2.0600	CHL(0.0616J)
MW-14	10/13/03	<0.100	0.840	<0.100	<0.100	<0.100	0.730	<0.100	<0.100	<0.100	NA	NA	NA	<0.100	TCA (0.130), T (19.0), EB (1.9), X (21.0)
	12/11/03	0.097	2.900	0.027	0.150	0.200	1.800	<0.005	<0.005	0.015	NA	NA	NA	0.100	MEK (6.7), 4-m-2-p (2.2), Ace (3.1), EB (4.4), X (40.0), MC (0.200), T (65.0)
	2/27/04	<0.020	4.800	<0.020	0.160	0.150	6.100	0.020	0.110	<0.050	0.450	<0.100	<0.100	0.130	Ac(2.2), B(0.630), 2-But(9.1), EB(6.1) MC(0.095), 4-M-2-Pent(1.7), T(96) 1,1,1-T(0.780), 1,2,4-TMB(0.130) X(57)
	8/26/04	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.010	<0.010	<0.010	<0.002	EB(0.004), T(0.070), X(0.042)
	4/13/05	<1.000	3.400	<1.000	<1.000	<1.000	1.100	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	EB(5.700), T(60.000), X(54.000)
	9/6/05	<0.500	3.500	<0.500	<0.500	<0.500	1.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	EB(6.800), T(71.000), X(67.000)
	2/2/06	<1.0	2.6	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	EB(9.1), T(90)
	3/30/06	<2.5	3.800	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	B(0.610), EB(9.5), T(81.000), X(84.000)
	10/4/06	<1.000	6.200	<1.000	<1.000	<1.000	3.100	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	EB(6.700), T(90.000), X(66.000)
	1/23/07	0.090	9.100	0.035	<1.000	<1.000	2.400	<1.000	0.110	0.012	<1.000	0.023	0.065	<1.000	EB(9.000), T(96.000), X(91.000), CHL (0.0014), IPB
	8/1/07	<250	330	<250	<250	<250	350	<250	<250	<250	1200	76	220	<250	EB(4.0), T(17.0), X(36.0)

Table 4
Summary of Groundwater Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Well Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	1,2-DB mg/L	1,3-DB mg/L	1,4-DB mg/L	VC mg/L	Others mg/L
MW-14	3/24/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
(cont'd)	8/27/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/30/09	0.046	8.240	0.019	<0.001	0.188	1.560	<0.001	0.128	0.010	0.328	0.019	0.054	0.878	Ac(1.760), B(0.532), 2-But(5.350), T-BB(0.00135), S-BB(0.00315), CS2(0.00161), CHL(0.00138), EB(6.160), IPB(0.0556), P-IP(0.0221), MC(0.0393), 4-M-2-Pent(2.420), N(0.0167), N-PB(0.0309), T(86.800), 1,1,1-TCA(0.514), 1,1,2-T(0.010), X(75.6), 1,2-DCE(8.860), 1,3,5-TMB(0.053), 1,2,4-TMB(0.122)
	11/5/09	0.063 J	8.290	<0.100	0.142	0.198	0.650	<0.100	<0.100	<0.200	0.190	<0.100	0.037 J	0.414	Ac(1.370 J), B(0.784), 2-But.(2.270), EB(5.580),
	4/30/10	<1.000	14.700	<1.000	<1.000	<1.000	1.670	<1.000	<1.000	<2.000	0.542 J	<1.000	<1.000	<1.000	B(0.943 J), CHL(0.462 J), EB(8.540), 4-M-2-Pent(2.480
	12/22/10	<2.000	9.000	<2.000	<2.000	<2.000	1.470J	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	0.522 J	B(0.630J), EB(5.820), MEK(7.220J), 1,1,1-TCA(0.570J),
	5/4/11	<2.000	10.600	<2.000	<2.000	<2.000	1.600J	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	0.753 J	B(0.747J), CS_2(2.22J), EB(6.280) 1,1,1-TCA(0.753J), T(101), X(56.4)
	12/28/11	<1.000	8.830	<1.000	<1.000	<1.000	1.240	<1.000	<1.000	<2.000	<1.000	<1.000	<1.000	0.697 J	B(0.639J), EB(5.420), MCH(2.850J) MEK(5.290), T(126), X(51.1)
	5/18/12	<2.000	10.300	<2.000	<2.000	<2.000	1.870	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	<2.000	B(0.827J), EB(5.920), MEK(8.630) T(113.000), X(52.900)
	10/26/12	<0.500	9.890	<0.500	0.145 J	0.202 J	0.810	<0.500	<0.500	<1.000	0.121 J	<0.500	<0.500	0.590	B(0.805), EB(4.570), MCH(2.520), 1,1,1-TCA(0.582)
	5/24/13	<2.000	11.000	<2.000	<2.000	<2.000	1.980	<2.000	<2.000	<4.000	0.494 J	<2.000	<2.000	<2.000	B(0.812), EB(8.300), 1,1,1-TCA(0.745), T(119.000) X(77.600)
	12/12/13	<2.000	7.540	<2.000	<2.000	<2.000	0.889 J	<2.000	<2.000	<4.000	0.689 J	<2.000	<2.000	<2.000	B(0.641 J), EB(8.620), T(135), X(86.6)
	6/30/14	<2.000	11.500	<2.000	<2.000	<2.000	1.260 J	<2.000	<2.000	<4.000	0.770 J	<2.000	<2.000	<2.000	B(0.866J), EB(8.980), 1,1,1-TCA(0.904J), T(124.000), X(84.1)
	12/22/14	<1.000	10.800	<1.000	<1.000	<1.000	0.551 J	<1.000	<1.000	<2.000	0.927 J	<1.000	<1.000	0.421 J	B(0.863 J), EB(9.65), 1,1,1-TCA(0.578 J), T(80.1), X(80.3)
	6/10/15	<1.000	10.800	<1.000	<1.000	0.233 J	0.266 J	<1.000	<1.000	<2.000	0.725 J	<1.000	<1.000	0.547 J	B(0.745), EB(8.020), MC(3.450J), 4-M-2-Pent(1.670J) T(116.000), 1,1,1-TCA(0.399J), X(76.700)
	12/8/15	0.0563 J	10.600	<1.000	0.143	0.243	0.539	<1.000	<1.000	<2.000	1.170	0.0623J	0.204	0.564	B(0.770), 2-But(1.270), EB(9.760), IPB(0.0778 J) MC(0.294JB), 4-M-2-Pent(1.380), Sy(0.176), 1,1,1-TCA(0.421), T(114.000), X(86.900)
	6/28/16	<1.000	12.600	<1.000	<1.000	<1.000	0.444 J	<1.000	0.217 J	<2.000	1.000	<1.000	<1.000	0.672 J	B(0.877J), EB(9.630), 4-M-2-Pent(2.000J) T(125.000[a]), 1,1,1-TCA(0.436J), X(86.100)
	12/14/16	<2.000	9.650	<2.000	<2.000	<2.000	0.634 J	<2.000	<2.000	<4.000	1.510	<2.000	<2.000	<2.000	B(0.940J), EB(10.4), T(103.000), 1,1,1-TCA(0.426J) X(82.400)
	6/5/17	<2.000	7.540	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	<2.000	B(0.648J), EB(7.110), T(101.000), X (67.600)
	12/26/17	<2.000	9.310	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	<2.000	B(0.700), EB(8.640), T(110.000), X(80.100)
	6/4/18	<2.000	7.450	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<2.000	<2.000	<2.000	CHL(1.360J), EB(8.840), T(102,000), X(84,700)
	6/27/18	<0.500	4.530	<0.500	<0.500	<0.500	0.456 J	<0.500	<0.500	<1.000	0.456 J	<0.500	<0.500	<0.500	B(0.416J), EB(10.000), IPB (0.176J), T(67.700), 1,1,1-TCA(0.254J), X(99.500)
MW-15	5/18/12	<0.001	0.0044	<0.001	<0.001	<0.001	<0.001	<0.001	0.0048	<0.002	<0.001	<0.001	<0.001	<0.001	B(0.00035J), T(0.00026J)
	10/26/12	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	0.00082 J	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.00022J)
	5/24/13	<0.001	0.008	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/12/13	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/22/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/28/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	T(0.0015), X(0.0015J)
	12/14/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	12/28/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	

LIST OF ABBREVIATIONS

Acetone	Ac	1,2-Dichloroethane	1,2-DCA	trans-1,2-Dichloroethene	t-1,2-DCE
Benzene	B	Ethylbenzene	EB	1,2,4-Trimethylbenzene	1,2,4-TMB
Bromobenzene	BB	Hydrocarbons (Mineral Spirits)	H-MIN	1,3,5-Trimethylbenzene	1,3,5-TMB
2-Butanone	2-But.	Isopropylbenzene	IPB	Toluene	T
Chlorobenzene	CB	Methyl Chloride	MC	Styrene	Sy
Chloroethane	CH	Methyl ethyl ketone	MEK	Vinyl Chloride	VC
Carbon Disulfide	CS_2	4-Methyl-2-Pentanone	4-M-2-Pent	Xylenes	X
Chloroform	CHL	Methylcyclohexane	MCH	Not Sampled	NS
Chloromethane	CM	milligrams/Liter	mg/L	Estimated value (result is between Reporting	J
cis-1,2-Dichloroethene	c-1,2-DCE	Naphthalene	N	Limit and Method Detection Limit)	
Cyclohexane	CHX	N-Propylbenzene	N-PB	Result is from Run# 2	[a]
1,2-Dichlorobenzene (O-DB)	1,2-DB	P-CY	p-Cymene	Analyte found in associated method blank	[b]
1,3-Dichlorobenzene M-DB)	1,3-DB	P-Isopropyltoluene	P-IP		
1,4-Dichlorobenzene (P-DB)	1,4-DB	sec-Butylbenzene	S-BB		
1,1-Dichloroethene	1,1-DCE	tert-Butylbenzene	T-BB		
1,2,4-Trichlorobenzene	1,2,4-B	Tetrachloroethene	PCE		
2-Chlorotoluene	2-CHT	Trichloroethene	TCE		
4-Chlorotoluene	4-CHT	1,1,1-Trichloroethene	1,1,1-TCE		
1,1-Dichloroethane	1,1-DCA	1,1,1-Trichloroethane	1,1,1-TCA		

Table 5
Summary of Surface Water Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Sample Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	VC mg/L	Others mg/L
SW-1	11/19/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/20/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	1/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/25/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	9/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	3/17/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/27/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	5/13/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/3/04	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	
	4/13/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	7/1/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Chl (0.0016)
	9/6/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	CM(0.001)
	12/20/05	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	2/2/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	1/23/07	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/1/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	3/24/08	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/27/08	<0.001	0.0089	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	ND
	3/30/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	11/5/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00034 J	<0.001	<0.001	
	4/30/10	<0.001	0.0086	<0.001	<0.001	<0.001	0.0049	<0.001	0.00050 J	<0.002	<0.001	EB(0.00037), X(0.001)
	12/22/10	0.001	0.0282	<0.001	<0.001	0.00027J	0.0090	<0.001	0.00083J	<0.002	0.002	T(0.00021J)
	5/4/11	0.004	0.1590	0.0019	<0.001	0.0016	0.0299	<0.001	0.00160	<0.002	0.013	B(0.00036J) 1,2DCB(0.00041J) MC(0.0412J) T(0.001)
	12/28/11	<0.001	0.00031J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	5/18/12	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	10/26/12	<0.001	0.00064 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	T(0.00022J)
	5/24/13	<0.001	0.0050	<0.001	<0.001	<0.001	0.00094 J	<0.001	<0.001	<0.002	<0.001	
	12/12/13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00069 J	<0.002	<0.001	
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/22/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	CS^2(0.00053J)
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/28/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00021 J	<0.002	<0.001	Ac(0.0136J), T(0.00065J)
	12/14/16	<0.001	0.0060	<0.001	<0.001	<0.001	0.0015	<0.001	<0.001	<0.002	<0.001	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/26/17	0.00037 J	0.0272	0.0003 J	<0.001	<0.001	0.0072	<0.001	0.00040 J	<0.002	0.001	
	1/19/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	

