

### ANALYTICAL RESULTS

Project: EF & C #3  
Pace Project No.: 92268046

Sample: 12175 - Duplicate - 2      Lab ID: 92268046026      Collected: 09/16/15 00:00      Received: 09/16/15 17:00      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	09/22/15 08:52	09/23/15 00:42	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	09/22/15 08:52	09/23/15 00:42	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	<b>26300</b>	ug/L	2500	1920	25		09/22/15 05:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		09/22/15 05:02	994-05-8	
Benzene	<b>1890</b>	ug/L	125	42.5	25		09/22/15 05:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		09/22/15 05:02	624-95-3	
tert-Butyl Alcohol	<b>2040J</b>	ug/L	2500	1440	25		09/22/15 05:02	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		09/22/15 05:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		09/22/15 05:02	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		09/22/15 05:02	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		09/22/15 05:02	64-17-5	
Ethylbenzene	<b>703</b>	ug/L	125	40.0	25		09/22/15 05:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		09/22/15 05:02	637-92-3	
Methyl-tert-butyl ether	<b>884</b>	ug/L	125	42.5	25		09/22/15 05:02	1634-04-4	
Naphthalene	ND	ug/L	125	50.0	25		09/22/15 05:02	91-20-3	
Toluene	ND	ug/L	125	40.0	25		09/22/15 05:02	108-88-3	
Xylene (Total)	ND	ug/L	250	67.5	25		09/22/15 05:02	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	105	%	70-130		25		09/22/15 05:02	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		25		09/22/15 05:02	17060-07-0	
Toluene-d8 (S)	103	%	70-130		25		09/22/15 05:02	2037-26-5	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: EF & C #3  
Pace Project No.: 92268046

Sample: Trip Blank									
Lab ID: 92268046027 Collected: 09/16/15 00:00 Received: 09/16/15 17:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		09/22/15 01:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		09/22/15 01:36	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		09/22/15 01:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		09/22/15 01:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		09/22/15 01:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		09/22/15 01:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		09/22/15 01:36	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		09/22/15 01:36	108-20-3	
Ethanol	ND	ug/L	200	138	1		09/22/15 01:36	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		09/22/15 01:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		09/22/15 01:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		09/22/15 01:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		09/22/15 01:36	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		09/22/15 01:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/22/15 01:36	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	110	%	70-130		1		09/22/15 01:36	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		09/22/15 01:36	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		09/22/15 01:36	2037-26-5	

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: MSV/33438 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92268046001, 92268046002, 92268046003, 92268046004, 92268046006, 92268046007

METHOD BLANK: 1560756 Matrix: Water  
Associated Lab Samples: 92268046001, 92268046002, 92268046003, 92268046004, 92268046006, 92268046007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/18/15 23:13	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/18/15 23:13	
Benzene	ug/L	ND	5.0	09/18/15 23:13	
Diisopropyl ether	ug/L	ND	5.0	09/18/15 23:13	
Ethanol	ug/L	ND	200	09/18/15 23:13	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/18/15 23:13	
Ethylbenzene	ug/L	ND	5.0	09/18/15 23:13	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/18/15 23:13	
Naphthalene	ug/L	ND	5.0	09/18/15 23:13	
tert-Amyl Alcohol	ug/L	ND	100	09/18/15 23:13	
tert-Amylmethyl ether	ug/L	ND	10.0	09/18/15 23:13	
tert-Butyl Alcohol	ug/L	ND	100	09/18/15 23:13	
tert-Butyl Formate	ug/L	ND	50.0	09/18/15 23:13	
Toluene	ug/L	ND	5.0	09/18/15 23:13	
Xylene (Total)	ug/L	ND	10.0	09/18/15 23:13	
1,2-Dichloroethane-d4 (S)	%	108	70-130	09/18/15 23:13	
4-Bromofluorobenzene (S)	%	107	70-130	09/18/15 23:13	
Toluene-d8 (S)	%	103	70-130	09/18/15 23:13	

LABORATORY CONTROL SAMPLE: 1560757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.2	84	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	982	98	70-130	
Benzene	ug/L	50	49.7	99	70-130	
Diisopropyl ether	ug/L	50	53.2	106	70-130	
Ethanol	ug/L	2000	1730	86	70-130	
Ethyl-tert-butyl ether	ug/L	100	104	104	70-130	
Ethylbenzene	ug/L	50	46.4	93	70-130	
Methyl-tert-butyl ether	ug/L	50	51.8	104	70-130	
Naphthalene	ug/L	50	49.8	100	70-130	
tert-Amyl Alcohol	ug/L	1000	970	97	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	518	104	70-130	
tert-Butyl Formate	ug/L	400	438	110	70-130	
Toluene	ug/L	50	46.1	92	70-130	
Xylene (Total)	ug/L	150	146	97	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			99	70-130	

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

MATRIX SPIKE SAMPLE: 1560949		92268046001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.4	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	352	88	70-130	
Benzene	ug/L	ND	20	21.1	105	70-130	
Diisopropyl ether	ug/L	ND	20	20.6	103	70-130	
Ethanol	ug/L	ND	800	1010	126	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.1	100	70-130	
Ethylbenzene	ug/L	ND	20	20.0	100	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.9	105	70-130	
Naphthalene	ug/L	ND	20	21.2	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	368	92	70-130	
tert-Amylmethyl ether	ug/L	ND	40	37.7	94	70-130	
tert-Butyl Alcohol	ug/L	ND	200	287	143	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.0	100	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1560950

Parameter	Units	92268046002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	114	113	1		
4-Bromofluorobenzene (S)	%	108	110	1		
Toluene-d8 (S)	%	105	105	1		

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: MSV/33441 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92268046005, 92268046008, 92268046014, 92268046015, 92268046016, 92268046018, 92268046019

METHOD BLANK: 1560951 Matrix: Water  
Associated Lab Samples: 92268046005, 92268046008, 92268046014, 92268046015, 92268046016, 92268046018, 92268046019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/19/15 07:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/19/15 07:30	
Benzene	ug/L	ND	5.0	09/19/15 07:30	
Diisopropyl ether	ug/L	ND	5.0	09/19/15 07:30	
Ethanol	ug/L	ND	200	09/19/15 07:30	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/19/15 07:30	
Ethylbenzene	ug/L	ND	5.0	09/19/15 07:30	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/19/15 07:30	
Naphthalene	ug/L	ND	5.0	09/19/15 07:30	
tert-Amyl Alcohol	ug/L	ND	100	09/19/15 07:30	
tert-Amylmethyl ether	ug/L	ND	10.0	09/19/15 07:30	
tert-Butyl Alcohol	ug/L	ND	100	09/19/15 07:30	
tert-Butyl Formate	ug/L	ND	50.0	09/19/15 07:30	
Toluene	ug/L	ND	5.0	09/19/15 07:30	
Xylene (Total)	ug/L	ND	10.0	09/19/15 07:30	
1,2-Dichloroethane-d4 (S)	%	113	70-130	09/19/15 07:30	
4-Bromofluorobenzene (S)	%	109	70-130	09/19/15 07:30	
Toluene-d8 (S)	%	105	70-130	09/19/15 07:30	

LABORATORY CONTROL SAMPLE: 1560952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	44.0	88	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1030	103	70-130	
Benzene	ug/L	50	49.4	99	70-130	
Diisopropyl ether	ug/L	50	53.8	108	70-130	
Ethanol	ug/L	2000	2840	142	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	46.5	93	70-130	
Methyl-tert-butyl ether	ug/L	50	53.5	107	70-130	
Naphthalene	ug/L	50	69.2	138	70-130	L0
tert-Amyl Alcohol	ug/L	1000	1050	105	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	610	122	70-130	
tert-Butyl Formate	ug/L	400	438	110	70-130	
Toluene	ug/L	50	45.4	91	70-130	
Xylene (Total)	ug/L	150	146	97	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			98	70-130	

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

SAMPLE DUPLICATE: 1560954

Parameter	Units	92268046014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	2.8J	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	114	117	3		
4-Bromofluorobenzene (S)	%	109	110	1		
Toluene-d8 (S)	%	105	106	1		

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: MSV/33442 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92268046012, 92268046020, 92268046021, 92268046022, 92268046023, 92268046024, 92268046025, 92268046026, 92268046027

METHOD BLANK: 1561073 Matrix: Water  
Associated Lab Samples: 92268046012, 92268046020, 92268046021, 92268046022, 92268046023, 92268046024, 92268046025, 92268046026, 92268046027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/22/15 00:28	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/22/15 00:28	
Benzene	ug/L	ND	5.0	09/22/15 00:28	
Diisopropyl ether	ug/L	ND	5.0	09/22/15 00:28	
Ethanol	ug/L	ND	200	09/22/15 00:28	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/22/15 00:28	
Ethylbenzene	ug/L	ND	5.0	09/22/15 00:28	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/22/15 00:28	
Naphthalene	ug/L	ND	5.0	09/22/15 00:28	
tert-Amyl Alcohol	ug/L	ND	100	09/22/15 00:28	
tert-Amylmethyl ether	ug/L	ND	10.0	09/22/15 00:28	
tert-Butyl Alcohol	ug/L	ND	100	09/22/15 00:28	
tert-Butyl Formate	ug/L	ND	50.0	09/22/15 00:28	
Toluene	ug/L	ND	5.0	09/22/15 00:28	
Xylene (Total)	ug/L	ND	10.0	09/22/15 00:28	
1,2-Dichloroethane-d4 (S)	%	102	70-130	09/22/15 00:28	
4-Bromofluorobenzene (S)	%	109	70-130	09/22/15 00:28	
Toluene-d8 (S)	%	106	70-130	09/22/15 00:28	

LABORATORY CONTROL SAMPLE: 1561074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.0	82	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	915	92	70-130	
Benzene	ug/L	50	54.5	109	70-130	
Diisopropyl ether	ug/L	50	57.3	115	70-130	
Ethanol	ug/L	2000	1820	91	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	48.7	97	70-130	
Methyl-tert-butyl ether	ug/L	50	50.4	101	70-130	
Naphthalene	ug/L	50	48.6	97	70-130	
tert-Amyl Alcohol	ug/L	1000	943	94	70-130	
tert-Amylmethyl ether	ug/L	100	104	104	70-130	
tert-Butyl Alcohol	ug/L	500	519	104	70-130	
tert-Butyl Formate	ug/L	400	426	106	70-130	
Toluene	ug/L	50	47.5	95	70-130	
Xylene (Total)	ug/L	150	153	102	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

LABORATORY CONTROL SAMPLE: 1561074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1561996

Parameter	Units	92268021001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	200	180	88	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	4000	4280	107	70-130	
Benzene	ug/L	1220	200	1400	89	70-130	
Diisopropyl ether	ug/L	ND	200	234	117	70-130	
Ethanol	ug/L	ND	8000	9280	116	70-130	
Ethyl-tert-butyl ether	ug/L	ND	400	428	107	70-130	
Ethylbenzene	ug/L	823	200	1000	90	70-130	
Methyl-tert-butyl ether	ug/L	58.1	200	283	112	70-130	
Naphthalene	ug/L	318	200	522	102	70-130	
tert-Amyl Alcohol	ug/L	ND	4000	4210	105	70-130	
tert-Amylmethyl ether	ug/L	ND	400	421	105	70-130	
tert-Butyl Alcohol	ug/L	ND	2000	2580	127	70-130	
tert-Butyl Formate	ug/L	ND	1600	969	61	70-130	P5
Toluene	ug/L	31.0J	200	246	107	70-130	
1,2-Dichloroethane-d4 (S)	%				93	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 1561997

Parameter	Units	92268021002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	1240	1190	4	30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	804	782	3	30	
Methyl-tert-butyl ether	ug/L	55.3	56.0	1	30	
Naphthalene	ug/L	325	320	1	30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	37.4J	36.7J		30	
Xylene (Total)	ug/L	2430	2360	3	30	
1,2-Dichloroethane-d4 (S)	%	97	95	2		
4-Bromofluorobenzene (S)	%	105	105	0		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

SAMPLE DUPLICATE: 1561997

Parameter	Units	92268021002 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	107	106	1		

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: MSV/33450 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92268046009, 92268046010, 92268046011, 92268046013, 92268046017

METHOD BLANK: 1561771 Matrix: Water  
Associated Lab Samples: 92268046009, 92268046010, 92268046011, 92268046013, 92268046017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/21/15 14:02	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/21/15 14:02	
Benzene	ug/L	ND	5.0	09/21/15 14:02	
Diisopropyl ether	ug/L	ND	5.0	09/21/15 14:02	
Ethanol	ug/L	ND	200	09/21/15 14:02	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/21/15 14:02	
Ethylbenzene	ug/L	ND	5.0	09/21/15 14:02	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/21/15 14:02	
Naphthalene	ug/L	ND	5.0	09/21/15 14:02	
tert-Amyl Alcohol	ug/L	ND	100	09/21/15 14:02	
tert-Amylmethyl ether	ug/L	ND	10.0	09/21/15 14:02	
tert-Butyl Alcohol	ug/L	ND	100	09/21/15 14:02	
tert-Butyl Formate	ug/L	ND	50.0	09/21/15 14:02	
Toluene	ug/L	ND	5.0	09/21/15 14:02	
Xylene (Total)	ug/L	ND	10.0	09/21/15 14:02	
1,2-Dichloroethane-d4 (S)	%	101	70-130	09/21/15 14:02	
4-Bromofluorobenzene (S)	%	97	70-130	09/21/15 14:02	
Toluene-d8 (S)	%	110	70-130	09/21/15 14:02	