Table 5
Summary of Surface Water Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Sample Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	VC mg/L	Others mg/L
SW-2	11/19/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/20/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	1/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/25/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	9/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	3/17/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/27/04	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	5/13/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/3/04	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	
	4/13/05	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	7/1/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Chl (0.0015)
	9/6/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	12/20/05	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	2/2/06	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Chl(0.0014)
	1/23/07	<0.001	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/1/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	3/24/08	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/27/08	<0.001	0.0082	<0.001	<0.001	<0.001	0.0027	<0.001	<0.001	<0.001	<0.001	ND
	3/30/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	11/5/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00039 J	<0.001	<0.001	
	4/30/10	<0.001	0.0086	<0.001	<0.001	<0.001	0.0049	<0.001	0.00047 J	<0.002	0.00051 J	EB(0.00042J), X(0.0011J)
	12/22/10	0.00056J	0.0278	<0.001	<0.001	<0.001	0.009	<0.001	0.00074J	<0.002	0.0016	T(0.00021J)
	5/4/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	ND
	12/28/11	0.0018	0.0954	0.00074J	<0.001	0.00099J	0.0169	<0.001	0.0034	<0.002	0.0086	B(0.00026J), o-DCB(0.00033J) T(0.00038J)
	5/18/12	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	10/26/12	<0.001	0.013	<0.001	<0.001	<0.001	0.00047 J	<0.001	0.004	<0.002	0.00050 J	B(0.00047J), T(0.00036J)
	5/24/13	<0.001	0.004	<0.001	<0.001	<0.001	0.00088 J	<0.001	<0.001	<0.002	<0.001	
	12/12/13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00041 J	<0.002	<0.001	
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/22/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	CS^2(0.00062J)
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/28/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00025 J	<0.002	<0.001	T(0.00068J)
	12/14/16	<0.001	0.004	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.002	<0.001	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/26/17	0.0047 J	0.003	0.00035 J	<0.001	<0.001	0.008	<0.001	0.00042 J	<0.002	0.001	
	1/19/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	CHl(0.00097J)
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	

Table 5
Summary of Surface Water Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Sample Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	VC mg/L	Others mg/L
SW-3	11/19/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/20/01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	1/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/25/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	9/30/02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	3/17/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	2/27/04	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	5/13/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	8/26/04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.005	<0.002	ND
	12/3/04	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	
	4/13/05	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	7/1/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Chl (0.0016)
	9/6/05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	12/20/05	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	2/2/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	3/30/06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	10/4/06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	1/23/07	<0.001	0.0096	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/1/07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	3/24/08	<0.001	0.0017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	ND
	8/27/08	<0.001	0.0070	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	ND
	3/30/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Chl(0.0071)
	11/5/09	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00034 J	<0.001	<0.001	
	4/30/10	<0.001	0.0064	<0.001	<0.001	<0.001	0.004	<0.001	0.00041 J	<0.002	<0.001	EB(0.00037J), X(0.00077J)
	12/22/10	0.0045J	0.0305	<0.001	<0.001	<0.001	0.008	<0.001	0.00067J	<0.002	0.002	ND
	5/4/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0054	<0.002	<0.001	B(0.00048J)
	12/28/11	0.001	0.0873	0.0046J	<0.001	0.00057J	0.012	<0.001	0.0014	<0.002	0.005	T(0.00030J)
	5/18/12	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	10/26/12	<0.001	0.0099	<0.001	<0.001	<0.001	0.00034 J	<0.001	0.001	<0.002	<0.001	T(0.00034J)
	5/24/13	<0.001	0.0039	<0.001	<0.001	<0.001	0.00088 J	<0.001	<0.001	<0.002	<0.001	
	12/12/13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00032 J	<0.002	<0.001	
	6/30/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/22/14	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/10/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/8/15	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/28/16	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00034 J	<0.002	<0.001	T(0.00066J)
	12/14/16	<0.001	0.004	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.002	<0.001	
	6/5/17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	12/26/17	0.0042 J	0.029	0.00029 J	<0.001	<0.001	0.007	<0.001	0.00044 J	<0.002	0.001	
	1/19/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	
	6/4/18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	

Table 5
Summary of Surface Water Analyses
Brenntag Southeast
Charleston, South Carolina
(revised 6/8/2018)

Sample Number	Date Sampled	1,1-DCE mg/L	c-1,2-DCE mg/L	t-1,2-DCE mg/L	1,2-DCA mg/L	1,1-DCA mg/L	TCE mg/L	PCE mg/L	CB mg/L	CH mg/L	VC mg/L	Others mg/L

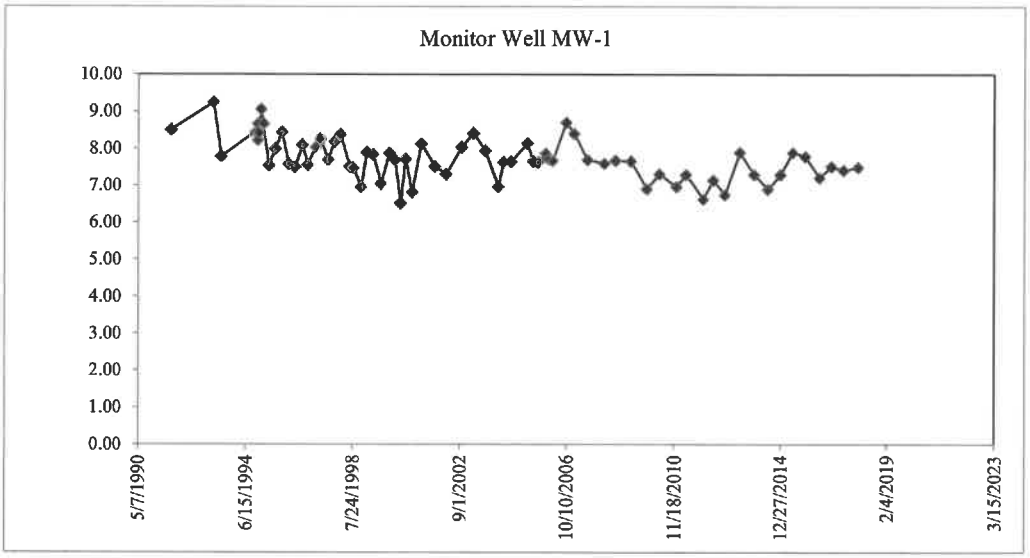
LIST OF ABBREVIATIONS

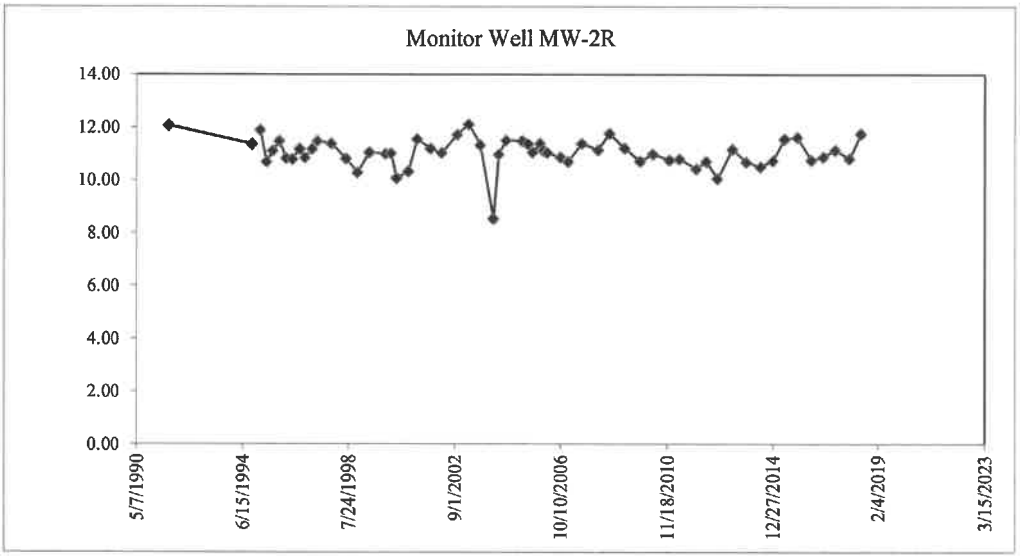
1,1-DCE = 1,1-Dichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1-DCA = 1,1-Dichloroethane
TCE = Trichloroethene
PCE = Tetrachloroethene
CB = Chlorobenzene
CH = Chloroethane
VC = Vinyl chloride
Chl = Chloroform
CM=Chloromethane
MC = Methylene chloride
mg/L = Milligrams per liter
o-DCB= 1,2-Dichlorobenzene
Carbon Disulfide=CS^2
ND = Not detected
J = Estimated value (result is between Reporting Limit and Method Detection Limit)
Ac=Acetone
T=Toluene

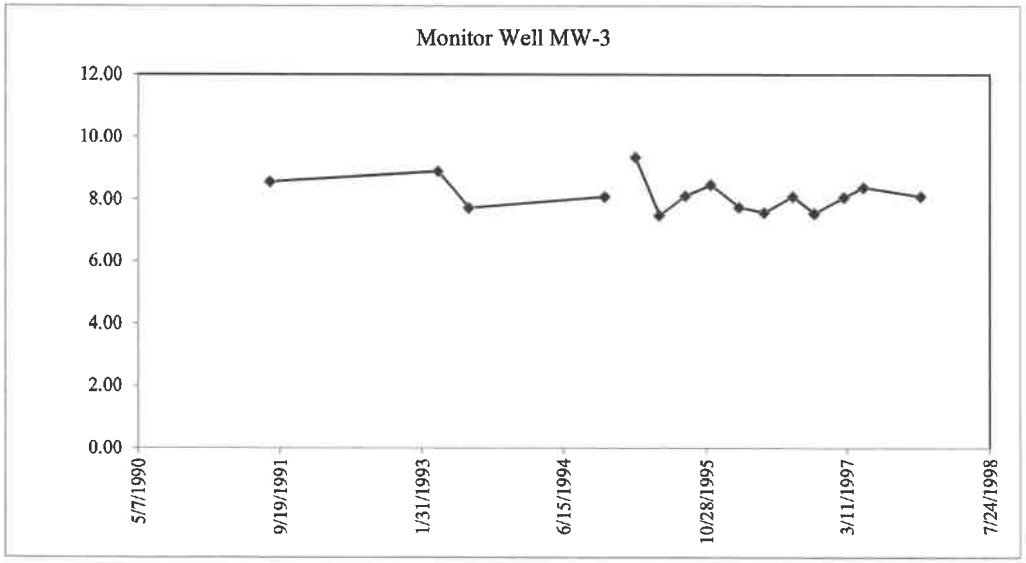
APPENDIX A

Groundwater Elevation Hydrographs

Appendix A. Groundwater Elevation Hydrographs
Brenntag Southeast,
Charleston, South Carolina
(revised 6/7/2018)