LABORATORY CONTROL SAMPLE: 1561772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.9	84	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	949	95	70-130	
Benzene	ug/L	50	50.9	102	70-130	
Diisopropyl ether	ug/L	50	58.7	117	70-130	
Ethanol	ug/L	2000	2210	111	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	47.1	94	70-130	
Methyl-tert-butyl ether	ug/L	50	53.8	108	70-130	
Naphthalene	ug/L	50	48.2	96	70-130	
tert-Amyl Alcohol	ug/L	1000	991	99	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	593	119	70-130	
tert-Butyl Formate	ug/L	400	438	110	70-130	
Toluene	ug/L	50	43.7	87	70-130	
Xylene (Total)	ug/L	150	153	102	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			115	70-130	
Toluene-d8 (S)	%			93	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

SAMPLE DUPLICATE: 1561774

Parameter	Units	92267374031 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	1430	1410	1	30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	698	690	1	30	
Methyl-tert-butyl ether	ug/L	367	366	0	30	
Naphthalene	ug/L	338	287	16	30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	1360	1350	1	30	
Xylene (Total)	ug/L	1960	1930	1	30	
1,2-Dichloroethane-d4 (S)	%	101	99	2		
4-Bromofluorobenzene (S)	%	111	112	0		
Toluene-d8 (S)	%	102	101	0		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: OEXT/37862 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92268046001, 92268046002, 92268046003, 92268046004, 92268046005, 92268046006, 92268046007, 92268046008, 92268046009, 92268046010, 92268046011, 92268046012

METHOD BLANK: 1561941 Matrix: Water  
Associated Lab Samples: 92268046001, 92268046002, 92268046003, 92268046004, 92268046005, 92268046006, 92268046007, 92268046008, 92268046009, 92268046010, 92268046011, 92268046012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	09/22/15 09:58	
1-Chloro-2-bromopropane (S)	%	105	60-140	09/22/15 09:58	

LABORATORY CONTROL SAMPLE & LCSD: 1561942 1561943

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.33	0.33	112	112	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				103	104	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1561944 1561945

Parameter	Units	92267927026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	2.1	.28	.28	1.7	1.7	-143	-149	60-140	1	20	M1
1-Chloro-2-bromopropane (S)	%						94	93	60-140			

SAMPLE DUPLICATE: 1562230

Parameter	Units	92267974001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	90	100	10		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EF & C #3  
Pace Project No.: 92268046

QC Batch: OEXT/37863 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92268046013, 92268046014, 92268046015, 92268046016, 92268046017, 92268046018, 92268046019, 92268046020, 92268046021, 92268046022, 92268046023, 92268046024, 92268046025, 92268046026

METHOD BLANK: 1561951 Matrix: Water  
Associated Lab Samples: 92268046013, 92268046014, 92268046015, 92268046016, 92268046017, 92268046018, 92268046019, 92268046020, 92268046021, 92268046022, 92268046023, 92268046024, 92268046025, 92268046026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	09/22/15 18:38	
1-Chloro-2-bromopropane (S)	%	106	60-140	09/22/15 18:38	

LABORATORY CONTROL SAMPLE & LCSD: 1561952 1561953

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.32	0.33	116	116	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				105	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1561954 1561955

Parameter	Units	92268046023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.30	100	104	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						95	99	60-140			

SAMPLE DUPLICATE: 1561956

Parameter	Units	92268046024 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	76	83	8		

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## QUALIFIERS

Project: EF & C #3  
Pace Project No.: 92268046

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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

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

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte

### ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

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

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EF & C #3  
Pace Project No.: 92268046

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92268046001	12175 - MW16	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046002	12175 - MW15	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046003	12175 - MW14	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046004	12175 - MW13	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046005	12175 - MW21	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046006	12175 - MW20	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046007	12175 - MW23	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046008	12175 - MW22	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046009	12175 - MW11	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046010	12175 - MW26	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046011	12175 - MW12	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046012	12175 - FB1	EPA 8011	OEXT/37862	EPA 8011	GCSV/22671
92268046013	12175 - MW10	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046014	12175 - MW9	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046015	12175 - MW7	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046016	12175 - MW8	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046017	12175 - MW17	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046018	12175 - MW18	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046019	12175 - RW3	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046020	12175 - MW24	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046021	12175 - RW-1	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046022	12175 - MW6	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046023	12175 - FB1	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046024	12175 - MW3	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046025	12175 - Duplicate - 1	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046026	12175 - Duplicate - 2	EPA 8011	OEXT/37863	EPA 8011	GCSV/22672
92268046001	12175 - MW16	EPA 8260	MSV/33438		
92268046002	12175 - MW15	EPA 8260	MSV/33438		
92268046003	12175 - MW14	EPA 8260	MSV/33438		
92268046004	12175 - MW13	EPA 8260	MSV/33438		
92268046005	12175 - MW21	EPA 8260	MSV/33441		
92268046006	12175 - MW20	EPA 8260	MSV/33438		
92268046007	12175 - MW23	EPA 8260	MSV/33438		
92268046008	12175 - MW22	EPA 8260	MSV/33441		
92268046009	12175 - MW11	EPA 8260	MSV/33450		
92268046010	12175 - MW26	EPA 8260	MSV/33450		
92268046011	12175 - MW12	EPA 8260	MSV/33450		
92268046012	12175 - FB1	EPA 8260	MSV/33442		
92268046013	12175 - MW10	EPA 8260	MSV/33450		
92268046014	12175 - MW9	EPA 8260	MSV/33441		
92268046015	12175 - MW7	EPA 8260	MSV/33441		
92268046016	12175 - MW8	EPA 8260	MSV/33441		
92268046017	12175 - MW17	EPA 8260	MSV/33450		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EF & C #3  
Pace Project No.: 92268046

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92268046018	12175 - MW18	EPA 8260	MSV/33441		
92268046019	12175 - RW3	EPA 8260	MSV/33441		
92268046020	12175 - MW24	EPA 8260	MSV/33442		
92268046021	12175 - RW-1	EPA 8260	MSV/33442		
92268046022	12175 - MW6	EPA 8260	MSV/33442		
92268046023	12175 - FB1	EPA 8260	MSV/33442		
92268046024	12175 - MW3	EPA 8260	MSV/33442		
92268046025	12175 - Duplicate - 1	EPA 8260	MSV/33442		
92268046026	12175 - Duplicate - 2	EPA 8260	MSV/33442		
92268046027	Trip Blank	EPA 8260	MSV/33442		

### REPORT OF LABORATORY ANALYSIS

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Document Name:  
**Sample Condition Upon Receipt (SCUR)**

Document Revised: May 18, 2015  
Page 1 of 2\*

Document Number:  
**F-CHR-CS-003-rev.16**

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: ECS

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no    Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T14012    Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T14012 No Correction

Corrected Cooler Temp.: 3.4 °C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: WJG-17-15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>psa coc says FBI bottle says Fb2</u>
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:

Date:

SRF Review:

Date:

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

WO#: 92268046



92268046





www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1775545

**Section A**  
Required Client Information:

Company: ECS  
Address: S. PAULS BLVD  
City: NC  
Phone: 813-583-2711  
Fax: 813-583-2711  
Requested Due Date/TAI: 5-DAY

**Section B**  
Required Project Information:

Report To: Noelle Finner  
Copy To: \_\_\_\_\_  
Purchase Order No.: 14-211651  
Project Name: EPIC 3  
Project Number: 14-211651

**Section C**  
Invoice Information:

Attention: Acet. Dept  
Company Name: ECS  
Address: AGASHAM MA  
Page Quote Reference: TRV07 E266C  
Pace Project Manager: \_\_\_\_\_  
Pace Profile #: \_\_\_\_\_

**REGULATORY AGENCY**

NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER \_\_\_\_\_

Site Location STATE: SC

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol				Other	Analysis Test ↓
1	12/75-MW16	DW	WT 6	G	DATE	TIME	DATE	TIME	6											
2	12/75-MW15	WT																		
3	12/75-MW14	WT																		
4	12/75-MW13	WT																		
5	12/75-MW21	WT																		
6	12/75-MW20	WT																		
7	12/75-MW23	WT																		
8	12/75-MW22	WT																		
9	12/75-MW11	WT																		
10	12/75-MW26	WT																		
11	12/75-MW18	WT																		
12	12/75-FB1	WT																		

**ADDITIONAL COMMENTS**

Report 5 values

**RELINQUISHED BY / AFFILIATION**

Robert Holt / ECS

**DATE**

9/16/15

**TIME**

1700

**ACCEPTED BY / AFFILIATION**

ECS OFFICE

**DATE**

9/14/17

**TIME**

1700

**SAMPLE CONDITIONS**

Temp in °C \_\_\_\_\_  
Received on Ice (Y/N) \_\_\_\_\_  
Custody Sealed Cooler (Y/N) \_\_\_\_\_  
Samples Intact (Y/N) \_\_\_\_\_

ORIGINAL

SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: \_\_\_\_\_  
SIGNATURE of SAMPLER: \_\_\_\_\_

DATE Signed (MM/DD/YY): \_\_\_\_\_

Temp in °C \_\_\_\_\_

Received on Ice (Y/N) \_\_\_\_\_

Custody Sealed Cooler (Y/N) \_\_\_\_\_

Samples Intact (Y/N) \_\_\_\_\_

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1775546

**Section A**  
Required Client Information:

**Section B**  
Required Project Information:

**Section C**  
Invoice Information:

Company: <b>ECS</b>	Report To: <b>Joelle Pomeroy</b>	Attention: <b>Ach, Osgt</b>
Address: <b>5 PAWT BLVD</b>	Copy To: <b>Joelle Pomeroy</b>	Company Name: <b>ECS</b>
Email To: <b>CHARLOTTE NC</b>	Purchase Order No.: <b>14-211651</b>	Address: <b>AGAWAM MA</b>
Phone: <b>803-271-5033</b>	Project Name: <b>EPA C 43</b>	Pace Quote Reference: <b>TAYLOR EZ ETC</b>
Requested Due Date/TAT: <b>5-0709</b>	Project Number: <b>14-211651</b>	Pace Project Manager: <b>TAYLOR EZ ETC</b>
		Pace Profile #:
		REGULATORY AGENCY
		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> WST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
		Site Location STATE: <b>SC</b>

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol				
1	12175-MW10	Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	DIV WT WW P SL OL WP AR TS OT													
2	12175-MW9															
3	12175-MW7															
4	12175-MW8															
5	12175-MW12															
6	12175-MW11															
7	12175-MW3															
8	12175-MW24															
9	12175-MW1															
10	12175-MW6															
11	12175-MW1															
12	12175-MW3															

**ADDITIONAL COMMENTS**

Against 5 values

**RELINQUISHED BY / AFFILIATION**

**DATE**

**TIME**

**ACCEPTED BY / AFFILIATION**

**DATE**

**TIME**

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: **Phil Oler**

SIGNATURE of SAMPLER: *Phil Oler*

DATE Signed (MM/DD/YY): **9/16/15**

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

ORIGINAL

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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

Section A Required Client Information: Company: **ECS** Address: **5 STEIN BLVD** CHALET & ICE

Section B Required Project Information: Report To: **POUL EYANEC** Copy To: **POUL EYANEC** Purchase Order No.: **14-211051**

Section C Invoice Information: Attention: **Acet Oylt** Company Name: **ECS** Address: **ACAPRIM MD**

Requested Due Date/AT: **5-10-04** Project Name: **EPSC 3** Project Number: **14-211051**

Requested Analysis Filtered (Y/N) **5L** REGULATORY AGENCY:  NPDES  GROUND WATER  DRINKING WATER  RCRA  OTHER

Temp in °C: **34** Received on Ice (Y/N): **Y** Custody Sealed Cooler (Y/N): **Y** Samples Intact (N/A): **Y**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol				
1	1275-Dup/soke-1	WT 6						4											
2	1275-Dup/soke-2	WT 6						4											
3	TRIP Blank							2											

ADDITIONAL COMMENTS: Request 5 values

RELINQUISHED BY / AFFILIATION: **Abdul Lees ECS OFFICE** DATE: **9/16/15** TIME: **1700**

ACCEPTED BY / AFFILIATION: **POUL EYANEC** DATE: **9/17/15** TIME: **1112**

SAMPLER NAME AND SIGNATURE: **Abdul Lees** DATE Signed (MM/DD/YY): **9/16/15**

PRINT Name of SAMPLER: **Abdul Lees** SIGNATURE of SAMPLER: **Abdul Lees**

**APPENDIX B**  
**QUALITY ASSURANCE AND QUALITY CONTROL EVALUATION**  
**LABORATORY ACCURACY - PACE ANALYTICAL SERVICES**

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
12175 - FB1	09/15/2015	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	<100	<10.0	<100
12175 - FB1	09/16/2015	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	<100	<10.0	<100
Trip Blank	09/16/2015	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	N/A	<5.0	<100	<10.0	<100

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
12175 - MW17	09/16/2015	15000	33000	2820	17000	<1000	1880	0.70	<1000	15700 J	<2000	<20000
12175 - Duplicate - 1	09/16/2015	15900	34100	2670	16400	<1000	1790	0.48	<1000	19300 J	<2000	<20000
<b>Relative Percent Difference</b>		5.66%	3.23%	5.32%	3.53%	NA	4.79%	NA	NA	NA	NA	NA
<b>Average Relative Percent Difference</b>											5%	

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
12175 - MW6	09/16/2015	1890	<100	708	<200	905	<100	<0.020	<100	28300	<200	2020
12175 - Duplicate - 2	09/16/2015	1890	<125	703	<250	884	<125	<0.020	<125	26300	<250	2040 J
<b>Relative Percent Difference</b>		0.00%	NA	0.71%	NA	2.32%	NA	NA	NA	7.07%	NA	NA
<b>Average Relative Percent Difference</b>											3%	

FB - Field Blank  
 Results in micrograms per liter ug/L



**APPENDIX K**

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Data Verification Checklist

## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		





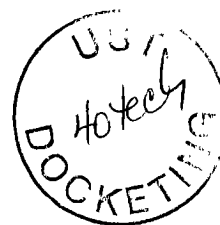


Catherine E. Heigel, Director

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

MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE, LLC  
P O BOX 388  
EDGEFIELD SC 29824-0388

OCT 22 2015



Re: **Site Specific Work Plan Request**

Edgefield Fuel & Convenience 3, 311 Main Street, Edgefield, SC  
UST Permit # 12175  
Release reported December 31, 2008  
Monitoring Report received October 20, 2015  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Environmental Compliance Services (ECS), Inc., as your contractor. The next appropriate scope of work at the site is the installation of three shallow monitoring wells and four telescoping deep monitoring wells to further define the contaminant plume.

To determine what risk the referenced release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, the installation of three shallow monitoring wells to the west of MW-23 and four telescoping deep monitoring wells to the south and east of the contaminant plume is requested. A map indicating the approximate locations of the requested well installations is included with this directive. All assessment related activities should be conducted in accordance with the UST QAPP and must be conducted in compliance with all applicable regulations. A copy of the Agency's QAPP for the Underground Storage Tank Division is available at:

<http://www.dhec.sc.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/>.

**Please have your contractor complete and submit the Site Specific Work Plan and Cost Agreement within thirty (30) days of the date of this letter.** The Site Specific Work Plan form can be found at <http://www.dhec.sc.gov/administration/library/D-0653.pdf>. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from the Agency must be issued before work begins.**

On all correspondence regarding this site, please reference UST Permit #12175. If you have questions or need additional information, feel free to call me at (803) 898-0610 or email me at [hetricml@dhec.sc.gov](mailto:hetricml@dhec.sc.gov).

Sincerely,

Matthew L. Hetrick, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

enc: Map

cc: Environmental Compliance Services, Inc., 2764 Pleasant Road #11420, Fort Mill, SC 29708-7299(w/enc)  
Technical File



**Legend**

- UE— Underground Electric Line
- WF— Wood Fence Line
- T— Underground Telephone Line
- ☉ Sanitary Sewer Clean Out
- ☐ Gate Top Drop Inlet
- ☪ Light Pole
- ☪ Light Pole
- ☉ Shallow (Water Table) Monitoring Well
- ☉ Recovery Well
- 12175-MW1 Well ID

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

⊗ 20-30' Proposed Locations for Shallow Monitoring Wells

⊗ 50-60' Proposed Locations for Deep Monitoring Wells



WHERE BUSINESS AND THE ENVIRONMENT CONVERGE  
 13504 SOUTH POINT BLVD, UNIT #  
 CHARLOTTE, NORTH CAROLINA 28273  
 TEL: (704)683-2711 FAX: (704)683-2744

**PROJECT:** Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:** Site Plan

**CLIENT:** Edgefield Fuel & Convenience, LLC

<b>GRAPHIC SCALE</b>			
0	25	50	50
<b>CUSTOMER APPROVAL AND SIGNATURES</b>			
<b>DRAWN BY:</b>	<b>DESIGNED BY:</b>	<b>CHECKED BY:</b>	<b>APPROVED BY:</b>
RH	KDP	AW	CK
<b>SCALE:</b>	<b>DATE:</b>	<b>JOB NO.:</b>	<b>FIGURE NO.:</b>
1"=50'	6/10/13	14-211651	2



Catherine E. Heigel, Director

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

MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE, LLC  
P O BOX 388  
EDGEFIELD SC 29824-0388

OCT 28 2015



Re: **Aggressive Fluid and Vapor Directive**  
Edgefield Fuel & Convenience 3, 311 Main Street, Edgefield, SC  
UST Permit # 12175; CA# 51334  
Release reported December 31, 2008  
Monitoring Report received October 20, 2015  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Environmental Compliance Services, Inc. as your contractor.

In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations, two Aggressive Fluid and Vapor Recovery (AFVR) events may proceed immediately upon receipt of this letter as outlined in this directive and the UST Quality Assurance Program Plan (QAPP) Revision 3.0. **Please be aware that the AFVR Procedures have been updated.** Two 96-hour events utilizing monitoring wells MW-1, MW-4, MW-5, and RW-1 for the first event and then followed a week later by a second event utilizing monitoring wells MW-2, MW-19, MW-25, RW-2, and RW-3 should be performed. The stingers shall be lowered at six inch intervals starting at the water table interface to a target depth of 27 feet in the wells for both events. Please advance to the target depth within the first eight (8) hours of the event. Thereafter, the stinger should be adjusted to achieve the highest vapor recovery while maintaining dewatering of the smear zone. Off-gas treatment will be necessary. A copy of Agency QAPP Revision 3.0 for the Underground Storage Tank Division is available at <http://www.scdhec.gov/environment/PermitCentral/ApplicationForms/#UST>.

**As soon as the beginning date of the event has been scheduled, please contact Matthew Hetrick at [hetricml@dhec.sc.gov](mailto:hetricml@dhec.sc.gov).**

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

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

On all correspondence concerning this site, please reference UST Permit #12175. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0610, by fax at (803) 898-0673, or by e-mail at [hetricml@dhec.sc.gov](mailto:hetricml@dhec.sc.gov).

Sincerely,



Matthew L. Hetrick, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Environmental Compliance Services, Inc., 2764 Pleasant Road #11420, Fort Mill, SC  
29708-7299 (w/enc.)  
Technical file (w/enc.)



# Approved Cost Agreement 51334

Facility 12175 EDGEFIELD FUEL & CONVENIENCE 3

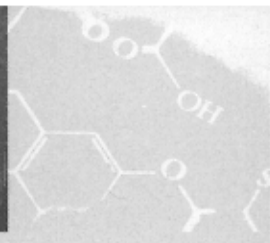
HETRICML

PO Number

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
19 RPT/PROJECT MNGT & COORDINATIO					
		PRT REPORT PREPARATION	0 1200	45,484 50	5,458 14
23 EFR					
		A4 96 HOUR EVENT	2 0000	12,567 50	25,135 00
		C4 OFF GAS TREATMENT 96 HOUR	2 0000	780.00	1,560 00
		D SITE RECONNAISSANCE	2 0000	203 25	406 50
		F1 EFFLUENT DISPOSAL	40,000.0000	0 44	17,600 00
		G AFVR EQUIPMENT MOB	2 0000	391 50	783 00
				<b>Total Amount</b>	50,942 64



WHERE BUSINESS AND THE ENVIRONMENT CONVERGE



13504 South Point Boulevard, Unit F, Charlotte, NC 28273 tel 704.583.2711 fax 704.583.2744 www.ecsconsult.com

Mr. Matthew Hetrick  
Corrective Action Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201



October 23, 2015  
ECS Project #14-810088



Re: Site Specific Work Plan  
T&G Superette  
515 Dearborn Street  
Great Falls, South Carolina  
UST Permit #02119

12175

Mr. Hetrick:

Enclosed please find the Site Specific Work Plan requested for the referenced site, in your letter dated October 19, 2015. Should you have any questions or require additional information, please do not hesitate to call me at (704) 583-2711 or by email at nfrance@ecsconsult.com.

Sincerely,  
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Noelle A. France  
Project Manager

Please Redock it  
and Scan under  
UST # 12175

The address on the  
cover page is incorrect  
it should read:  
Edgefield Fuel + Convenience 3  
311 Main Street  
Edgefield, SC 29824-1325  
UST # 12175

OST# 12175 SSWP: Nov. 9, 2015

DKT# 39 CA# 51335

36 MW  
2 Dups  
2 Trip  
2 Field

3 shallow wells 30 ft each MW-27, 28, 29  
4 deep wells 60 ft each TW-1 through TW-4

1 SSWP

1 Equip

4 Personnel

90 Water table (drill rig)

240 Telescoping

7 GW Purge

38 GW no purge

2 Field

49 8260B

47 8011

1 Subsequent Survey

300 gallons waste

10 Soil treatment

10 drilling fluids

6 additional copies



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

To: Matthew L. Hetrick (SCDHEC Project Manager)  
 From: Noelle A. France (Contractor Project Manager)  
 Contractor: ECS, Inc. UST Contractor Certification Number: 358

Facility Name: Edegfield Fuel and Convenience 3 UST Permit #: 12175  
 Facility Address: 311 Main Street, Edegfield, South Carolina  
 Responsible Party: Edegfield Fuel and Convenience LLC Phone: 803-637-1900  
 RP Address: Post Office BoX 388 Edgefield, South Carolina 28824  
 Property Owner (if different): As above  
 Property Owner Address: As above  
 Current Use of Property: Convenience store

**Scope of Work** (Please check all that apply)

- IGWA                       Tier II                       Groundwater Sampling                       GAC  
 Tier I                       Monitoring Well Installation                       Other \_\_\_\_\_

**Analyses** (Please check all that apply)

Groundwater/Surface Water:

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

Soil:

- BTEXNM     Lead                       8 RCRA Metals                       TPH-DRO (3550B/8015B)                       Grain Size  
 PAH                       Oil & Grease (9071)                       TPH-GRO (5030B/8015B)                       TOC

Air:

- BTEXN

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

NA	Soil	NA	Water Supply Wells	NA	Air	2	Field Blank
36	Monitoring Wells	NA	Surface Water	2	Duplicate	2	Trip Blank

**Field Screening Methodology**

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: NA Estimated Footage: NA feet per point  
 # of deep points proposed: NA Estimated Footage: NA feet per point

Field Screening Methodology: NA

**Permanent Monitoring Wells**

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: 3 Estimated Footage: 30 feet per point  
 # of deep wells: 4 Estimated Footage: 60 feet per point  
 # of recovery wells: NA Estimated Footage: NA feet per point

Monitoring Well development method (consistent with SOP): \_\_\_\_\_

Comments, if warranted:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



UST Permit #: 12175 Facility Name: Edegfield Fuel and Convenience 3

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: 30 days Field Work Completion: 60 days  
Report Submittal: 90 # of Copies Provided to Property Owners: \_\_\_\_\_

**Aquifer Characterization**

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

NA  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Derived Waste Disposal**

Soil: 10 Tons Purge Water: 300 Gallons  
Drilling Fluids: NA Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ECS will install 3 shallow wells to a depth of 30 feet each (12175-MW27 through 12175-MW28) which will be screened between 20-30 feet below land surface (bls). Additionally 4 telescoping wells will be installed (12175-TW1 through 21275-TW4) to a depth of 60 feet each with screened intervals between 55-60 feet bls. The telescoping wells will have outer casings set to a depth of 45 feet bls. Subsequent to installation, ECS will purge and sample the newly installed wells, and gauge and sample groundwater monitoring wells 12175 -MW1 through 12175-MW26 and 12175-RW1 through RW3. The groundwater samples will be analyzed for BTEXMN, ethanol 1,2,DCA and the 8 oxygenates by EPA Method 8260. ECS will obtain duplicates and field blanks, and have the appropriate trip blanks. All samples with the exception of the trip blanks will be analyzed for the presence of EDB by Method 8011.