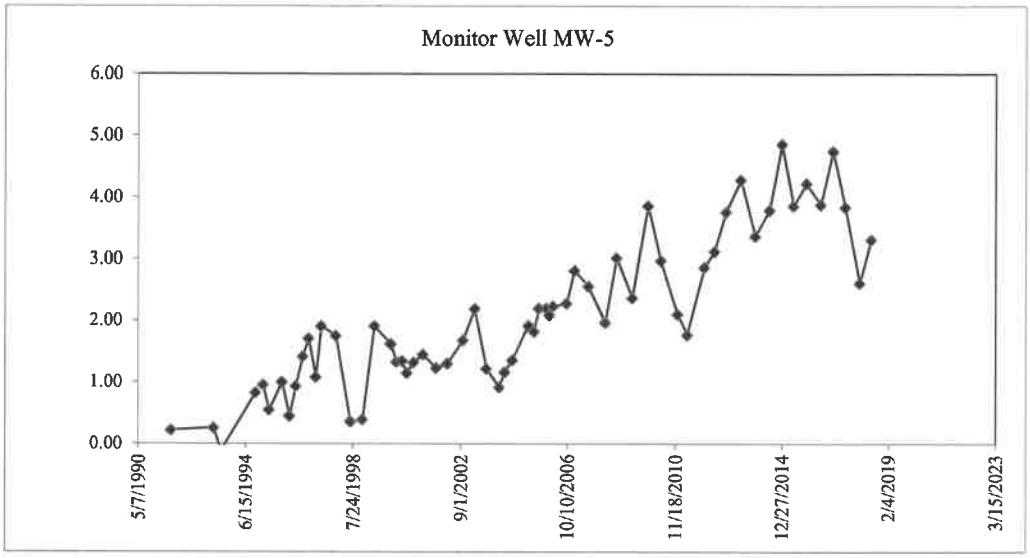


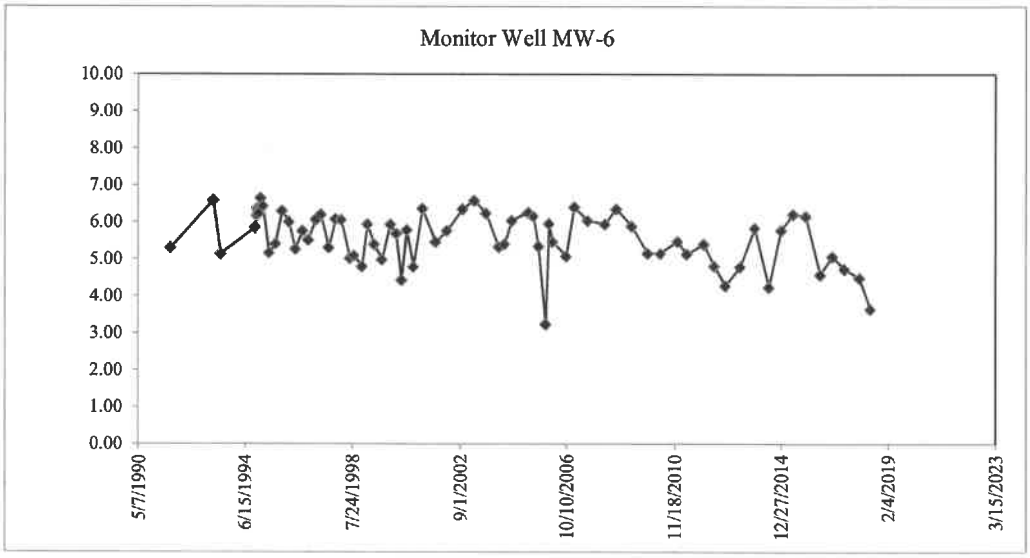


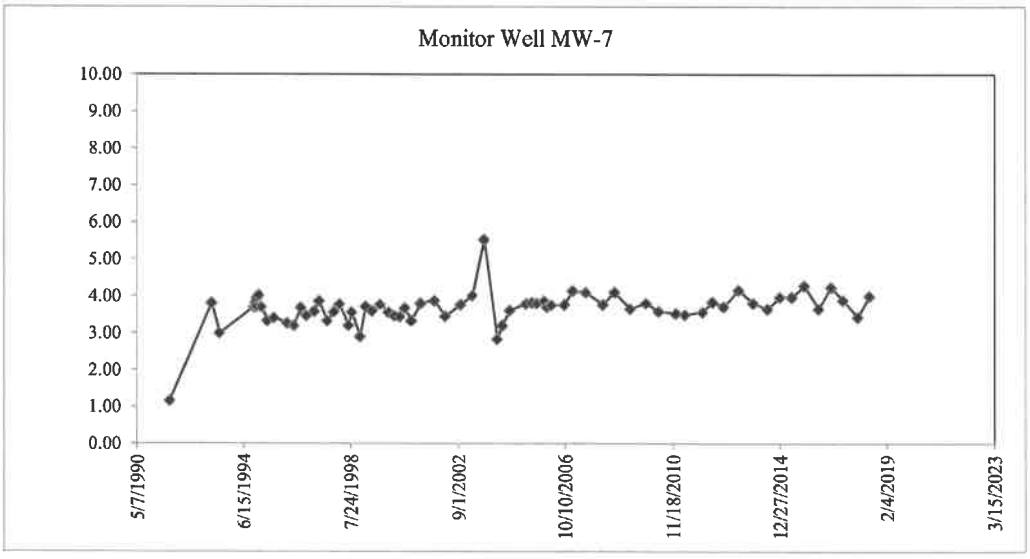


ft msl=feet above mean sea level

Appendix A. Groundwater Elevation Hydrographs
Brenntag Southeast,
Charleston, South Carolina
(revised 6/7/2018)

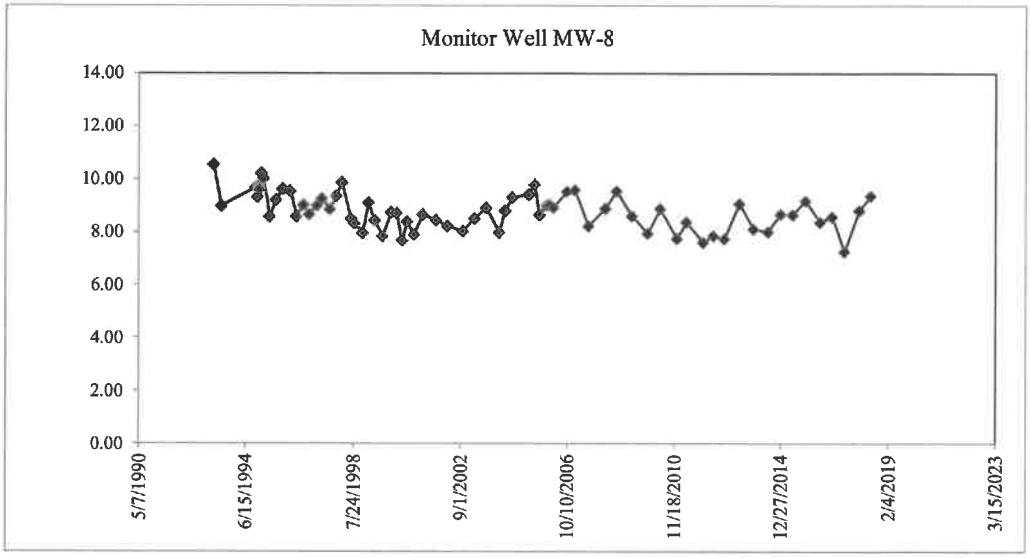


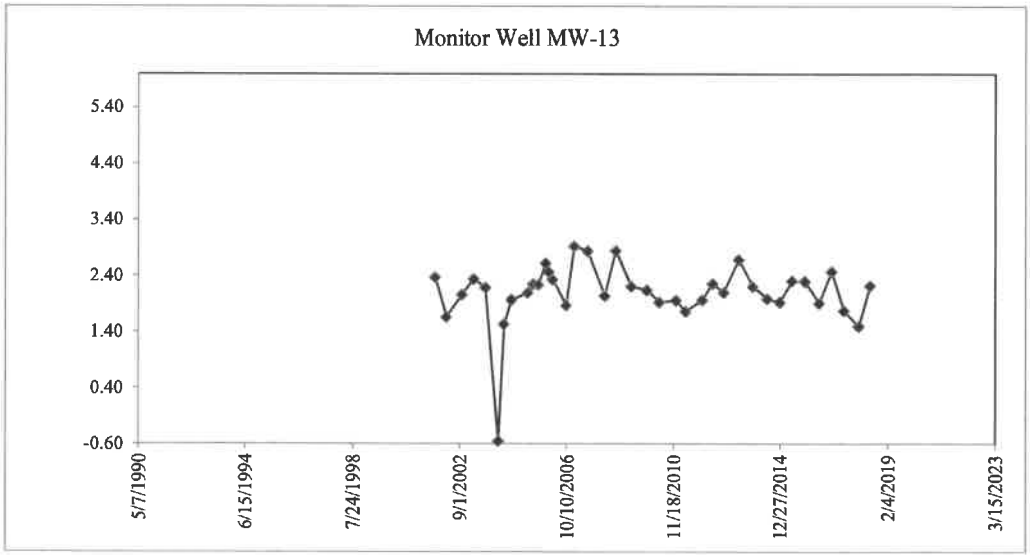


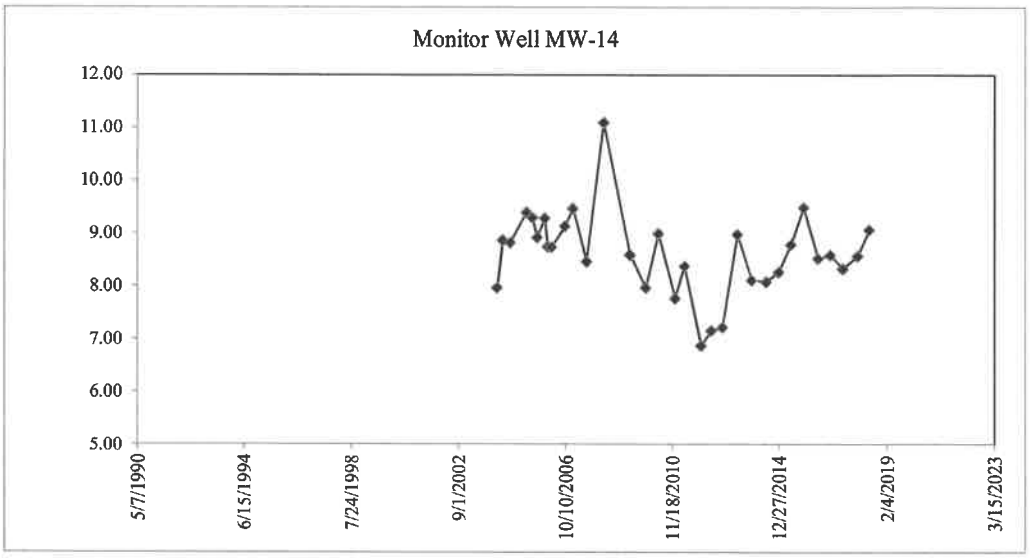


ft msl=feet above mean sea level

Appendix A. Groundwater Elevation Hydrographs
Brenntag Southeast,
Charleston, South Carolina
(revised 6/7/2018)

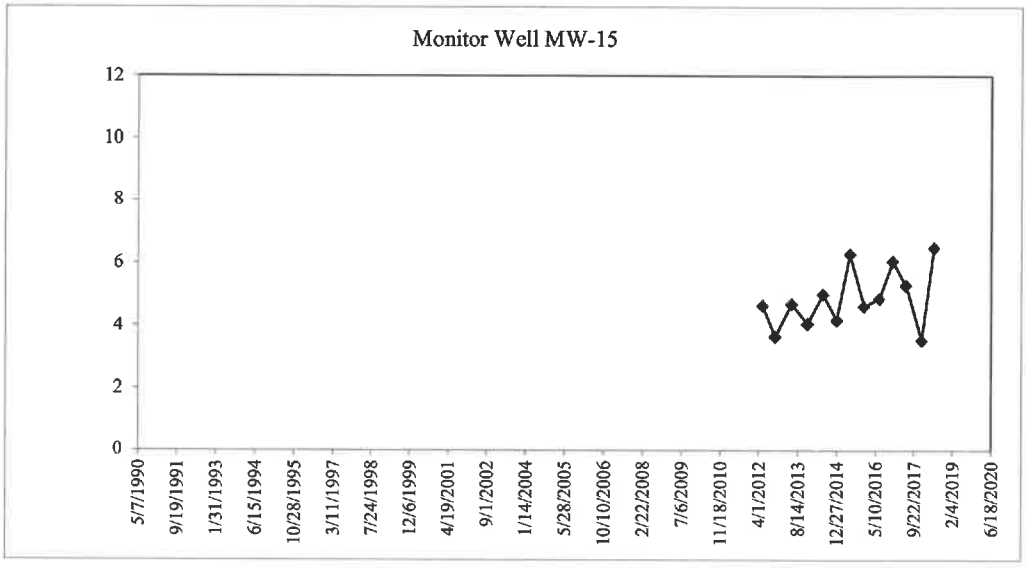






ft msl=feet above mean sea level

Appendix A. Groundwater Elevation Hydrographs
Brenntag Southeast,
Charleston, South Carolina
(revised 6/7/2018)



ft msl=feet above mean sea level

APPENDIX B

Field Sampling Logs

ARCADIS

SURFACE WATER SAMPLING FORM

Project No. SC000204.0017.00001

Date 6-4-18

Site Location : Brenntag Southeast, Charleston, South Carolina

Time start sampling 0705

Sample Loc. : SW-1

Time end sampling —

FIELD SAMPLING DATA

pH	Cond. ~~(µMhos)~~ (mS/cm)	Turbidity (NTU)	Temp. (°C) ~~(°F)~~	Dissolved Oxygen (mg/L)	Redox (mV)	Appearance	
						Color	Odor
6.64	0.266	3.18	26.29	4.30	93	Clear	No