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.  
Name of Laboratory: \_\_\_\_\_  
SCDHEC Certification Number: \_\_\_\_\_  
Name of Laboratory Director: \_\_\_\_\_

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

NA Other variations from ACQAP. Please describe below.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:  
North Arrow Proposed monitoring well locations  
Location of property lines Legend with facility name and address, UST permit number, and bar scale  
Location of buildings Streets or highways (indicate names and numbers)  
Previous soil sampling locations Location of all present and former ASTs and USTs  
Previous monitoring well locations Location of all potential receptors  
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



South Carolina Department of Health and Environmental Control

**ASSESSMENT COMPONENT COST AGREEMENT  
SOUTH CAROLINA**

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

**Gefield Fuel and Convenience 3**

UST Permit #: 12175

Cost Agreement #: \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>1. Plan Preparation</b>				
A1. Site-specific Work Plan	1	each	\$150.00	\$150.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>2. A1. Receptor Survey *</b>				
		each	\$551.00	\$0.00
<b>3. Survey (500 ft x 500 ft)</b>				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
<b>B. Subsurface Geophysical Survey</b>				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
<b>4. Mob/Demob</b>				
A1. Equipment	1	each	\$1,020.00	\$1,020.00
B1. Personnel	4	each	\$423.00	\$1,692.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
<b>5. A1. Soil Borings (hand auger)*</b>				
		foot	\$5.00	\$0.00
<b>6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*</b>				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
<b>7. A1. Soil Leachability Model</b>				
		each	\$60.00	\$0.00
<b>8. Abandonment (per foot)*</b>				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
<b>9. Well Installation (per foot)*</b>				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)	90	per foot	\$38.00	\$3,420.00
CC. Telescoping	240	per foot	\$50.00	\$12,000.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)		per foot	\$45.00	\$0.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotasonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
<b>10. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
A1. Groundwater Purge	7	per well/recept	\$60.00	\$420.00
B1. Air or Vapors		per recepto	\$12.00	\$0.00
C1. Water Supply		per well/recept	\$22.00	\$0.00
D1. Groundwater No Purge or Duplicate	38	per well/recept	\$28.00	\$1,064.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank	2	each	\$24.60	\$49.20

<b>11. Laboratory Analyses-Groundwater</b>					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(82	49	per sample	\$122.00		\$5,978.00
AA1. Lead, Filtered		per sample	\$13.80		\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60		\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40		\$0.00
D1. PAH's		per sample	\$60.60		\$0.00
E1. Lead		per sample	\$16.00		\$0.00
F1. EDB by EPA 8011	47	per sample	\$45.20		\$2,124.40
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20		\$0.00
G1. 8 RCRA Metals		per sample	\$63.40		\$0.00
H1. TPH (9070)		per sample	\$41.00		\$0.00
II. pH		per sample	\$5.20		\$0.00
J1. BOD		per sample	\$20.00		\$0.00
PP. Ethanol		per sample	\$14.80		\$0.00
<b>11. Analyses-Soil</b>					
Q1. BTEX + Naphth.		per sample	\$64.00		\$0.00
R1. PAH's		per sample	\$64.04		\$0.00
S1. 8 RCRA Metals		per sample	\$56.40		\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00		\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96		\$0.00
W1. Grain size/hydrometer		per sample	\$104.00		\$0.00
X1. Total Organic Carbon		per sample	\$30.60		\$0.00
<b>11. Analyses-Air</b>					
Y1. BTEX + Naphthalene		per sample	\$216.00		\$0.00
<b>11. Analyses-Free Phase Product</b>					
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00		\$0.00
<b>12. Aquifer Characterization</b>					
A1. Pumping Test*		per hour	\$23.00		\$0.00
B1. Slug Test*		per test	\$191.00		\$0.00
C1. Fractured Rock		per test	\$100.00		\$0.00
<b>13. A1. Free Product Recovery Rate Test*</b>					
		each	\$38.00		\$0.00
<b>14. Fate/Transport Modeling</b>					
A1. Mathematical Model		each	\$100.00		\$0.00
B1. Computer Model		each	\$100.00		\$0.00
<b>15. Risk Evaluation</b>					
A. Tier I Risk Evaluation		each	\$300.00		\$0.00
B1. Tier II Risk Evaluation		each	\$100.00		\$0.00
<b>16. A1. Subsequent Survey*</b>					
	1	each	\$260.00		\$260.00
<b>17. Disposal (gallons or tons)*</b>					
AA. Wastewater	300	gallon	\$0.56		\$168.00
BB. Free Product		gallon	\$0.50		\$0.00
C1. Soil Treatment/Disposal	10	ton	\$60.00		\$600.00
D1. Drilling fluids		gallon	\$0.42		\$0.00
<b>18. Miscellaneous (attach receipts)</b>					
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
<b>20. Tier I Assessment (Use DHEC 3665 form)</b>					
		standard			\$0.00
<b>21. IGWA (Use DHEC 3666 form)</b>					
		standard			\$0.00
<b>22. Corrective Action (Use DHEC 3667 form)</b>					
		PFP Bid			\$0.00

<b>23. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>					
A1. 8-hour Event*		each	\$1,375.00		\$0.00
AA. 24-hour Event*		each	\$3,825.00		\$0.00
A3. 48-hour Event*		each	\$6,265.00		\$0.00
A4. 96-hour Event*		each	\$12,567.50		\$0.00
C1. Off-gas Treatment 8 hour		per event	\$122.50		\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50		\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00		\$0.00
C4. Off-gas Treatment 96 hour		per event	\$780.00		\$0.00
D. Site Reconnaissance		each	\$203.25		\$0.00
E1. Additional Hook-ups		each	\$25.75		\$0.00
F1. Effluent Disposal		gallon	\$0.44		\$0.00
G. AFVR Mobilization/Demobilization		each	\$391.50		\$0.00
<b>24. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>					
A1. New GAC System Installation*		each	\$1,900.00		\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00		\$0.00
C1. Filter replacement/removal*		each	\$350.00		\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00		\$0.00
E1. GAC System housing*		each	\$250.00		\$0.00
F. In-line particulate filter		each	\$150.00		\$0.00
G1. Additional piping & fittings		foot	\$1.50		\$0.00
<b>25. Well Repair</b>					
A1. Additional Copies of the Report Deli	6	each	\$50.00		\$300.00
B1. Repair 2x2 MW pad*		each	\$50.00		\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00		\$0.00
D1. Repair well vault*		each	\$118.00		\$0.00
F1. Replace well cover bolts		each	\$2.60		\$0.00
G. Replace locking well cap & lock		each	\$15.00		\$0.00
H1. Replace/Repair stick-up*		each	\$134.00		\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00		\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00		\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00		\$0.00
<b>Report Prep &amp; Project Management</b>	12%	percent	\$29,245.60		\$3,509.47
<b>TOTAL</b>					\$32,755.07

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

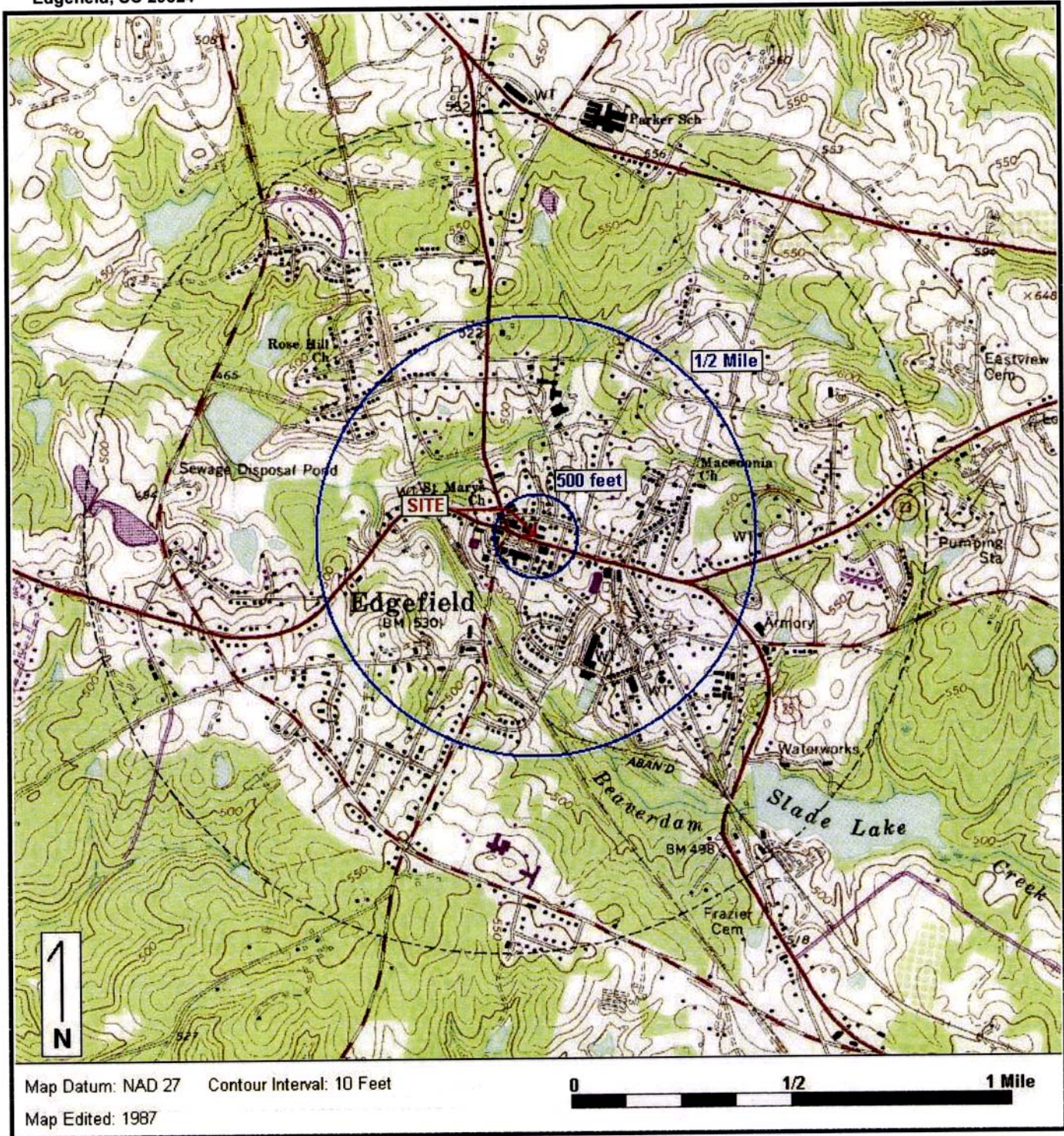




Environmental Compliance Services, Inc.  
 13504 South Point Boulevard  
 Charlotte, NC 28273  
 Phone 704.583.2711  
 www.ecsconsult.com

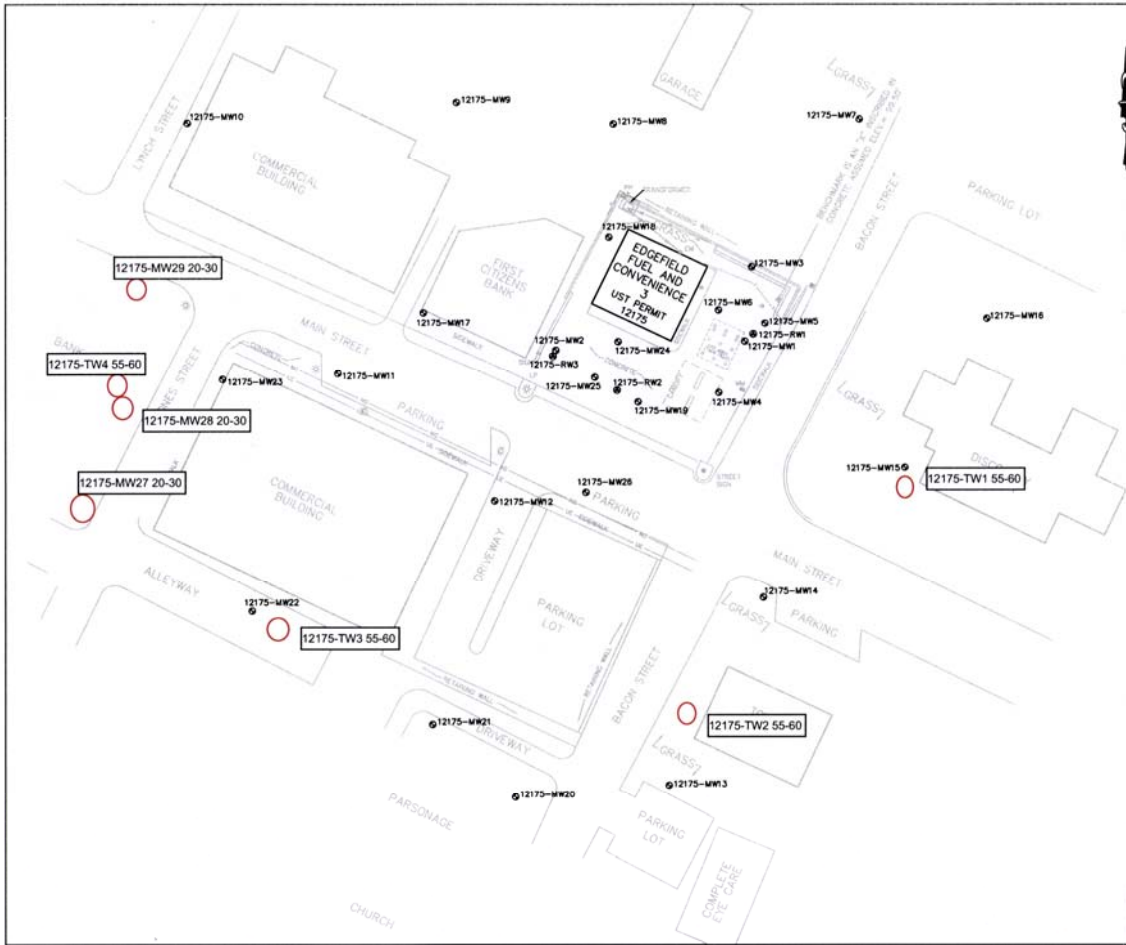
Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, SC 29824

Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC  
 Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH  
 Generated By: Kevin Collins





**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ⊕ Light Pole
- ⊕ Light Pole
- ⊕ Shallow (Water Table) Monitoring Well
- ⊕ Recovery Well
- 12175-MW1 Well ID

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

- MW-XX Proposed location shallow groundwater monitoring wells anticipated screened intervals 20-30 feet BLS
- TW-XX 55-60 Proposed locations and screened interval telescoping monitoring wells



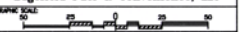
WHERE BUSINESS AND THE ENVIRONMENT CONVERGE  
 13004 SOUTH POINT BLVD, UNIT F  
 CHARLOTTE, NORTH CAROLINA 28273  
 TEL: (704)993-2711 FAX: (704)993-2744

**PROJECT:** Edgefield Fuel & Convenience 3

311 Main Street  
 Edgefield, South Carolina

**TITLE:** Site Plan

**CLIENT:** Edgefield Fuel & Convenience, LLC



DATE: 06-10-13

DRAWN BY: RESIGNED BY: CHECKED BY: APPROVED BY:

RH KDP AV CK

SCALE: 6/10/13 14-211651 FIGURE NO: 2



Catherine E. Heigel, Director

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

MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE, LLC  
P O BOX 388  
EDGEFIELD SC 29824-0388

NOV 17 2015



Re: **Assessment Directive**  
Edgefield Fuel & Convenience 3, 311 Main Street, Edgefield, SC  
UST Permit # 12175; Cost Agreement # 51335; MWA # UMW-26137  
Release reported December 31, 2008  
Site Specific Work Plan received November 9, 2015  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed and approved the referenced work plan submitted on your behalf by Environmental Compliance Services, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the groundwater at concentrations that exceed risk-based screening levels (RBSLs). In order to determine the extent of the CoC, additional assessment is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) Revision 3.0 and must be conducted in compliance with all applicable regulations. A copy of the Agency QAPP for the UST Management Division is available at <http://www.scdhec.gov/Environment/docs/QAPPRevision3.0.pdf>.

Assessment activities at the site should begin immediately upon receipt of this letter. Cost agreement # 51335 has been approved for the amount shown on the enclosed cost agreement form for the following scope of work. Monitoring wells will need to be installed to further define the CoC plume. Three shallow monitoring wells will need to be installed to the west of the facility along with four telescoping deep monitoring wells installed to the east, west, and south, and a groundwater sampling event of all monitoring wells, surface water features, and water supply wells associated with the release must be conducted. Groundwater should be sampled for BTEX, naphthalene, MtBE, 1,2-DCA, the oxygenates, and EDB. This scope of work should be conducted in accordance with the UST QAPP and in compliance with all applicable regulations.

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

**The Assessment Report, contractor checklist (Appendix K), and invoice are due within 90 days from the date of this letter.** The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Environmental Compliance Services, Inc. can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Interim invoices can be submitted for this scope of work. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

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

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

On all correspondence regarding this site, please reference UST Permit #12175. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0610, by fax at (803) 898-0673, or by e-mail at [hetricml@dhec.sc.gov](mailto:hetricml@dhec.sc.gov).

Sincerely,



Matthew L. Hetrick, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

enc: Approved Cost Agreement  
Monitoring Well Approval UMW-26137

cc: Environmental Compliance Services, Inc., 2764 Pleasant Road #11420, Fort Mill, SC 29708-7299 (with enc)  
Technical File (with enc)



Catherine E. Heigel, Director

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

### Monitoring Well Approval Form

**Approval is hereby granted to:** Environmental Compliance Services, Inc.  
**(on behalf of):** Edgefield Fuel and Convenience, LLC.  
**Facility:** Edgefield Fuel and Convenience #3, 311 Main Street,  
Edgefield, SC  
**UST Permit Number:** 12175  
**County:** Edgefield

This approval is for the installation of up to 7 permanent monitoring wells, consisting of 3 shallow and 4 telescoping deep monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Matthew L. Hetrick (tel: (803) 898-0610 or e-mail: [hetricml@dhec.sc.gov](mailto:hetricml@dhec.sc.gov)) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Agency approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

**Date of Issuance:** November 13, 2015

**Approval #: UMW-26137**

*Matthew Lee Hetrick*

Matthew L. Hetrick, Hydrogeologist  
Corrective Action Section  
Division of Assessment and Corrective Action  
Bureau of Land and Waste Management

# Approved Cost Agreement 51335

Facility: 12175 EDGEFIELD FUEL & CONVENIENCE 3

HETRICML

PO Number

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		A1 SITE SPECIFIC WORK PLAN	1 0000	150 00	150 00
04 MOB/DEMOB		A1 EQUIPMENT	1 0000	1,020.00	1,020 00
		B1 PERSONNEL	4 0000	423 00	1,692 00
09 WELL INSTALLATION		B1 WATER TABLE (DRILL RIG)	90.0000	38.00	3,420.00
		CC TELESCOPING	240 0000	50 00	12,000 00
10 SAMPLE COLLECTION		A1 GROUNDWATER (PURGE)	7 0000	60 00	420 00
		D1 GROUNDWATER NO PURGE/DUPLICATE	38 0000	28 00	1,064 00
		H1 FIELD BLANK	2 0000	24 60	49 20
11 ANALYSES	GW GROUNDWATER	A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	49 0000	122 00	5,978 00
		F1 EDB BY 8011	47 0000	45 20	2,124 40
16 SUBSEQUENT SURVEY		A1 SUBSEQUENT SURVEY	1 0000	260 00	260 00
17 DISPOSAL		AA WASTEWATER	300 0000	0 56	168 00
		C1 SOIL TREATMENT DISPOSAL	10 0000	60 00	600 00
		D1 DRILLING FLUIDS	50 0000	0 42	21 00
19 RPT/PROJECT MNGT & COORDINATIO		PRT REPORT PREPARATION	0 1200	29,266 60	3,511 99
25 WELL REPAIR		A1 ADDITIONAL COPIES OF REPORT	6 0000	50 00	300 00
<b>Total Amount</b>					<b>32,778 59</b>



# Document Receipt Information

Hard Copy

CD

Email

Date Received

2-18-2014

Permit Number

12175

Project Manager

Matthew Hetrick

Name of Contractor

ECS

UST Certification Number

Docket Number

44 keh

Scanned

AFVR



**AGGRESSIVE FUILD VAPOR  
RECOVERY REPORT**

**EDGEFIELD FUEL & CONVENIENCE #3  
311 MAIN STREET  
EDGEFIELD COUNTY  
EDGEFIELD, SOUTH CAROLINA**

**UST PERMIT #12175**

WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

Prepared for:  
Edgefield Fuel & Convenience, LLC  
P.O. Box 388  
Edgefield, SC 29824

Project No. 14-211651.01/11  
February 15, 2016

Prepared by:  
ECS  
13504 South Point Boulevard  
Charlotte, NC 28273  
tel 704.583.2711 fax 704.583.2744  
[www.ecsconsult.com](http://www.ecsconsult.com)

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- Appendix L: Aggressive Fluid Vapor Recovery Event Data  
Including: Before & After Data; Field Data Sheet; Air Flow Calculations; Pre-Treatment Emission Calculations; Post-Treatment Emission Calculations

## 1.0 INTRODUCTION

This report presents the results of the corrective action activities conducted at the Edgefield Fuel & Convenience 3 site between January 4, 2016, and January 15, 2016. These activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.0 and Cost Agreement Number 51334 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated October 28, 2015.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-5425

### 1.2 UST OWNER/OPERATOR

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-1900

### 1.3 PROPERTY OWNER INFORMATION

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 367-1900

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** Environmental Compliance Services, Inc. (ECS)  
**Address:** 2764 Pleasant Road #11420  
Fort Mill, South Carolina 29708-7299  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** Not reported

### UST Permit 12175

UST	Size	Product	Date Installed	Status	Date Closed
1	3,000	Premium Unleaded Gasoline	Unknown	Extended-Out of Use	Not applicable
2	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable
3	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable

The site operates as Edgefield Fuel & Convenience 3, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed as being installed at the site and it is noted that the premium unleaded gasoline UST was not in use during these corrective action activities.

### 1.6 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.



## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The Edgefield Fuel & Convenience 3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. **Figure 1** illustrates the site location with topographic details. The site is bordered to the north by an access road and parking lot for the west abutting First Citizen's Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority obtain their water supply from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One storm drainage feature was previously identified approximately 1,000 feet southeast of the site. This storm drainage feature flows in a westerly direction and bends to the southwest and discharges into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and an unnamed tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general southeasterly direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general southwesterly direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located approximately 525 feet above mean sea level (AMSL) with an approximate total site topographic relief of three feet. The surface cover at the site consists primarily of asphalt paving, and some smaller portions completed with concrete and grass. The active site UST areas are completed with a concrete surface covering. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC), stone, and clayey to silty sand to depths of approximately 2 feet below ground surface (bgs). Native soils (residuum), below the fill material, are characterized as tan-brown-red silty sand and silty clay to depths of 6 feet bgs. Soils encountered in the boreholes below 6 feet bgs are characterized as yellow-orange-tan-gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet bgs during Tier I assessment activities (March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet bgs were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses, the onsite shallow soils are characterized as clayey silty sands.

Historical depths to groundwater measured in shallow monitoring wells at the site are reported to have ranged from 18.09 feet bgs (12175-MW5 in May 2010) to 25.61 feet bgs (12175-MW2 in October 2010 with 3.65 feet of free phase product), with an overall average depth of 22.24 feet bgs in on-site monitoring wells over time. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, were calculated to have ranged between 0.11 feet per day (ft/day) to 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

### **3.0 ASSESSMENT INFORMATION**

#### **3.1 SOIL ASSESSMENT**

Soil assessment was not required for the scope of work outlined in the October 28, 2015, directive.

#### **3.2 GROUNDWATER FIELD SCREENING**

Groundwater field screening was not required for the scope of work outlined in the October 28, 2015, directive.

#### **3.3 MONITORING WELL INFORMATION**

Monitoring well installation was not required for the scope of work outlined in the October 28, 2015, directive.

#### **3.4 GROUNDWATER ASSESSMENT**

##### 3.4.1 Product/Water Level Measurements

Monitoring wells 12175-MW1, 12175-MW2, 12175-MW4, 12175-MW5, 12175-MW19, 12175-MW25, 12175-RW1, 12175-RW2, and 12175-RW3 were gauged for depths to free phase product and depth to groundwater during the site reconnaissance activities on December 16, 2015. Free phase product was detected in site wells 12175-MW1 (thickness of 4.09 feet), 12175-MW2 (0.7 feet) 12175-MW4 (0.63 feet), 12175-MW5 (0.31 feet), 12175-MW25 (3.55 feet), and 21275-RW2 (3.78 feet).

##### 3.4.2 Water Sampling and Analyses

Groundwater samples were not required for the scope of work outlined in the AFVR directive dated October 28, 2015.

##### 3.4.3 Groundwater Analytical Data

Groundwater analysis was not required for the scope of work outlined in the AFVR directive dated October 28, 2015.

##### 3.4.4 Aquifer Characterization

Aquifer characteristics determinations were not required for the scope of work outlined in the AFVR directive dated October 28, 2015.

## 4.0 CORRECTIVE ACTION

The SCDHEC directive included the performance of two separate 96-hour AFVR events. The first AFVR event conducted to extract free phase product from site wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1, and the second AFVR event conducted to extract free phase product from site wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3.

### 4.1 CORRECTIVE ACTION ACTIVITIES

#### 4.1.1 AFVR Event – January 4 - January 8, 2016

This AFVR event was initiated on January 4, 2016, and completed on January 8, 2016. The AFVR event was completed by ECS with activity monitoring provided by Brian Peay and Kerry Wright of ECS. Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1 and in observation monitoring wells 12175-MW18, 12175-MW15, and 12175-MW3. Free phase product was detected in targeted extraction recovery wells 12175-MW (3.55 feet), 12175-MW4 (0.30 feet), and 12175-MW5 (0.30 feet) prior to initiating the AFVR event on January 4, 2016.