STREAM MEASUREMENT DATA

Time	Steam Depth	Steam Width	Velocity (ft/sec)
—	—	—	—

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Remarks

Sampling Personnel J. O[illegible]

ARCADIS

SURFACE WATER SAMPLING FORM

Project No. SC000204.0017.00001

Date 6-4-18

Site Location : Brenntag Southeast, Charleston, South Carolina

Time start sampling 0715

Sample Loc. : SW-2

Time end sampling —

FIELD SAMPLING DATA

pH	Cond. ~~(µMhos)~~ (mS/cm)	Turbidity (NTU)	Temp. (°C) ~~(°F)~~	Dissolved Oxygen (mg/L)	Redox (mV)	Appearance	
						Color	Odor
6.59	0.267	3.88	26.33	4.37	95	clear	NO

STREAM MEASUREMENT DATA

Time	Steam Depth	Steam Width	Velocity (ft/sec)
—	—	—	—

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Remarks —

Sampling Personnel J. O'BRIEN

ARCADIS

SURFACE WATER SAMPLING FORM

Project No. SC000204.0017.00001

Date 6.4.18

Site Location : Brenntag Southeast, Charleston, South Carolina

Time start sampling 0725

Sample Loc. :SW-3

Time end sampling —

FIELD SAMPLING DATA

pH	Cond. ~~(uMhos)~~ (mS/cm)	Turbidity (NTU)	Temp. (°C) ~~(°F)~~	Dissolved Oxygen (mg/L)	Redox (mV)	Appearance	
						Color	Odor
6.15	0.272	3.90	26.22	4.44	130	clear	NO

STREAM MEASUREMENT DATA

Time	Steam Depth	Steam Width	Velocity (ft/sec)
—	—	—	—

Constituents Sampled	Container	Number
8260B	40 ml vial	3

Remarks

Sampling Personnel J. OBrien

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 | Well ID MW-15 | Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina | Weather SUN

Measuring Pt. Description | Screen Setting (ft-bmp) | Casing Diameter (in.) 2 | Well Material X PVC ___ SS

Static Water Level (ft-bmp) 2.55 | Total Depth (ft-bmp): 15.80 | Water Column/ Gallons in Well 13.25 / 2.12

MP Elevation | Pump Intake (ft-bmp): 10.80 | Purge Method: Low Flow; Centrifugal; Submersible; Other Peristaltic | Sample Method Reverse Flow

Pump On/Off 0735 | Volumes Purged 0.5 gal

Sample Time: Label 0805 | Start 0805 | End 0808 | Replicate/ Code No.

Sampled by J. OBRIEN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. ~~(uMhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance	
											Color	Odor
0745	10	0.05	2.58	0.5	6.44	0.553	1.9	1.51	25.09	34	clear	No
0755	10	0.05	2.61	0.5	6.43	0.560	2.8	1.59	25.06	35	clear	No
0805	10	0.05	2.63	0.5	6.45	0.561	3.0	1.54	25.01	35	clear	No

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Well Information

Well Location:	0	Well Locked at Arrival:	(Yes) / No
Condition of Well:	good	Well Locked at Departure:	(Yes) / No
Well Completion:	(Flush Mount) / Stick Up	Key Number To Well:	

ARCADIS Groundwater Sampling Form

Project No. SC000204.0017.00001 Well ID MW-6 Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina Weather SUN

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 2 Well Material X PVC ___ SS

Static Water Level (ft-bmp) 6.98 Total Depth (ft-bmp): 8.08 Water Column/ Gallons in Well 1.1 / 0.2

MP Elevation 10.62 Pump Intake (ft-bmp): 7.5 Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic Sample Method Reverse Flow

Pump On/Off 0820 Volumes Purged 0.75 gal

Sample Time: Label 0835 Start 0835 End _____ Replicate/ Code No. _____ Sampled by J. ALLEN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (~~µMhos~~) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (~~°F~~)	Redox (mV)	Appearance	
											Color	Odor
0825	5	0.05	7.01	0.25	7.44	0.277	1.6	3.27	26.05	22		NO
0830	5	0.05	7.04	0.5	7.48	0.281	1.7	3.33	26.43	20		NO
0835	5	0.05	7.09	0.75	7.50	0.282	1.4	3.35	26.39	21		NO

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: 0 Well Locked at Arrival: Yes / No

Condition of Well: good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 | Well ID MW-5 | Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina | Weather SUN

Measuring Pt. Description | Screen Setting (ft-bmp) | Casing Diameter (in.) 2 | Well Material X PVC ___ SS

Static Water Level (ft-bmp) 8.70 | Total Depth (ft-bmp): 22.75 | Water Column/ Gallons in Well 14.05 / 2.2

MP Elevation 12.01 | Pump Intake (ft-bmp): 17.75 | Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic | Sample Method Reverse Flow

Pump On/Off 0845 | Volumes Purged 1.5 gal

Sample Time: Label 0915 | Start 0915 | End 0918 | Replicate/ Code No. ___ | Sampled by J. OBrien

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
0855	10	0.05	8.74	0.5	6.65	6.50	1.67	0.89	23.96	-33	Clear	NO
0905	10	0.05	8.76	1.0	6.65	6.49	1.58	0.88	23.89	-35	Clear	NO
0915	10	0.05	8.79	1.5	6.66	6.50	1.55	0.86	23.87	-37	Clear	NO

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Well Information

Well Location: 0 | Well Locked at Arrival: Yes / No

Condition of Well: Good | Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up | Key Number To Well: ___

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 Well ID MW-2R Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina Weather SUN

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 2 Well Material X PVC ___ SS

Static Water Level (ft-bmp) 4.45 Total Depth (ft-bmp): 20.59 Water Column/ Gallons in Well 16.14/2.6

MP Elevation 16.5 Pump Intake (ft-bmp): 15.59 Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic Sample Method Reverse Flow

Pump On/Off 0925 Volumes Purged 1.5 gal

Sample Time: Label 0955 Start 0935 End 0950 Replicate/ Code No. _____ Sampled by JOSUE

Time	Minutes Elapsed	Rate (gpm) ~~(mL/min)~~	Depth to Water (ft)	Gallons Purged	pH	Cond. ~~(µMhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance Color	Appearance Odor
0935	10	0.05	4.49	0.5	8.92	0.558	2.37	1.10	24.39	-153	clear	NO
0945	10	0.05	4.50	0.5	8.96	0.560	2.60	1.07	24.41	-155	clear	NO
0955	10	0.05	4.52	0.5	8.97	0.561	2.62	1.05	24.43	-155	clear	NO

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: 0 Well Locked at Arrival: Yes / No

Condition of Well: good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. SC000204.0017.00001 Well ID MW-14 Date 6-11-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina Weather SUN

Measuring Pt. Description ____ Screen Setting (ft-bmp) ____ Casing Diameter (in.) 2 Well Material X PVC ___ SS

Static Water Level (ft-bmp) 5.85 Total Depth (ft-bmp): 14 Water Column/ Gallons in Well 8.15 / 1.3

MP Elevation 15.17 Pump Intake (ft-bmp): 10 Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic Sample Method Reverse Flow

Pump On/Off 1005 Volumes Purged 1.5 gal

Sample Time: Label 1035 Start 1035 End 1038 Replicate/ Code No. ____ Sampled by J. Orvieu

Time	Minutes Elapsed	Rate (gpm) (~~mL/min~~)	Depth to Water (ft)	Gallons Purged	pH	Cond. (~~µMhos~~) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (~~°F~~)	Redox (mV)	Appearance Color	Appearance Odor
1015	10	0.05	5.88	0.5	6.30	1.01	0.61	1.05	25.09	-136		YES
1025	10	0.05	5.90	0.5	6.34	1.09	0.66	1.06	25.11	-131		YES
1035	10	0.08	5.93	0.5	6.31	1.10	0.67	1.05	25.12	-132		YES

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: 0 Well Locked at Arrival: Yes / No

Condition of Well: Good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: ____

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 | Well ID MW-13 | Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina | Weather SUN

Measuring Pt. Description | Screen Setting (ft-bmp) | Casing Diameter (in.) 2 | Well Material X PVC ___ SS

Static Water Level (ft-bmp) 4.74 | Total Depth (ft-bmp): 15.76 | Water Column/ Gallons in Well 11.02 / 1.8

MP Elevation 6.96 | Pump Intake (ft-bmp): 10.76 | Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic | Sample Method Reverse Flow

Pump On/Off 1110 | Volumes Purged 1.5 gal

Sample Time: Label 1140 | Start 1140 | End 1143 | Replicate/ Code No. ___

Sampled by J. OBRIEN

Time	Minutes Elapsed	Rate (gpm) (~~mL/min~~)	Depth to Water (ft)	Gallons Purged	pH	Cond. (~~µMhos~~) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (~~°F~~)	Redox (mV)	Appearance Color	Appearance Odor
1120	10	0.05	4.77	0.5	6.52	1.37	1.43	1.88	26.20	-70	Clear	None
1130	10	0.05	4.79	0.5	6.53	1.37	1.47	1.84	26.18	-71	Clear	None
1140	10	0.05	4.82	0.5	6.52	1.37	1.46	1.80	26.19	-72	Clear	None

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location:	0	Well Locked at Arrival:	(Yes) / No
Condition of Well:	good	Well Locked at Departure:	Yes / No
Well Completion:	Flush Mount / (Stick Up)	Key Number To Well:	

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 Well ID MW-7 Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina Weather SUN

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 2 Well Material X PVC ___ SS

Static Water Level (ft-bmp) 5.09 Total Depth (ft-bmp): 21.95 Water Column/ Gallons in Well 16.86/2.7

MP Elevation 9.09 Pump Intake (ft-bmp): 16.95 Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic Sample Method Reverse Flow

Pump On/Off 1145 Volumes Purged 1.5 gal

Sample Time: Label 1215 Start 1215 End 1218 Replicate/ Code No. _____ Sampled by J.OBRIEN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (~~µMhos~~) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (~~F~~)	Redox (mV)	Appearance Color	Appearance Odor
1155	10	0.05	5.13	0.5	6.44	1.40	0.31	1.80	23.83	-69	clear	no
1205	10	0.05	5.16	0.5	6.43	1.39	0.27	1.79	23.84	-68	clear	no
1215	10	0.05	5.17	0.5	6.41	1.39	0.21	1.76	23.87	-67	clear	no

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: 0 Well Locked at Arrival: Yes / No

Condition of Well: good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 | Well ID MW-1 | Date 6-4-18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina | Weather Sun

Measuring Pt. Description | Screen Setting (ft-bmp) | Casing Diameter (in.) 2 | Well Material X PVC ___ SS

Static Water Level (ft-bmp) 3.54 | Total Depth (ft-bmp): 14.75 | Water Column/ Gallons in Well 11.21/1.8

MP Elevation 11.74 | Pump Intake (ft-bmp): 9.75 | Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic | Sample Method Reverse Flow

Pump On/Off 1220 | Volumes Purged 1.) gal

Sample Time: Label 1250 | Start 1250 | End 1253 | Replicate/ Code No.

Sampled by J. O'Brien

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. ~~(µMhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance Color	Appearance Odor
1230	10	0.08	3.56	0.5	5.96	0.583	2.31	2.10	28.05	-4	Clear	NO
1240	10	0.05	3.59	0.5	5.98	0.585	2.07	2.09	28.08	-5	Clear	NO
1250	10	0.05	3.63	0.5	5.99	0.588	2.07	2.07	28.09	-6	Clear	NO

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Well Information

Well Location: | Well Locked at Arrival: Yes / No

Condition of Well: Good | Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up | Key Number To Well:

ARCADIS

Groundwater Sampling Form

Project No. SC000204.0017.00001 Well ID MW-8 Date 6.11.18

Project Name/Location : Brenntag Southeast, Charleston, South Carolina Weather Sun

Measuring Pt. Description — Screen Setting (ft-bmp) — Casing Diameter (in.) 2 — Well Material X PVC ___ SS

Static Water Level (ft-bmp) 5.79 — Total Depth (ft-bmp): 12.91 — Water Column/ Gallons in Well 7.12/1.1

MP Elevation 15.16 — Pump Intake (ft-bmp): 9.91 — Purge Method: Low Flow / Centrifugal / Submersible / Other Peristaltic — Sample Method Reverse Flow

Pump On/Off 1325 — Volumes Purged 1.5 gal

Sample Time: Label 1325 Start 1325 End ___ — Replicate/ Code No. ___

Sampled by JCO

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1305	10	0.05	5.80	0.5	5.45	0.267	2.71	2.90	27.28	37	Clear	None
1315	10	0.05	5.83	0.5	5.40	0.261	2.69	2.97	27.21	39	Clear	None
1325	10	0.05	5.85	0.5	5.38	0.260	2.63	2.98	27.25	39	Clear	None

Constituents Sampled	Container	Number	Preservative
8260B	40 ml vial	3	Hcl

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Well Information

Well Location: 0 — Well Locked at Arrival: Yes / No

Condition of Well: Good — Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up — Key Number To Well: ___

ARCADIS Groundwater Sampling Form

Page ____ of ____

Project No. SC000120400.0018 Well ID MW-14 Date 6/27/18

Project Name/Location BROWNTAG Charleston, S.C. Weather Clear 90's

Measuring Pt. Description: Top of Casing | Screen Setting (ft-bmp): | Casing Diameter (in.): 2-inch | Well Material: X PVC ___ SS

Static Water Level (ft-bmp): 5.92 | Total Depth (ft-bmp): 13.85 | Water Column/ Gallons in Well: 7.93 x 0.16 = 1.2 x 3 = 4

MP Elevation: | Pump Intake (ft-bmp): | Purge Method: Centrifugal / Submersible / Other Geopump | Sample Method: Low Flow Sampling

Pump On/Off: | Volumes Purged: 4 gallons

Sample Time: Label 9:30 | Start 9:35 | End 9:00 | Replicate/ Code No.:

Sampled by Lawson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Salinity	Turbidity	Dissolved Oxygen	Temp (°C) (°F)	Redox	Appearance	
3 consecutive readings for stabilization					(within 0.1)	within 5%		(NTU) 10 or lower	(mg/L) 0.2 or 10%		(mV)	Color	Odor
9:37		0.1	6.13	2	6.83	1519		0.9	1.01	26	-141	Clear	Hydrocarb
9:47		0.1	6.14	3	6.97	1524		0.9	1.04	25.5	-139	"	"
9:57		0.1	6.14	4	6.97	1529		1	1.05	25.4	-140	"	"

Constituents Sampled	Container	Number	Preservative
8260 VOC	40 mL Glass Vial	3	HCl 4°C

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Well Information

Well Location:

Condition of Well:

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well:

APPENDIX C

First Semiannual 2018 Laboratory Analytical Report

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

ARCADIS Geraghty & Miller

Brenntag; Charleston, SC

SC000204.0018.00001

SGS Job Number: FA55421

Sampling Date: 06/27/18

Report to:

ARCADIS Geraghty & Miller
1450 Greene St Suite 220
Augusta, GA 30901
charles.lawson@arcadis.com; Edward.Hirshenson@arcadis.com

ATTN: Charles Lawson

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Ken Overstreet 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Sections: 1 2 3 4 5

Table of Contents

Sample Summary

ARCADIS Geraghty & Miller

Job No: FA55421

Brenntag; Charleston, SC
Project No: SC000204.0018.00001

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA55421-1	06/27/18	08:57	CL	06/28/18	AQ	Ground Water	MW-14
FA55421-2	06/27/18	00:00	CL	06/28/18	AQ	Trip Blank Water	TRP BLANK

Summary of Hits

Job Number: FA55421
Account: ARCADIS Geraghty & Miller
Project: Brenntag; Charleston, SC
Collected: 06/27/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA55421-1	**MW-14**					
Benzene		416 J	500	160	ug/l	SW846 8260B
1,2-Dichlorobenzene		459 J	500	160	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		4530	500	140	ug/l	SW846 8260B
Ethylbenzene		10000	500	180	ug/l	SW846 8260B
Isopropylbenzene		176 J	500	110	ug/l	SW846 8260B
Toluene		67700	2000	600	ug/l	SW846 8260B
1,1,1-Trichloroethane		254 J	500	120	ug/l	SW846 8260B
Trichloroethylene		456 J	500	170	ug/l	SW846 8260B
Xylene (total)		99500	1500	360	ug/l	SW846 8260B
FA55421-2	**TRP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	FA55421-1	**Date Sampled:**	06/27/18
Matrix:	AQ - Ground Water	**Date Received:**	06/28/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Brenntag; Charleston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I56035.D	500	07/09/18 14:52	AJ	n/a	n/a	VI1672
Run #2	I56026.D	2000	07/09/18 11:17	AJ	n/a	n/a	VI1672

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	13000	5000	ug/l	
71-43-2	Benzene	416	500	160	ug/l	J
75-27-4	Bromodichloromethane	ND	500	120	ug/l	
75-25-2	Bromoform	ND	500	200	ug/l	
78-93-3	2-Butanone (MEK)	ND	2500	1000	ug/l	
75-15-0	Carbon Disulfide	ND	1000	270	ug/l	
56-23-5	Carbon Tetrachloride	ND	500	180	ug/l	
108-90-7	Chlorobenzene	ND	500	100	ug/l	
75-00-3	Chloroethane	ND	1000	330	ug/l	
67-66-3	Chloroform	ND	500	150	ug/l	
110-82-7	Cyclohexane	ND	500	200	ug/l	
124-48-1	Dibromochloromethane	ND	500	140	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2500	520	ug/l	
106-93-4	1,2-Dibromoethane	ND	1000	140	ug/l	
75-71-8	Dichlorodifluoromethane [a]	ND	1000	250	ug/l	
95-50-1	1,2-Dichlorobenzene	459	500	160	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	500	110	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	130	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	170	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	160	ug/l	
75-35-4	1,1-Dichloroethylene	ND	500	160	ug/l	
156-59-2	cis-1,2-Dichloroethylene	4530	500	140	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	500	110	ug/l	
78-87-5	1,2-Dichloropropane	ND	500	210	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	150	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	110	ug/l	
100-41-4	Ethylbenzene	10000	500	180	ug/l	
76-13-1	Freon 113	ND	500	240	ug/l	
591-78-6	2-Hexanone	ND	5000	1000	ug/l	
98-82-8	Isopropylbenzene	176	500	110	ug/l	J
79-20-9	Methyl Acetate	ND	10000	2500	ug/l	
74-83-9	Methyl Bromide	ND	1000	290	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	FA55421-1	**Date Sampled:**	06/27/18
Matrix:	AQ - Ground Water	**Date Received:**	06/28/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Brenntag; Charleston, SC		

VOA TCL 4.2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	ND	1000	250	ug/l	
108-87-2	Methylcyclohexane	ND	500	220	ug/l	
75-09-2	Methylene Chloride	ND	2500	1000	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2500	500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	110	ug/l	
100-42-5	Styrene	ND	500	110	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	150	ug/l	
127-18-4	Tetrachloroethylene	ND	500	110	ug/l	
108-88-3	Toluene	67700 [b]	2000	600	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1000	250	ug/l	
71-55-6	1,1,1-Trichloroethane	254	500	120	ug/l	J
79-00-5	1,1,2-Trichloroethane	ND	500	230	ug/l	
79-01-6	Trichloroethylene	456	500	170	ug/l	J
75-69-4	Trichlorofluoromethane	ND	1000	250	ug/l	
75-01-4	Vinyl Chloride	ND	500	200	ug/l	
1330-20-7	Xylene (total)	99500	1500	360	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	79-125%
2037-26-5	Toluene-D8	97%	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	98%	83-118%

(a) Associated ICV outside control limits high, however sample ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRP BLANK		
Lab Sample ID:	FA55421-2	**Date Sampled:**	06/27/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/28/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Brenntag; Charleston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I56027.D	1	07/09/18 11:41	AJ	n/a	n/a	VI1672
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane [a]	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRP BLANK		
Lab Sample ID:	FA55421-2	**Date Sampled:**	06/27/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/28/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Brenntag; Charleston, SC		

VOA TCL 4.2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

(a) Associated ICV outside control limits high, however sample ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page ___ of ___

Work Order: FA55421

Send Results to:

Contact & Company Name: CHARLES LAWSON ARCADIS
Telephone: 1-706-829-4421
Address: 1450 Greene St Ste 220
Fax:
City: AUGUSTA State: GA Zip: 30909
E-mail Address: Charles.Lawson@arcadis.com
Project Name/Location (City, State): Brenntag - Charleston, S.C.
Project #: SC000204.0018
Sampler's Printed Name: C. LAWSON
Sampler's Signature: CB Lawson

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: 8260 VOC 40 mL VIAL HCl
MW-14	6/27/18	8:57		X	W			3	1	3
TRIP BLANK 2										2

Keys

Preservation Key: A. H_2SO_4; B. HCL; C. HNO_3; D. NaOH; E. None; F. Other: ____; G. Other: ____; H. Other: ____

Container Information Key: 1. 40 ml Vial; 2. 1 L Amber; 3. 250 ml Plastic; 4. 500 ml Plastic; 5. Encore; 6. 2 oz. Glass; 7. 4 oz. Glass; 8. 8 oz. Glass; 9. Other: ____; 10. Other: ____

Matrix Key: SO - Soil; SE - Sediment; NL - NAPL/Oil; W - Water; SL - Sludge; SW - Sample Wipe; T - Tissue; A - Air; Other: ____

REMARKS

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name: SGS
☒ Cooler packed with ice (✓)
Specify Turnaround Requirements: STANDARD
Shipping Tracking #:
Cooler Custody Seal (✓): ☐ Intact ☐ Not Intact
Sample Receipt:
Condition/Cooler Temp: 3.2

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Charles Lawson	Printed Name: Fed Ex	Printed Name: Fed Ex	Printed Name: Shayla Prince
Signature: CB Lawson	Signature:	Signature:	Signature: SGS
Firm: ARCADIS	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 6/27/18 16:00	Date/Time:	Date/Time:	Date/Time: 06/28/18 900

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results; YELLOW – Lab copy; PINK – Retained by Arcadis

FA55421: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA55421 **Client:** ARCADIS **Project:** BRENNTAG

Date / Time Received: 6/28/2018 9:00:00 AM **Delivery Method:** FED EX **Airbill #'s:** 1002239514060003281100802456659740

Therm ID: IR 1; **Therm CF:** 0.1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 6/28/2018 9:00:00 AM Reviewer: P.H Date: 6/28/2018

FA55421: Chain of Custody
Page 2 of 2

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA55421
Account: ARCGMSCA ARCADIS Geraghty & Miller
Project: Brenntag; Charleston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI1672-MB	I56021.D	1	07/09/18	AJ	n/a	n/a	VI1672

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA55421-1, FA55421-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA55421
Account: ARCGMSCA ARCADIS Geraghty & Miller
Project: Brenntag; Charleston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI1672-MB	I56021.D	1	07/09/18	AJ	n/a	n/a	VI1672

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA55421-1, FA55421-2

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

Blank Spike Summary

Job Number: FA55421
Account: ARCGMSCA ARCADIS Geraghty & Miller
Project: Brenntag; Charleston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI1672-BS	I56020.D	1	07/09/18	AJ	n/a	n/a	VI1672