This AFVR event consisted of one vacuum system extracting vapors and fluids from 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1 for approximately 96 hours, and utilized a thermal oxidizer for off-gas treatment. The trailer mounted AFVR equipment consisted of one Dekker VMX0303K oil-sealed vacuum system capable of providing an extraction rate of 275 cubic feet per minute (CFM) at 25 inches mercury (inHg) vacuum. The vacuum blower is connected to a manifold, air/water separator, and magnehelic gauges for system monitoring. A water discharge line is connected from the air/water separator, flow meter, and transfer pump that pumps the water to a holding tank temporarily stored onsite. A ThermTech VAC-50 thermal oxidation system, capable of treating 25% of the Lower Explosive Limit (LEL) at a flow rate of 500 CFM, was used to reduce the off-gas emission concentrations from the AFVR blower to the atmosphere.

The drop tubes were initially lowered to the depth of fluid encountered in wells from 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1. The stinger pipes were lowered periodically throughout the first 8 hours of the event and then adjusted to levels with higher vapor concentrations recorded from the exhaust stack. Observation wells were used to monitor the depth to groundwater and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours, 1-hour intervals for hours 9-24, and 2-hour intervals for the remainder of the event. Data recording was not required between the hours of midnight and 8:00 AM and, therefore, data collection was suspended during this time frame.

The vacuum readings were reported to have averaged 26.05 inHg over the course of the event. The air velocity rates were reported to have averaged 339.09 feet per minute (ft/min) from the discharge stack over the course of the event. The organic vapor concentrations recovered from wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1 were measured at the discharge stack using the Bacharach TLV Sniffer is capable of providing concentrations of up to 100,000 ppm with the use of dilution probe 23-7355. The Bacharach TLV Sniffer maximum

concentration range of 100,000 ppm was exceeded during this event and, when exceeded, a concentration of 100,000 ppm was used in the emission calculations. The recorded measurements averaged a concentration of 99,941 ppm over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 87.03 degrees Fahrenheit (°F). During the period of time when data recording was suspended (midnight to 8:00 AM), the average between the last measurement collected before midnight and the first measurement collected at 8:00 AM was used in the emission calculations.

Free phase product was not detected in targeted extraction wells 12175-MW1, 12175-MW4, 12175-MW5 and 12175-RW1 and in observation monitoring wells 12175-MW18, 12175-MW15 and 12175-MW3 during post-AFVR measurements on January 8, 2015. A summary of free phase product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of pre-treated vapor-phase petroleum hydrocarbon constituents removed was 370.62 pounds (61.72 gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents emitted to the atmosphere was 0.03 pounds.

Based on emission calculations, the thermal oxidizer was successful in removing 99% of the off-gas emissions while in operation. Emission calculations were determined using the manufacture's conversion factor to convert the TLV readings into vapor-phase benzene concentrations.

Approximately 20,033 gallons of total fluids were removed from target wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1 during the AFVR event. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

#### 4.1.2 AFVR Event – January 11 - January 15, 2016

This AFVR event was initiated on January 11, 2016, and completed on January 15, 2016. Due to equipment failure, the system was not operational between 3:00 AM to 8:00 AM on January 12, 2016. The AFVR event was completed by ECS with activity monitoring provided by Brian Peay and Kerry Wright of ECS. Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction wells 12175-MW2, 12175-MW19, 12175-MW25 12175-RW2, and 12175-RW3, and in observation monitoring wells 12175-MW3, and 12175-MW18. Free phase product was detected in targeted extraction wells 12175-MW2 (thickness of 0.76 feet), 12175-MW19 (0.45 feet), 12175-MW25 (2.93 feet), and 12175-RW2 (3.25 feet) prior to initiating the AFVR event on January 11, 2016.

This AFVR event consisted of one vacuum system extracting vapors and total fluids from 12175-MW2, 12175-MW19, 12175-MW25 12175-RW2 and 12175-RW3 for approximately 90 hours, and included a thermal oxidizer for off-gas treatment. The trailer mounted AFVR equipment consisted of one Dekker VMX0303K oil-sealed vacuum system capable of providing an extraction rate of 275 CFM at 25 inHg vacuum. The vacuum blower is connected to a manifold, air/water separator, and magnehelic gauges for system monitoring. A water discharge line is connected from the air/water separator, flow meter, and transfer pump that pumps the water to a holding tank temporarily stored onsite. A ThermTech VAC-50 thermal oxidation system, capable of treating 25% of the LEL at a low rate of 500 CFM, was used to reduce the off-gas emission concentrations from the AFVR blower to the atmosphere.

The drop tubes were initially lowered to the depth of fluid encountered in wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3. The stinger pipes were lowered

periodically throughout the first 8 hours of the event and then adjusted to levels with higher vapor concentrations recorded from the exhaust stack. Observation wells were used to monitor the depth to groundwater and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours, 1-hour intervals for hours 9-24, and 2-hour intervals for the remainder of the event. Data recording was not required between the hours of midnight and 8:00 AM and, therefore, suspended during this time frame.

The vacuum readings averaged 18.34 in.Hg over the course of the event. The air velocity rates averaged 1,033.07 feet per minute (ft/min) from the discharge stack over the course of the event. The organic vapor concentrations recovered from wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3 were measured at the discharge stack using the TLV. The recorded measurements averaged 66,585 ppm over 90 hours for this AFVR event. The exhaust stack gas temperatures averaged 82.03°F. During the period of time when data recording was suspended (midnight to 8:00 AM), the average between the last measurement collected before midnight and the first measurement collected at 8:00 AM was used in the emission calculations.

Free phase product was not detected in extraction wells 12175-MW2, 12175-MW19, 12175-MW25, and 12175-RW3, or in observation monitoring wells 12175-MW3 and 12175-MW18 during post-AFVR measurements on January 15, 2016. Recovery well 12175-RW2 was found to contain 0.30 feet of free product 20 minutes post AFVR. A summary of free phase product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of pre-treated vapor-phase petroleum hydrocarbon constituents removed was 688.65 pounds (114.68 gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents emitted to the atmosphere was 0.10 pounds (0.02 gallons).

Based on emissions calculations, the thermal oxidizer was successful in removing 99% of the off-gas emissions while in operation. Emission calculations were determined using the manufacture's conversion factor to convert the TLV readings into gas concentrations for benzene.

Approximately 10,323 gallons of total fluids were removed from recovery wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3 during the AFVR event. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

## 4.2 INVESTIGATIVE DERIVED WASTE

Petroleum contact water (PCW) generated during these activities was temporarily stored in a 9,600-gallon tanker staged on-site. Liquids were transported to Zebra Environmental and Industrial Services, Inc (Zebra), located in High Point, North Carolina, a licensed disposal facility, for proper disposal. Copies of the disposal manifests for both AFVR events are included in **Appendix G**.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 SUMMARY

- Monitoring wells 12175-MW1, 12175-MW2, 12175-MW4, 12175-MW5, 12175-MW19, 12175-MW25, 12175-RW1, 12175-RW2, and 12175-RW3 were gauged for depths to free phase product and depth to groundwater during the site reconnaissance activities on December 16, 2015. Free phase product was detected 12175-MW1 (thickness of 4.09 feet), 12175-MW2 (0.7 feet), 12175-MW4 (0.63 feet), 12175-MW5 (0.31 feet), 12175-MW25 (3.55 feet), and 12175-RW2 (3.78 feet).
- An AFVR event was initiated on January 4, 2016, and completed on January 8, 2016, targeting extraction wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1. Prior to the start of the event, the depths to free phase product and groundwater were measured and free phase product was detected in targeted extraction recovery wells 12175-MW (thickness of 3.55 feet), 12175-MW4 (0.30 feet), and 12175-MW5 (0.30 feet).
- During the January 4 through 8, 2016, AFVR event, the vacuum readings averaged 26.05 in Hg over the course of the event. The air velocity rates averaged 339.09 feet per minute (ft/min) from the discharge stack over the course of the event. The recorded organic vapor measurements averaged 99,941 ppm over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 87.03°F, approximately 20,033 gallons of liquid were removed from target wells 12175-MW1, 12175-MW4, 12175-MW5, and 12175-RW1 during the AFVR event.
- Free phase petroleum product was not measured in the extraction or observation wells subsequent to the January 4 through 11, 2016, AFVR event.
- An AFVR event was initiated on January 11, 2016, and completed on January 15, 2016, targeting extraction wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3. Free phase product was detected in targeted extraction wells 12175-MW2 (0.76 feet), 12175-MW19 (0.45 feet), 12175-MW25 (2.93 feet), and 12175-RW2 (3.25 feet) prior to initiating the AFVR event on January 11, 2016.
- Due to equipment failure, the system was not operational between 3AM to and 8AM on January 12, 2016.
- During the January 11 through 15, 2016, the vacuum readings averaged 18.34 in Hg over the course of the event, the air velocity rates averaged 1,033.07 ft/min from the discharge stack over the course of the event. The exhaust stack gas temperatures averaged 82.03°F and the recorded organic vapor measurements averaged 66,585 ppm. Approximately 10,323 gallons of liquid were removed from recovery wells 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW2, and 12175-RW3 during the AFVR event.
- Free phase product was not detected in extraction wells 12175-MW2, 12175-MW19, 12175-MW25, and 12175-RW3 during post-AFVR measurements on January 15, 2016. Recovery well 12175-RW2 was found to contain 0.30 feet of free product 20 minutes post AFVR.

### 5.2 CONCLUSIONS

- During the January 4 through 8, 2016, AFVR event, the total estimated amount of pre-treated vapor phase petroleum hydrocarbon constituents removed was 370.62 pounds (61.72 gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents

emitted to the atmosphere was 0.03 pounds. The thermal oxidizer was successful in removing 99% of the off-gas emissions while in operation.

- During the January 11 through 15, 2016, AFVR event, the total estimated amount of pre-treated vapor-phase petroleum hydrocarbon constituents removed was 688.65 pounds (114.68 gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents emitted to the atmosphere was 0.10 pounds (0.02 gallons). The thermal oxidizer was successful in removing 99% of the off-gas emissions while in operation.

### **5.3 RECOMMENDATIONS**

- ECS recommends conducting a groundwater sampling event to evaluate the effectiveness of the January 2016 AFVR events, and to continue monitoring free phase product and dissolved-phase hydrocarbons in groundwater.
- Based on the results of the groundwater sampling and gauging event, ECS may recommend continued use of AFVR events to mitigate the presence of free phase product in site monitoring wells.

## 6.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ECS. Although the accuracy of these data cannot be verified, for the purposes of this report, ECS assumes that they are correct.

### 6.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## TABLES

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**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-MW1	4/6/10 - 4/7/10	8	4,419	194.3	626	1.33	0	1.33	314
12175-MW1 12175-MW5	7/12/11 - 7/13/11	12	4,456	232.3	2,454	4.88	0	4.88	1,503
12175-MW2	8/2/11 - 8/3/11	12	4,069	244.6	923	1.65	0	1.65	580
12175-MW19	8/11/11 - 8/12/11	12	4,274	216.4	2,804	5.30	0	5.30	740
12175-MW1	5/10/12 - 5/11/12	8	3,579	186.7	3,280	5.18	0	5.18	674
12175-MW2	5/31/12 - 6/1/12	8	3,481	188.1	1,325	1.97	0	1.97	330
12175-MW5	6/13/12 - 6/14/12	8	2,899	204.4	2,010	2.47	0	2.47	155
12175-MW19	6/28/12 - 6/29/12	8	4,901	230.1	2,790	5.50	0	5.50	167
12175-MW2 12175-MW19 12175-MW25	2/9/13 - 2/10/13	24	3,762	173.1	7,963	40.29	Sheen	40.29	1,675
12175-MW1 12175-MW4 12175-MW5	2/10/13 - 2/11/13	20.67	3,473	176.3	5,649	22.12	Sheen	22.12	1,525
12175-RW1	6/5/13 - 6/6/13	12	4,332	195.7	1,536	4.46	Sheen	4.46	920
12175-RW2	6/20/13- 6/21/13	12	4,532	173.5	7,807	19.70	0	19.70	314
12175-RW3	7/15/13- 7/16/13	12	3,350	179.4	465	1.11	0	1.11	747

**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-RW1	11/4/13-11/5/13	8	5,278	184.5	863	1.98	0	1.98	911
12175-RW2	11/18/13-11/19/13	8	4,424	174.8	3,790	7.46	0	7.46	209
12175-MW17	12/9/13-12/10/13	8	4,772	180.8	198	0.41	0	0.41	450
12175-RW2	5/27/2014	3	520	133.4	99,667	15.69	Sheen	15.69	601
12175-RW2	6/2/14 - 6/6/14	96	347	119.5	90,015	47.85	Sheen	47.85	4,569
12175-RW1	6/16/14-6/20/14	96	357	118	40,064	29.53	Sheen	29.53	8,634
12175-MW1	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW4	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW5	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW19	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW25	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW3	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
		1113.67	--	--	--	395.29	0	395.29	55,377

Total Volatized in gallons = Air emissions in pounds/(6.25 lbs./gal.)

Total Free Product as Fluid is obtained from disposal manifest, flow meter, and/or correspondence with subcontractors from each AFVR event.

Total Free Product Recovered = Total Free Product Volatized + Total Free Product as Fluid.