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA55421-1, FA55421-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	110	88	50-147
71-43-2	Benzene	25	26.0	104	81-122
75-27-4	Bromodichloromethane	25	26.4	106	79-123
75-25-2	Bromoform	25	22.8	91	66-123
78-93-3	2-Butanone (MEK)	125	117	94	56-143
75-15-0	Carbon Disulfide	25	23.3	93	66-148
56-23-5	Carbon Tetrachloride	25	26.2	105	76-136
108-90-7	Chlorobenzene	25	24.6	98	82-124
75-00-3	Chloroethane	25	27.4	110	62-144
67-66-3	Chloroform	25	26.1	104	80-124
110-82-7	Cyclohexane	25	26.3	105	73-138
124-48-1	Dibromochloromethane	25	24.3	97	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.3	89	64-123
106-93-4	1,2-Dibromoethane	25	25.0	100	75-120
75-71-8	Dichlorodifluoromethane	25	31.1	124	42-167
95-50-1	1,2-Dichlorobenzene	25	24.9	100	82-124
541-73-1	1,3-Dichlorobenzene	25	26.3	105	84-125
106-46-7	1,4-Dichlorobenzene	25	25.0	100	78-120
75-34-3	1,1-Dichloroethane	25	26.9	108	81-122
107-06-2	1,2-Dichloroethane	25	24.4	98	75-125
75-35-4	1,1-Dichloroethylene	25	26.5	106	78-137
156-59-2	cis-1,2-Dichloroethylene	25	25.7	103	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.0	104	76-127
78-87-5	1,2-Dichloropropane	25	26.3	105	76-124
10061-01-5	cis-1,3-Dichloropropene	25	23.4	94	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.4	98	80-120
100-41-4	Ethylbenzene	25	26.6	106	81-121
76-13-1	Freon 113	25	23.2	93	72-134
591-78-6	2-Hexanone	125	120	96	61-129
98-82-8	Isopropylbenzene	25	26.9	108	83-132
79-20-9	Methyl Acetate	125	111	89	65-126
74-83-9	Methyl Bromide	25	28.0	112	59-143
74-87-3	Methyl Chloride	25	26.0	104	50-159
108-87-2	Methylcyclohexane	25	27.5	110	76-129
75-09-2	Methylene Chloride	25	24.2	97	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	122	98	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA55421
Account: ARCGMSCA ARCADIS Geraghty & Miller
Project: Brenntag; Charleston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI1672-BS	I56020.D	1	07/09/18	AJ	n/a	n/a	VI1672

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA55421-1, FA55421-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	23.5	94	72-117
100-42-5	Styrene	25	24.9	100	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	24.1	96	72-120
127-18-4	Tetrachloroethylene	25	25.4	102	76-135
108-88-3	Toluene	25	26.0	104	80-120
120-82-1	1,2,4-Trichlorobenzene	25	25.8	103	73-129
71-55-6	1,1,1-Trichloroethane	25	26.2	105	75-130
79-00-5	1,1,2-Trichloroethane	25	24.6	98	76-119
79-01-6	Trichloroethylene	25	26.4	106	81-126
75-69-4	Trichlorofluoromethane	25	30.7	123	71-156
75-01-4	Vinyl Chloride	25	28.6	114	69-159
1330-20-7	Xylene (total)	75	80.3	107	80-126

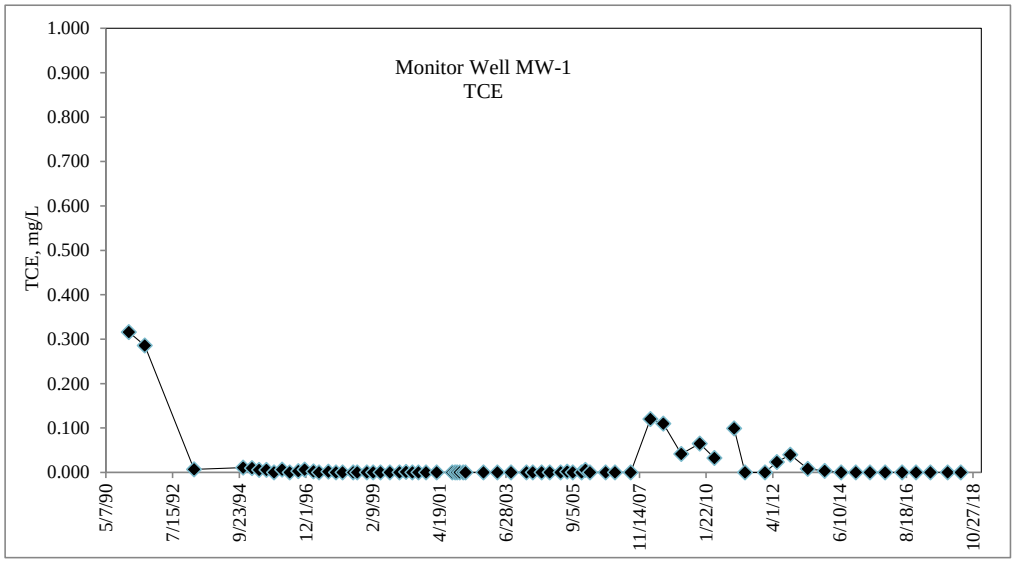
CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

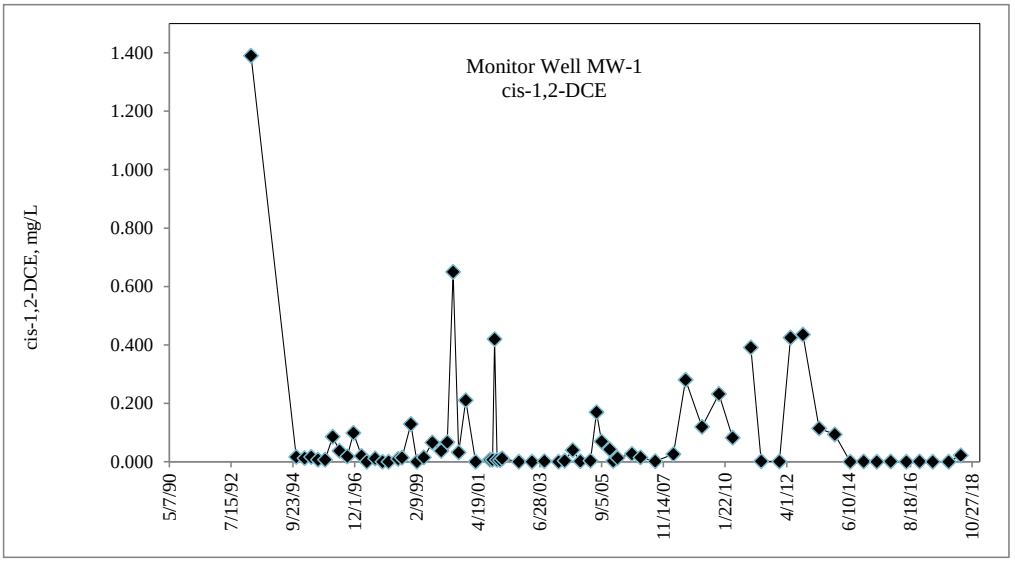
* = Outside of Control Limits.

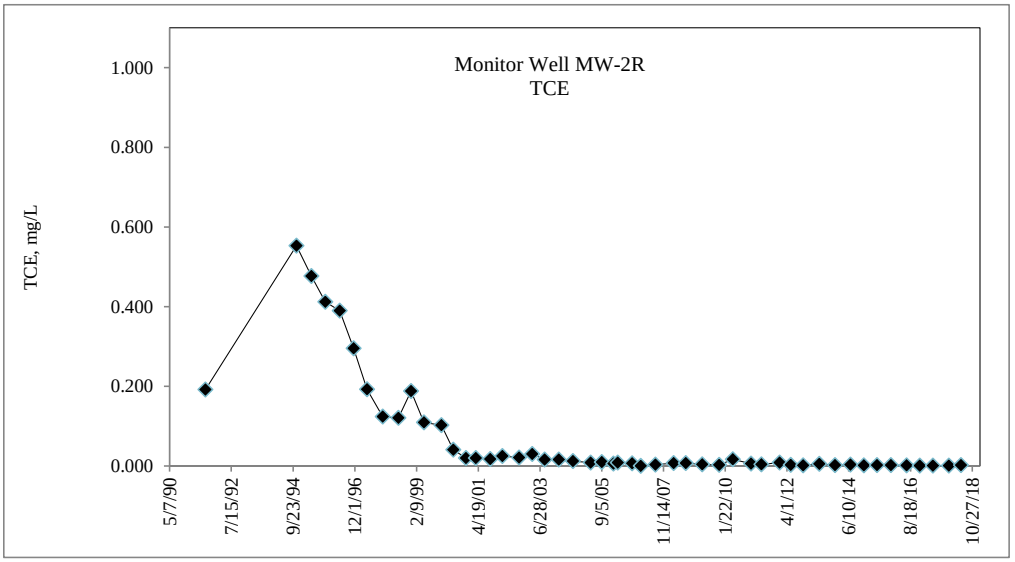
APPENDIX D

Time vs Concentration Graphs

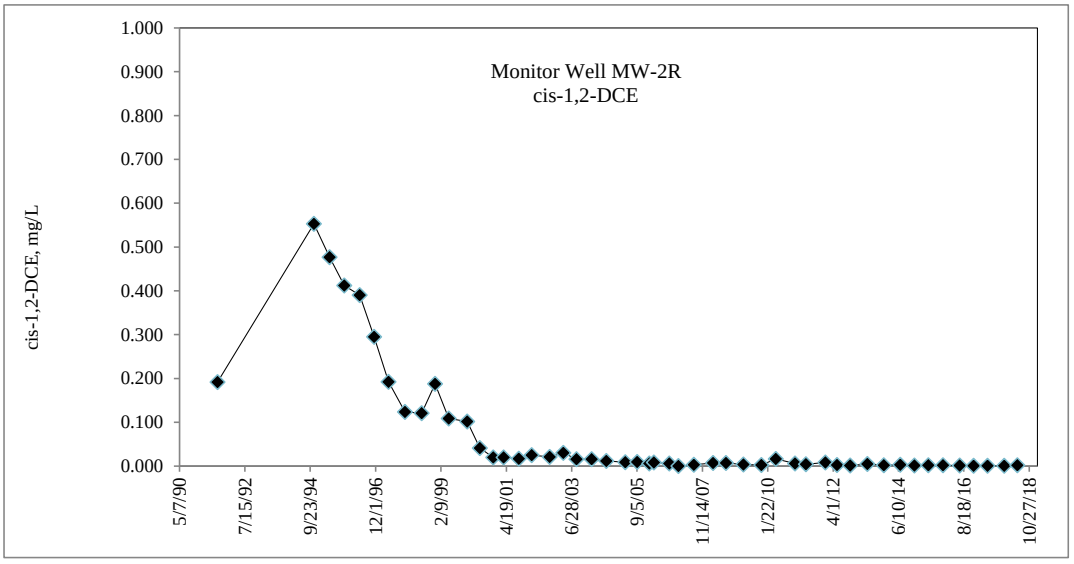
Appendix D. Time vs Concentration Graphs
Brenntag Southeast, Charleston, South Carolina
(revised 6/8/2018)