Average Effluent Concentration (before off-gas treatment) calculated using 100,000 ppm for measurements exceeding maximum range of 100,000 ppm of organic vapor instrument.



TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	4/6/10 (pre-AFVR)	17.61	22.24	4.63	79.74
				4/7/10 (immediately post-AFVR)	--	21.42	--	77.09
				4/7/10 (20 minutes post-AFVR)	20.37	20.42	0.05	78.13
12175-MW3	34	15	100.44	4/6/10 (pre-AFVR)	--	20.74	--	79.70
				4/7/10 (immediately post-AFVR)	--	20.78	--	79.66
				4/7/10 (20 minutes post-AFVR)	--	20.78	--	79.66
12175-MW4	29	10	98.61	4/6/10 (pre-AFVR)	--	19.14	--	79.47
				4/7/10 (immediately post-AFVR)	--	19.22	--	79.39
				4/7/10 (20 minutes post-AFVR)	--	19.23	--	79.38
12175-MW5	29	10	98.05	4/6/10 (pre-AFVR)	--	18.24	--	79.81
				4/7/10 (immediately post-AFVR)	--	18.95	--	79.10
				4/7/10 (20 minutes post-AFVR)	--	18.82	--	79.23
12175-MW6	29	10	99.82	4/6/10 (pre-AFVR)	--	20.14	--	79.68
				4/7/10 (immediately post-AFVR)	--	20.28	--	79.54
				4/7/10 (20 minutes post-AFVR)	--	20.29	--	79.53
12175-MW1	35	15	98.51	7/12/11 (pre-AFVR)	19.61	24.75	5.14	77.62
				7/13/11 (immediately post-AFVR)	--	25.55	--	73.16
				7/13/11 (20 minutes post-AFVR)	22.92	23.03	0.11	73.56
12175-MW5	29	10	98.05	7/12/11 (pre-AFVR)	19.3	23.6	4.30	77.68
				7/13/11 (immediately post-AFVR)	23.16	23.25	0.09	74.87
				7/13/11 (20 minutes post-AFVR)	22.31	22.51	0.20	75.69
12175-MW3	34	15	100.44	7/12/11 (pre-AFVR)	--	22.84	--	77.60
				7/13/11 (immediately post-AFVR)	--	22.89	--	77.55
				7/13/11 (20 minutes post-AFVR)	--	22.84	--	77.60
12175-MW4	29	10	98.61	7/12/11 (pre-AFVR)	--	21.21	--	77.40
				7/13/11 (immediately post-AFVR)	--	21.31	--	77.30
				7/13/11 (20 minutes post-AFVR)	--	21.32	--	77.29
12175-MW6	29	10	99.82	7/12/11 (pre-AFVR)	--	22.20	--	77.62
				7/13/11 (immediately post-AFVR)	--	22.50	--	77.32
				7/13/11 (20 minutes post-AFVR)	--	22.51	--	77.31
12175-MW2	34	15	100.42	8/2/11 (pre-AFVR)	22.45	26.65	4.20	76.92
				8/3/11 (immediately post-AFVR)	--	25.67	--	74.75
				8/3/11 (20 minutes post-AFVR)	24.03	24.13	0.10	76.37
12175-MW17	28	10	101.09	8/2/11 (pre-AFVR)	--	24.07	--	77.02
				8/3/11 (immediately post-AFVR)	--	24.19	--	76.90
				8/3/11 (20 minutes post-AFVR)	--	24.18	--	76.91
12175-MW18	28	10	101.51	8/2/11 (pre-AFVR)	--	24.51	--	77.00
				8/3/11 (immediately post-AFVR)	--	24.56	--	76.95
				8/3/11 (20 minutes post-AFVR)	--	24.56	--	76.95
12175-MW19	28	10	100.01	8/2/11 (pre-AFVR)	21.98	26.81	4.83	76.82
				8/3/11 (immediately post-AFVR)	22.05	26.90	4.85	76.75
				8/3/11 (20 minutes post-AFVR)	22.05	26.89	4.84	76.75
12175-MW19	28	10	100.01	8/11/11 (pre-AFVR)	22.13	27.05	4.92	76.65
				8/12/11 (immediately post-AFVR)	--	27.42	--	72.59
				8/12/11 (20 minutes post-AFVR)	24.42	24.51	0.09	73.57
12175-MW1	35	15	98.51	8/11/11 (pre-AFVR)	20.25	25.86	5.61	76.86
				8/12/11 (immediately post-AFVR)	20.37	25.97	5.60	76.74
				8/12/11 (20 minutes post-AFVR)	20.41	26.02	5.61	76.70
12175-MW2	34	15	100.42	8/11/11 (pre-AFVR)	23.05	25.47	2.42	76.77
				8/12/11 (immediately post-AFVR)	23.12	25.97	2.85	76.59
				8/12/11 (20 minutes post-AFVR)	23.13	25.58	2.45	76.68
12175-MW4	29	10	98.61	8/11/11 (pre-AFVR)	--	21.90	--	76.71
				8/12/11 (immediately post-AFVR)	--	22.32	--	76.29
				8/12/11 (20 minutes post-AFVR)	--	22.32	--	76.29
12175-MW1	35	15	98.51	5/10/12 (pre-AFVR)	21.91	27.13	5.22	75.30
				5/11/12 (immediately post-AFVR)	24.97	25.06	0.09	73.52
				5/11/12 (20 minutes post-AFVR)	23.90	24.24	0.34	74.53
12175-MW2	34	15	100.42	5/10/12 (pre-AFVR)	24.23	28.02	3.79	75.24
				5/11/12 (immediately post-AFVR)	24.31	28.14	3.83	75.15
				5/11/12 (20 minutes post-AFVR)	24.31	28.14	3.83	75.15
12175-MW3	34	15	100.44	5/10/12 (pre-AFVR)	--	25.04	--	75.40
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.33
				5/11/12 (20 minutes post-AFVR)	--	25.12	--	75.32
12175-MW4	29	10	98.61	5/10/12 (pre-AFVR)	22.41	26.85	4.44	75.09
				5/11/12 (immediately post-AFVR)	22.50	26.98	4.48	74.99
				5/11/12 (20 minutes post-AFVR)	22.50	27.00	4.50	74.99
12175-MW5	29	10	98.05	5/10/12 (pre-AFVR)	21.50	26.15	4.65	75.39
				5/11/12 (immediately post-AFVR)	21.98	25.93	3.95	75.08
				5/11/12 (20 minutes post-AFVR)	22.02	26.01	3.99	75.03
12175-MW6	29	10	99.82	5/10/12 (pre-AFVR)	--	24.44	--	75.38
				5/11/12 (immediately post-AFVR)	--	24.61	--	75.21
				5/11/12 (20 minutes post-AFVR)	--	24.62	--	75.20
12175-MW19	28	10	100.01	5/10/12 (pre-AFVR)	23.66	27.73	4.07	75.33
				5/11/12 (immediately post-AFVR)	23.76	27.74	3.98	75.26
				5/11/12 (20 minutes post-AFVR)	23.77	27.75	3.98	75.25
12175-MW24	30	10	100.23	5/10/12 (pre-AFVR)	--	24.97	--	75.26
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.12
				5/11/12 (20 minutes post-AFVR)	--	25.11	--	75.12
12175-MW25	30	10	99.95	5/10/12 (pre-AFVR)	23.50	28.34	4.84	75.24
				5/11/12 (immediately post-AFVR)	23.61	28.55	4.94	75.11
				5/11/12 (20 minutes post-AFVR)	23.60	28.53	4.93	75.12
12175-MW26	30	10	99.89	5/10/12 (pre-AFVR)	--	25.84	--	74.05
				5/11/12 (immediately post-AFVR)	--	25.88	--	74.01
				5/11/12 (20 minutes post-AFVR)	--	25.87	--	74.02

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW2	34	15	100.42	5/31/12 (pre-AFVR)	24.39	28.16	3.77	75.09
				6/1/12 (immediately post-AFVR)	25.14	25.31	0.17	75.24
				6/1/12 (20 minutes post-AFVR)	25.30	25.61	0.31	75.04
12175-MW1	35	15	98.51	5/31/12 (pre-AFVR)	22.06	27.26	5.20	75.15
				6/1/12 (immediately post-AFVR)	22.13	27.33	5.20	75.08
				6/1/12 (20 minutes post-AFVR)	22.13	27.33	5.20	75.08
12175-MW5	29	10	98.05	5/31/12 (pre-AFVR)	21.68	26.32	4.64	75.21
				6/1/12 (immediately post-AFVR)	21.75	26.27	4.52	75.17
				6/1/12 (20 minutes post-AFVR)	21.75	26.27	4.52	75.17
12175-MW19	28	10	100.01	5/31/12 (pre-AFVR)	23.80	27.74	3.94	75.23
				6/1/12 (immediately post-AFVR)	23.87	27.75	3.88	75.17
				6/1/12 (20 minutes post-AFVR)	23.87	27.74	3.87	75.17
12175-MW24	30	10	100.23	5/31/12 (pre-AFVR)	--	25.13	--	75.10
				6/1/12 (immediately post-AFVR)	--	25.18	--	75.05
				6/1/12 (20 minutes post-AFVR)	--	25.20	--	75.03
12175-MW25	30	10	99.95	5/31/12 (pre-AFVR)	23.60	28.84	5.24	75.04
				6/1/12 (immediately post-AFVR)	23.65	28.73	5.08	75.03
				6/1/12 (20 minutes post-AFVR)	23.65	28.74	5.09	75.03
12175-MW26	30	10	99.89	5/31/12 (pre-AFVR)	--	25.97	--	73.92
				6/1/12 (immediately post-AFVR)	--	25.96	--	73.93
				6/1/12 (20 minutes post-AFVR)	--	25.96	--	73.93
12175-MW5	29	10	98.05	6/13/12 (pre-AFVR)	21.72	26.43	4.71	75.15
				6/14/12 (immediately post-AFVR)	--	26.35	--	71.70
				6/14/12 (20 minutes post-AFVR)	24.32	24.67	0.35	73.64
12175-MW1	35	15	98.51	6/13/12 (pre-AFVR)	22.13	27.56	5.43	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	22.13	27.58	5.45	75.02
12175-MW2	34	15	100.42	6/13/12 (pre-AFVR)	25.21	25.82	0.61	75.06
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	25.21	25.82	0.61	75.06
12175-MW3	34	15	100.44	6/13/12 (pre-AFVR)	--	25.28	--	75.16
				6/14/12 (immediately post-AFVR)	--	25.30	--	75.14
				6/14/12 (20 minutes post-AFVR)	--	25.30	--	75.14
12175-MW4	29	10	98.61	6/13/12 (pre-AFVR)	22.59	27.09	4.50	74.90
				6/14/12 (immediately post-AFVR)	22.61	27.11	4.50	74.88
				6/14/12 (20 minutes post-AFVR)	22.61	27.11	4.50	74.88
12175-MW6	29	10	99.82	6/13/12 (pre-AFVR)	--	24.67	--	75.15
				6/14/12 (immediately post-AFVR)	--	24.75	--	75.07
				6/14/12 (20 minutes post-AFVR)	--	24.73	--	75.09
12175-MW19	28	10	100.01	6/13/12 (pre-AFVR)	23.86	27.74	3.88	75.18
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.88	27.79	3.91	75.15
12175-MW24	30	10	100.23	6/13/12 (pre-AFVR)	--	25.18	--	75.05
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	25.22	--	75.01
12175-MW25	30	10	99.95	6/13/12 (pre-AFVR)	23.67	28.71	5.04	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.68	28.71	5.03	75.01
12175-MW26	30	10	99.89	6/13/12 (pre-AFVR)	--	26.00	--	73.89
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW19	28	10	100.01	6/28/12 (pre-AFVR)	23.87	27.75	3.88	75.17
				6/29/12 (immediately post-AFVR)	--	27.21	--	72.80
				6/29/12 (20 minutes post-AFVR)	25.38	25.70	0.32	74.55
12175-MW1	35	15	98.51	6/28/12 (pre-AFVR)	22.16	27.38	5.22	75.05
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	22.17	27.38	5.21	75.04
12175-MW2	34	15	100.42	6/28/12 (pre-AFVR)	25.19	25.94	0.75	75.04
				6/29/12 (immediately post-AFVR)	25.24	25.99	0.75	74.99
				6/29/12 (20 minutes post-AFVR)	25.22	25.97	0.75	75.01
12175-MW5	29	10	98.05	6/28/12 (pre-AFVR)	21.95	25.94	3.99	75.10
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	21.95	25.94	3.99	75.10
12175-MW24	30	10	100.23	6/28/12 (pre-AFVR)	--	25.19	--	75.04
				6/29/12 (immediately post-AFVR)	--	25.23	--	75.00
				6/29/12 (20 minutes post-AFVR)	--	25.27	--	74.96
12175-MW25	30	10	99.95	6/28/12 (pre-AFVR)	23.68	28.70	5.02	75.02
				6/29/12 (immediately post-AFVR)	23.74	28.76	5.02	74.96
				6/29/12 (20 minutes post-AFVR)	23.77	28.79	5.02	74.93
12175-MW26	30	10	99.89	6/28/12 (pre-AFVR)	--	25.98	--	73.91
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW1	35	15	98.51	7/30/2012 (gauging event)	22.44	27.95	5.51	74.69
12175-MW2	34	15	100.42	7/30/2012 (gauging event)	25.47	26.25	0.78	74.76
12175-MW5	29	10	98.05	7/30/2012 (gauging event)	22.17	26.71	4.54	74.75
12175-MW19	28	10	100.01	7/30/2012 (gauging event)	24.24	27.94	3.70	74.85
12175-MW24	30	10	100.23	7/30/2012 (gauging event)	--	25.50	--	74.73
12175-MW25	30	10	99.95	7/30/2012 (gauging event)	23.96	29.04	5.08	74.72
12175-MW26	30	10	99.89	7/30/2012 (gauging event)	--	26.28	--	73.61
12175-MW2	34	15	100.42	2/9/13 (pre-AFVR)	26.27	27.30	1.03	73.89
				2/10/13 (immediately post-AFVR)	--	27.20	--	73.22
				2/10/13 (20 minutes post-AFVR)	--	27.25	--	73.17
12175-MW19	28	10	100.01	2/9/13 (pre-AFVR)	25.19	27.92	2.73	74.14
				2/10/13 (immediately post-AFVR)	--	27.05	--	72.96
				2/10/13 (20 minutes post-AFVR)	26.70	26.80	0.10	73.29