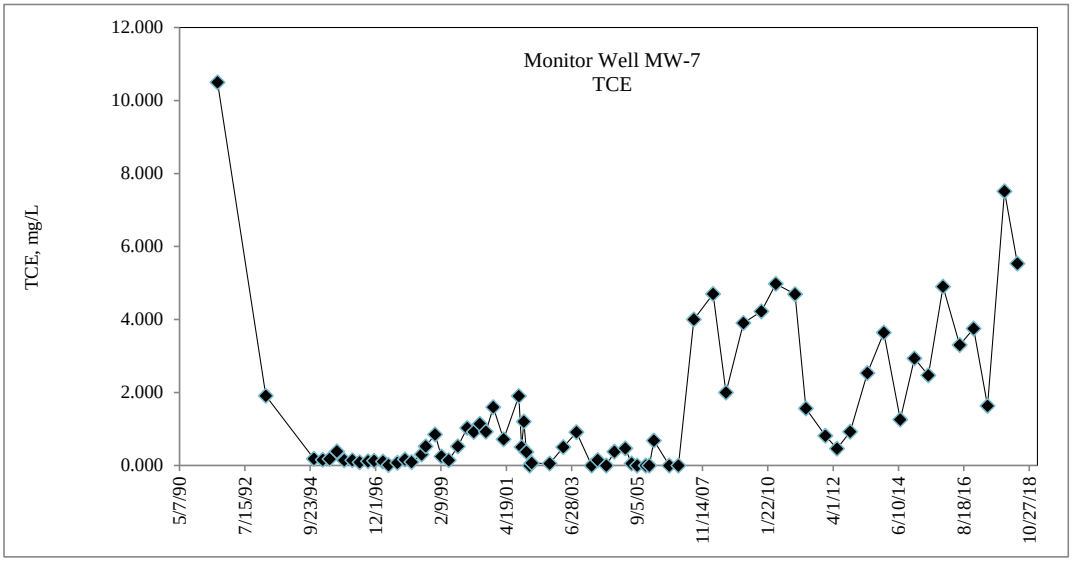


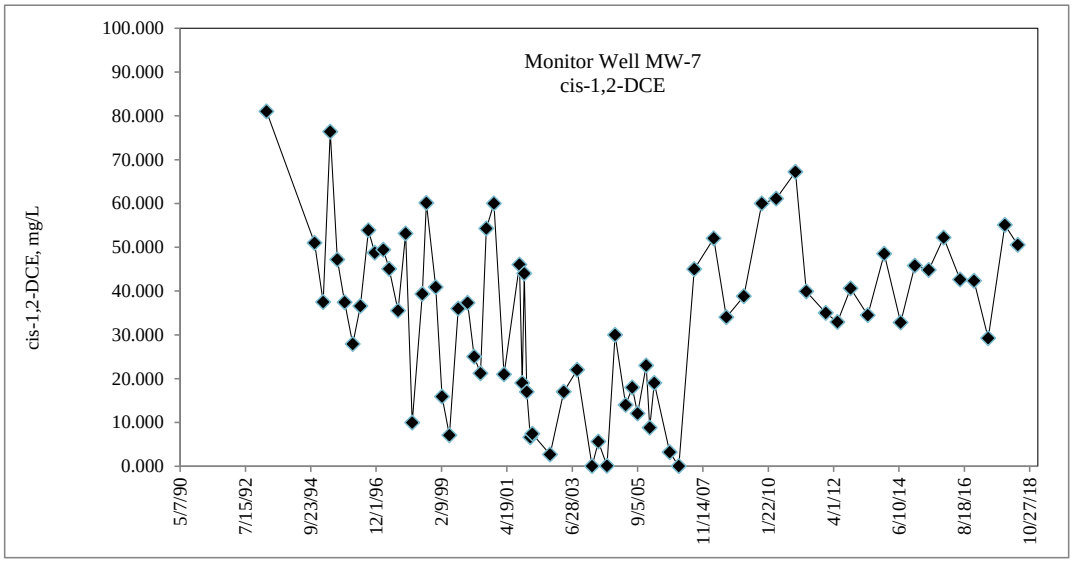




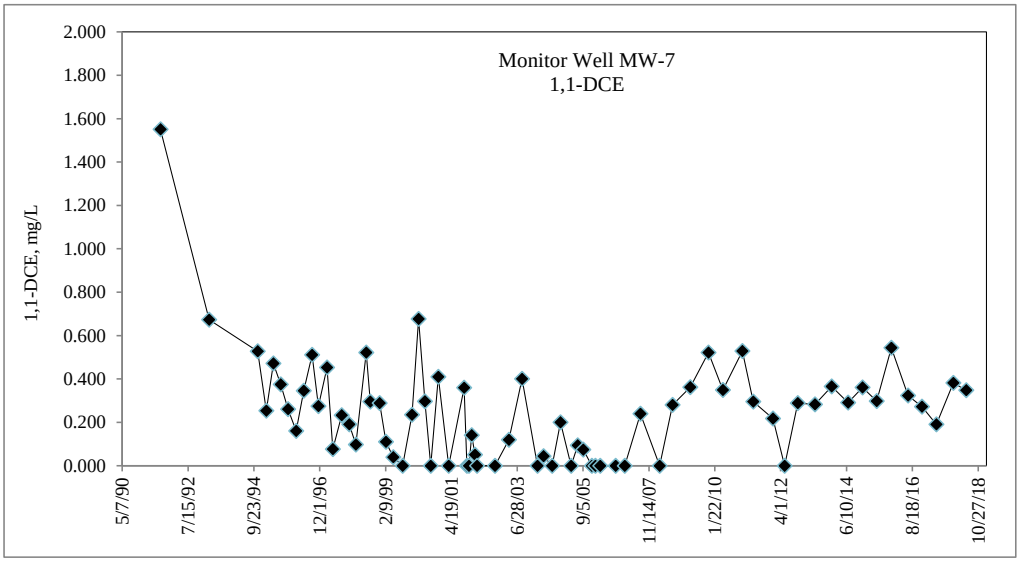
Appendix D. Time vs Concentration Graphs
Brenntag Southeast, Charleston, South Carolina
(revised 6/8/2018)

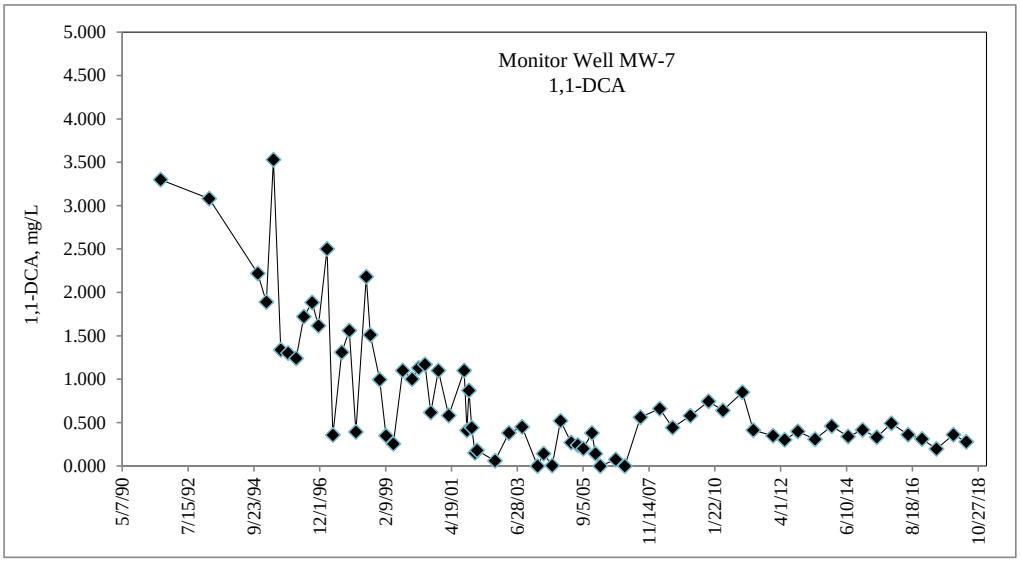


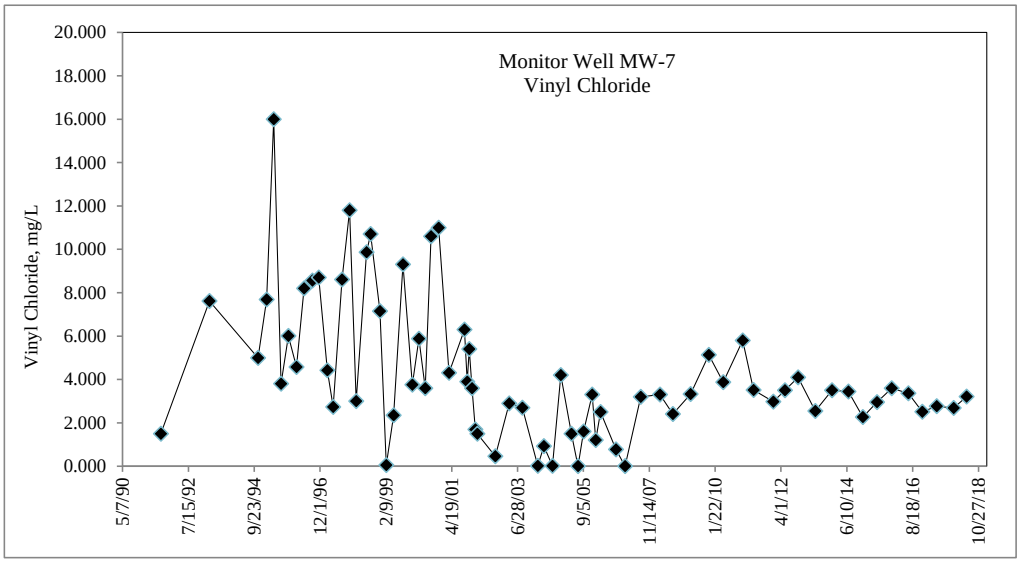




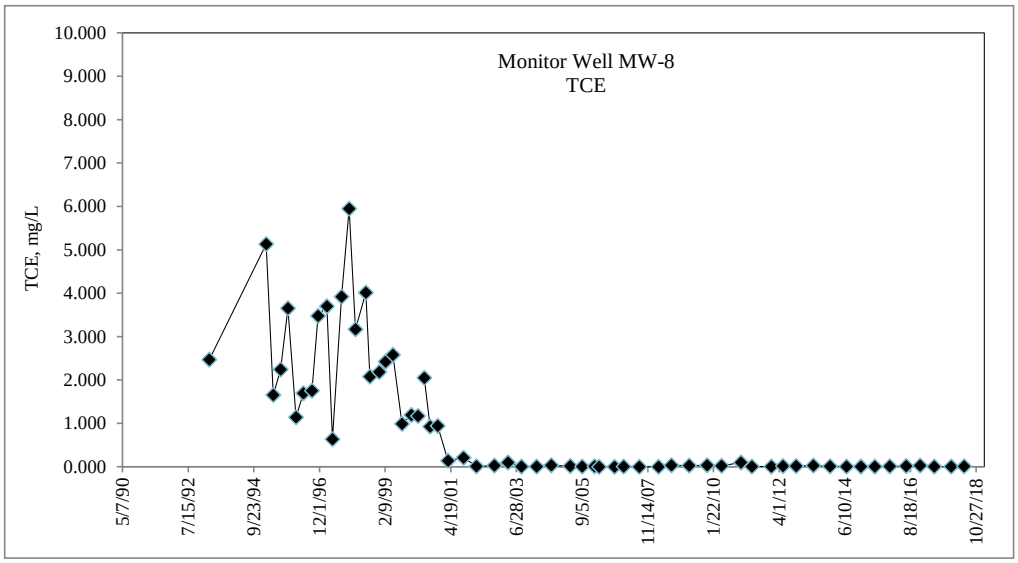
Appendix D. Time vs Concentration Graphs
Brenntag Southeast, Charleston, South Carolina
(revised 6/8/2018)

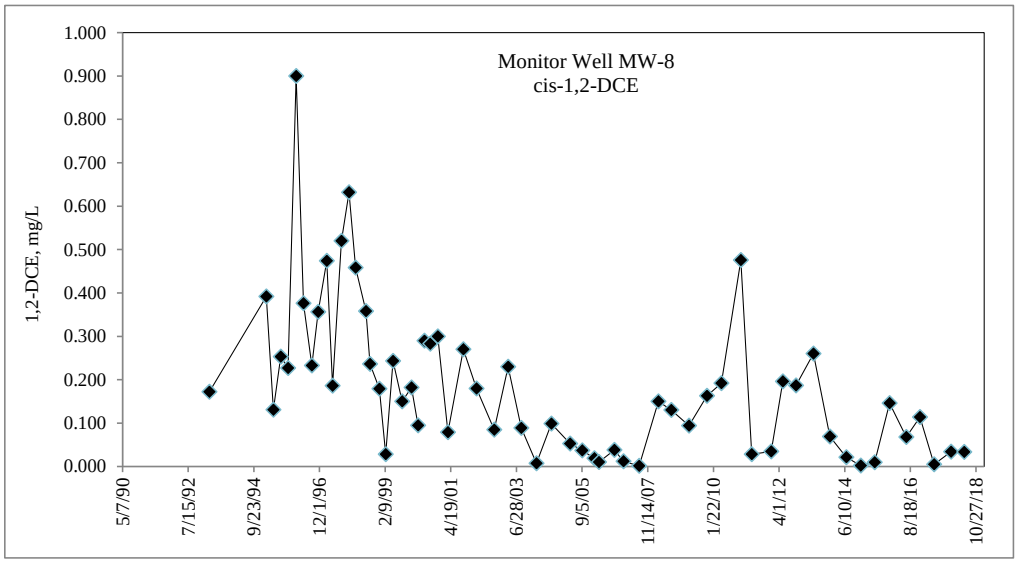


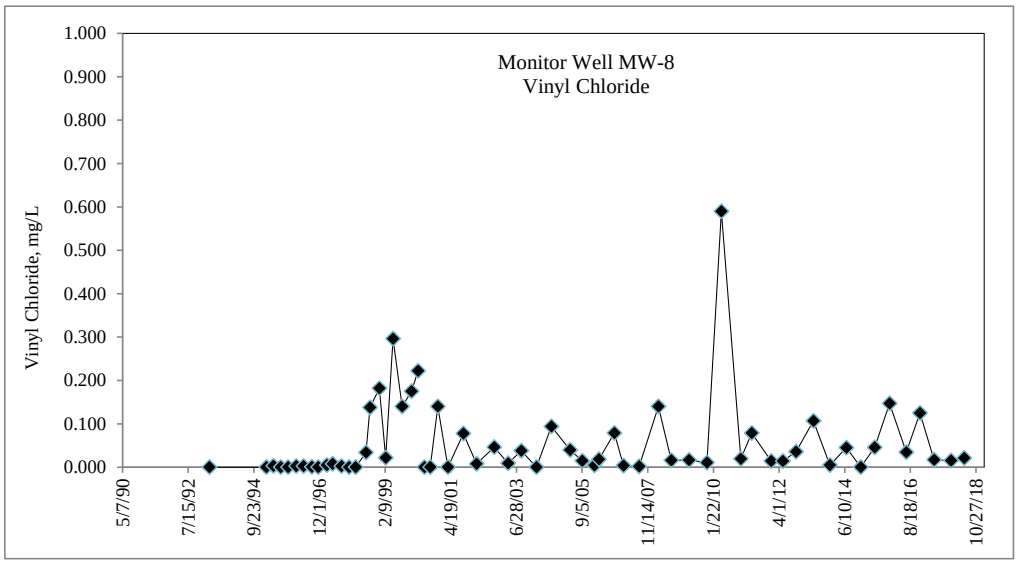




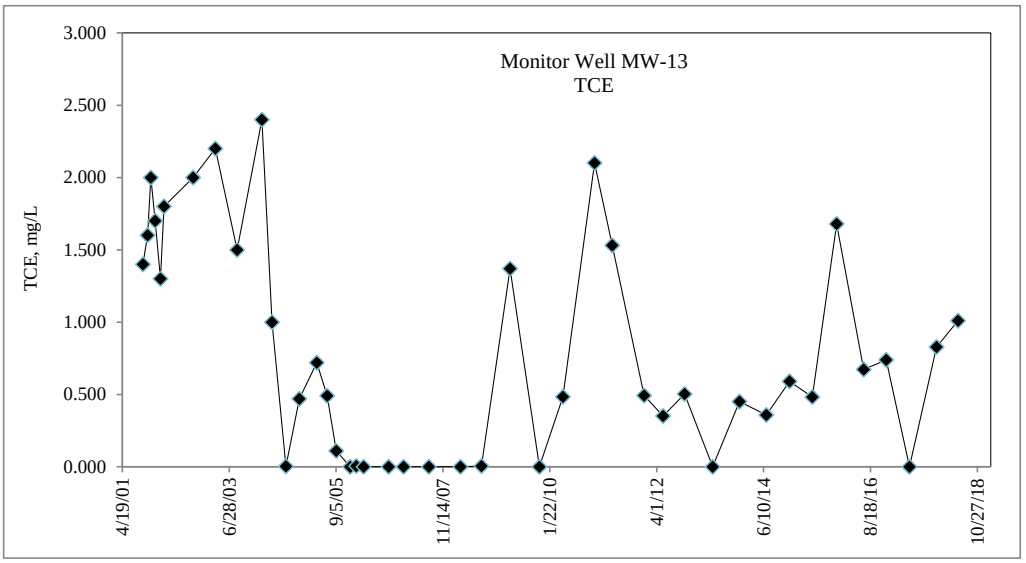
Appendix D. Time vs Concentration Graphs
Brenntag Southeast, Charleston, South Carolina
(revised 6/8/2018)

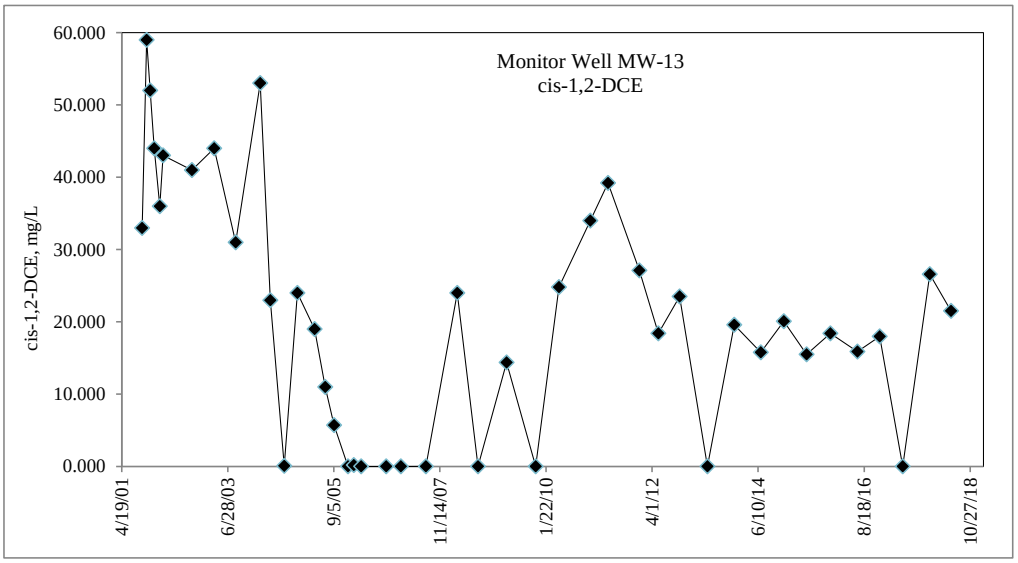


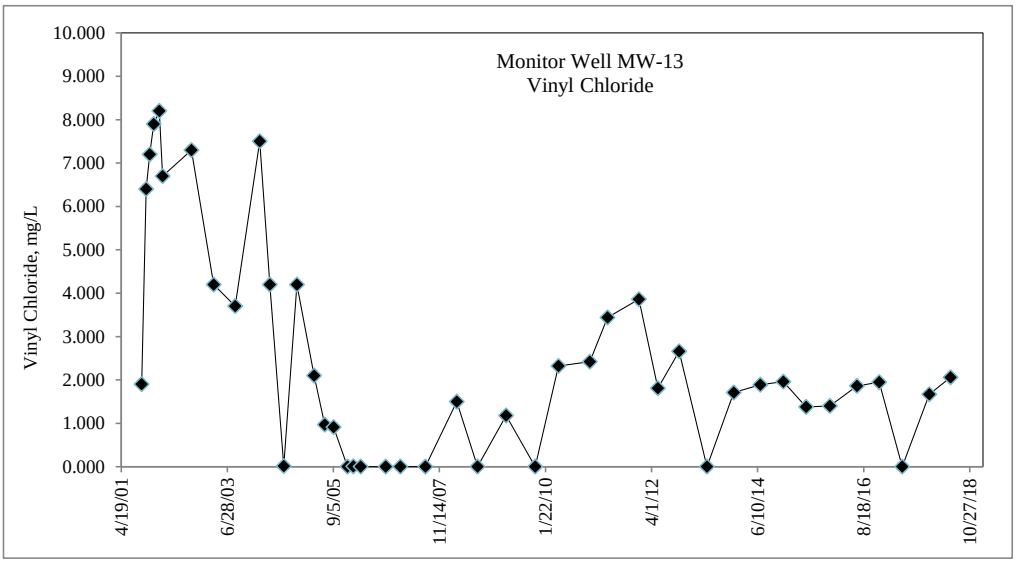




Appendix D. Time vs Concentration Graphs
Brenntag Southeast, Charleston, South Carolina
(revised 6/8/2018)







ARCADIS Design & Consultancy for natural and built assets

APPENDIX E

Aggressive Fluid and Vapor Recovery Data Field Sheets

AFVR Field Data Sheet

Client: Arcadis	Site: Brenntag, 4200 Azalea Drive, Charleston, SC		6/6/2018	Job # 1805-0558
Technician:	Truck Operator: Green	Tank Vol: 2900 gal	Blower Rating at 24 in Hg: 492 scfm;	27 in Hg: 103 scfm

Time (hh:mm) Start Time: 0830	Stinger Depth	Extraction Well-head Vacuum (in Hg)								Influence On Surrounding Wells Vacuum (in water)								Influence On Surrounding Wells Depth to Water Below Top of Casing (ft)							
		MW-14	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-	MW-
0900	13.5	-20																							
0930	13.5	-20																							
1000	13.5	-20																							
1030	13.5	-20																							
1100	13.5	-20																							
1130	13.5	-20																							
1200	13.5	-20																							
1230	13.5	-20																							
1300	13.5	-20																							
1330	13.5	-20																							
1400	13.5	-20																							

Extraction Wells	MW-14	MW-	MW-	MW-	MW-	MW-	MW-	MW-	Weather:
Depth Below Top of Casing (ft)									Depth to groundwater pre-AFVR/EFR
									Depth to groundwater post-AFVR/EFR
									Depth to groundwater 20 minutes post-AFVR/EFR
									Depth to free product pre-AFVR/EFR
									Depth to free product post-AFVR/EFR
									Depth to free product 20 minutes post-AFVR/EFR

AFVR Data Sheet - Emissions Data & Calculation

Client: Arcadis	Site: Brenntag, 4200 Azalea Drive, Charleston, SC	6/6/2018	Job# 1805-0558
Technician:	Meters: MiniRae 2000-10.6 eV PID, TESTO 445-Vane, %RH, Temp	Response Factor: 1	Stack Dia(in): 4

Time (h:m)	Delta Time (min)	Pre-Carbon PPM	Post-Carbon PPM	Velocity (fpm)	Temp (^{0} F)	RH (%)	Flow (cfm)	Specific Humidity (lbW / lbDA)	Water Vapor (vol %)	Qstd (dscfm)	Dry Conc (PPMv)	Response Factor	Corrected Conc (PPMv)	Mass Conc (mg/m^3)	Mass Conc (lb/ft^3)	Mass Removed (lb)
0900	30	186.4	0	4539	197	2.3	396	0.100	0.138	274	216	1	216	1150	0.000072	0.59
0930	30	242.6	0	4722	200	1.9	412	0.100	0.138	284	281	1	281	1497	0.000093	0.80
1000	30	257.0	0	4946	203	1.3	431	0.100	0.138	296	298	1	298	1586	0.000099	0.88
1030	30	271.9	0	5064	201	1.5	442	0.100	0.138	304	315	1	315	1678	0.000105	0.96
1100	30	253.6	0	5069	205	1.9	442	0.100	0.138	303	294	1	294	1565	0.000098	0.89
1130	30	245.0	0	5056	203	1.0	441	0.100	0.138	303	284	1	284	1512	0.000094	0.86
1200	30	275.0	0	4964	205	1.7	433	0.100	0.138	296	319	1	319	1697	0.000106	0.94
1230	30	301.5	0	4984	205	1.5	435	0.100	0.138	297	350	1	350	1860	0.000116	1.04
1300	30	347.1	0	5073	205	0.9	442	0.100	0.138	303	403	1	403	2142	0.000134	1.21
1330	30	372.3	0	5026	205	1.5	438	0.100	0.138	300	432	1	432	2297	0.000143	1.29
1400	30	365.0	0	4980	205	1.3	434	0.100	0.138	297	423	1	423	2252	0.000141	1.25

Total emissions, pounds	10.11
Total emissions, gallons (6.25 lb/gal)	1.62

PPMmea = Measured VOC concentration from OVA/TVA ($PPMv_)$

Velocity = Measured velocity (fpm)

Temp = Measured temperature (^{0}F)

RH = Measured relative humidity (%)

Flow = Actual Flow Volume (cfm)

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

Water Vapor = % water vapor on a volume basis = (Specific Humidity / 18 lb-mole H2O) / [(1 / 28.84 lb-mole dry air) + (Specific Humidity / 18 lb-mole H2O)]

Qstd = Flow volume on a dry basis at a standard temperature of 68^0 F = (1-Water Vapor) (Flow) [528 0R / (Temp +460)]

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

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

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

Mass Conc (mg/m^3) = Mass concentration VOC as gasoline dry basis at standard temperature = (Corrected Conc) (128 mg/mg-mole / 24.07 m3/mg-mole)

Mass Conc (lb/ft^3) = [Mass Conc (mg/m3)] [(6.243 * 10^{-8})(lb/ft3)/(mg/m3)]

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

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