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW25	30	10	99.95	2/9/13 (pre-AFVR)	24.92	29.61	4.69	73.86
				2/10/13 (immediately post-AFVR)	--	27.83	--	72.12
				2/10/13 (20 minutes post-AFVR)	--	26.41	--	73.54
12175-MW4	29	10	98.61	2/9/13 (pre-AFVR)	23.90	28.85	4.95	73.47
				2/10/13 (immediately post-AFVR)	24.06	28.23	4.17	73.51
				2/10/13 (20 minutes post-AFVR)	24.06	28.21	4.15	73.51
12175-MW24	30	10	100.23	2/9/13 (pre-AFVR)	--	26.35	--	73.88
				2/10/13 (immediately post-AFVR)	--	26.54	--	73.69
				2/10/13 (20 minutes post-AFVR)	--	26.57	--	73.66
12175-MW26	30	10	99.89	2/9/13 (pre-AFVR)	--	27.06	--	72.83
				2/10/13 (immediately post-AFVR)	--	27.11	--	72.78
				2/10/13 (20 minutes post-AFVR)	--	27.12	--	72.77
12175-MW1	35	15	98.51	2/10/13 (pre-AFVR)	23.47	28.71	5.24	73.73
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	24.63	25.23	0.60	73.73
12175-MW4	29	10	98.61	2/10/13 (pre-AFVR)	24.06	28.23	4.17	73.51
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	25.11	25.17	0.06	73.49
12175-MW5	29	10	98.05	2/10/13 (pre-AFVR)	23.06	27.80	4.74	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	23.88	23.89	0.01	74.17
12175-MW3	34	15	100.44	2/10/13 (pre-AFVR)	--	26.56	--	73.88
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.56	--	73.88
12175-MW6	29	10	99.82	2/10/13 (pre-AFVR)	--	26.01	--	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.03	--	73.79
12175-MW15	27	10	98.47	2/10/13 (pre-AFVR)	--	25.24	--	73.23
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	25.23	--	73.24
12175-MW1	35	15	98.51	3/12/2013 (gauging event)	22.42	27.00	4.58	74.95
12175-MW2	34	15	100.42	3/12/2013 (gauging event)	25.53	25.56	0.03	74.88
12175-MW4	29	10	98.61	3/12/2013 (gauging event)	23.82	24.12	0.30	74.72
12175-MW5	29	10	98.05	3/12/2013 (gauging event)	22.65	24.35	1.70	74.98
12175-MW19	28	10	100.01	3/12/2013 (gauging event)	24.53	27.95	3.42	74.63
12175-MW24	30	10	100.23	3/12/2013 (gauging event)	--	25.37	--	74.86
12175-MW25	30	10	99.95	3/12/2013 (gauging event)	24.18	28.02	3.84	74.81
12175-MW26	30	10	99.89	3/12/2013 (gauging event)	--	26.01	--	73.88
12175-RW1	30	10	98.05	6/5/13 (pre-AFVR)	21.34	22.02	0.68	76.54
				6/6/13 (immediately post-AFVR)	--	23.07	--	74.98
				6/6/13 (20 minutes post-AFVR)	22.93	22.98	0.05	75.11
12175-MW3	34	15	100.44	6/5/13 (pre-AFVR)	--	23.90	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.95	--	76.49
				6/6/13 (20 minutes post-AFVR)	--	23.95	--	76.49
12175-MW4	29	10	98.61	6/5/13 (pre-AFVR)	22.02	23.30	1.48	76.22
				6/6/13 (immediately post-AFVR)	22.09	23.65	1.56	76.13
				6/6/13 (20 minutes post-AFVR)	22.10	23.62	1.52	76.13
12175-MW6	29	10	99.82	6/5/13 (pre-AFVR)	--	23.28	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.47	--	76.35
				6/6/13 (20 minutes post-AFVR)	--	23.48	--	76.34
12175-RW2	30	10	100.05	6/20/13 (pre-AFVR)	22.64	25.92	3.28	76.59
				6/21/13 (immediately post-AFVR)	--	26.90	--	73.15
				6/21/13 (20 minutes post-AFVR)	25.44	25.57	0.13	74.58
12175-MW19	28	10	100.01	6/20/13 (pre-AFVR)	22.85	25.89	3.04	76.40
				6/21/13 (immediately post-AFVR)	23.04	26.02	2.98	76.23
				6/21/13 (20 minutes post-AFVR)	23.15	26.13	2.98	76.12
12175-MW24	30	10	100.23	6/20/13 (pre-AFVR)	--	23.60	--	76.63
				6/21/13 (immediately post-AFVR)	--	23.68	--	76.55
				6/21/13 (20 minutes post-AFVR)	--	23.72	--	76.51
12175-MW25	30	10	99.95	6/20/13 (pre-AFVR)	22.55	25.80	3.25	76.59
				6/21/13 (immediately post-AFVR)	23.86	23.89	0.03	76.08
				6/21/13 (20 minutes post-AFVR)	23.78	23.82	0.04	76.16
12175-RW3	30	10	100.16	7/15/13 (pre-AFVR)	--	22.91	--	77.25
				7/16/13 (immediately post-AFVR)	--	24.52	--	75.64
				7/16/13 (20 minutes post-AFVR)	--	24.28	--	75.88
12175-MW18	28	10	101.51	7/15/13 (pre-AFVR)	--	24.12	--	77.39
				7/16/13 (immediately post-AFVR)	--	24.16	--	77.35
				7/16/13 (20 minutes post-AFVR)	--	24.15	--	77.36
12175-MW24	30	10	100.23	7/15/13 (pre-AFVR)	--	23.01	--	77.22
				7/16/13 (immediately post-AFVR)	--	23.27	--	76.96
				7/16/13 (20 minutes post-AFVR)	--	23.27	--	76.96
12175-MW25	30	10	99.95	7/15/13 (pre-AFVR)	22.14	24.64	2.50	77.19
				7/16/13 (immediately post-AFVR)	22.23	25.02	2.79	77.02
				7/16/13 (20 minutes post-AFVR)	22.23	24.97	2.74	77.04
12175-RW1	30	10	98.05	11/4/13 (pre-AFVR)	20.05	21.15	1.10	77.73
				11/5/13 (immediately post-AFVR)	--	24.02	--	74.03
				11/5/13 (20 minutes post-AFVR)	--	22.71	--	75.34
12175-MW3	34	15	100.44	11/4/13 (pre-AFVR)	--	22.56	--	77.88
				11/5/13 (immediately post-AFVR)	--	22.64	--	77.80
				11/5/13 (20 minutes post-AFVR)	--	22.66	--	77.78
12175-MW4	29	10	98.61	11/4/13 (pre-AFVR)	20.85	22.04	1.19	77.46
				11/5/13 (immediately post-AFVR)	20.94	22.15	1.21	77.37
				11/5/13 (20 minutes post-AFVR)	20.93	22.14	1.21	77.38
12175-MW6	29	10	99.82	11/4/13 (pre-AFVR)	--	21.93	--	77.89
				11/5/13 (immediately post-AFVR)	--	22.16	--	77.66
				11/5/13 (20 minutes post-AFVR)	--	22.15	--	77.67

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	11/18/13 (pre-AFVR)	21.68	25.22	3.54	77.49
				11/19/13 (immediately post-AFVR)	--	25.82	--	74.23
				11/19/13 (20 minutes post-AFVR)	24.57	24.72	0.15	75.44
12175-MW19	28	10	100.01	11/18/13 (pre-AFVR)	22.22	24.23	2.01	77.29
				11/19/13 (immediately post-AFVR)	22.11	24.20	2.09	77.38
				11/19/13 (20 minutes post-AFVR)	22.56	24.72	2.16	76.91
12175-MW24	30	10	100.23	11/18/13 (pre-AFVR)	--	22.71	--	77.52
				11/19/13 (immediately post-AFVR)	--	22.86	--	77.37
				11/19/13 (20 minutes post-AFVR)	--	22.88	--	77.35
12175-MW25	30	10	99.95	11/18/13 (pre-AFVR)	21.44	25.05	3.61	77.61
				11/19/13 (immediately post-AFVR)	22.36	23.38	1.02	77.34
				11/19/13 (20 minutes post-AFVR)	22.70	23.41	0.71	77.07
12175-MW17	28	10	101.09	12/9/13 (pre-AFVR)	23.18	25.17	1.99	77.41
				12/10/13 (immediately post-AFVR)	--	25.69	--	75.40
				12/10/13 (20 minutes post-AFVR)	--	24.13	--	76.96
12175-MW11	31	10	101.65	12/9/13 (pre-AFVR)	--	24.25	--	77.40
				12/10/13 (immediately post-AFVR)	--	24.30	--	77.35
				12/10/13 (20 minutes post-AFVR)	--	24.32	--	77.33
12175-MW23	31	10	102.29	12/9/13 (pre-AFVR)	--	24.97	--	77.32
				12/10/13 (immediately post-AFVR)	--	24.97	--	77.32
				12/10/13 (20 minutes post-AFVR)	--	24.97	--	77.32
12175-RW2	30	10	100.05	12/9/13 (pre-AFVR)	--	22.65	--	77.40
				12/10/13 (immediately post-AFVR)	--	22.68	--	77.37
				12/10/13 (20 minutes post-AFVR)	--	22.67	--	77.38
12175-RW2	30	10	100.05	5/27/14 (pre-AFVR)	19.33	21.70	2.37	80.13
12175-MW2	34	15	100.42	5/27/14 (pre-AFVR)	20.12	20.69	0.57	80.16
12175-MW6	29	10	99.82	5/27/14 (pre-AFVR)	--	19.41	--	80.41
12175-MW24	30	10	100.23	5/27/14 (pre-AFVR)	--	20.14	--	80.09
12175-RW2	30	10	100.05	6/2/14 (pre-AFVR)	19.71	20.32	0.61	80.19
				6/6/14 (immediately post-AFVR)	--	24.30	--	75.75
				6/6/14 (20 minutes post-AFVR)	--	22.91	--	77.14
12175-MW2	34	15	100.42	6/2/14 (pre-AFVR)	20.10	20.61	0.51	80.19
				6/6/14 (immediately post-AFVR)	20.29	20.93	0.64	79.97
				6/6/14 (20 minutes post-AFVR)	20.29	20.94	0.65	79.97
12175-MW6	29	10	99.82	6/2/14 (pre-AFVR)	--	19.37	--	80.45
				6/6/14 (immediately post-AFVR)	--	19.67	--	80.15
				6/6/14 (20 minutes post-AFVR)	--	19.67	--	80.15
12175-MW24	30	10	100.23	6/2/14 (pre-AFVR)	--	20.07	--	80.16
				6/6/14 (immediately post-AFVR)	--	20.28	--	79.95
				6/6/14 (20 minutes post-AFVR)	--	20.20	--	80.03
12175-MW26	30	10	99.89	6/2/14 (pre-AFVR)	NM	NM	NM	NM
				6/6/14 (immediately post-AFVR)	--	20.76	--	79.13
				6/6/14 (20 minutes post-AFVR)	--	20.78	--	79.11
12175-RW1	30	10	98.05	6/16/14 (pre-AFVR)	17.65	17.67	0.02	80.40
				6/20/14 (immediately post-AFVR)	--	22.29	--	75.76
				6/20/14 (20 minutes post-AFVR)	--	21.00	--	77.05
12175-MW3	34	15	100.44	6/16/14 (pre-AFVR)	--	20.10	--	80.34
				6/20/14 (immediately post-AFVR)	--	20.24	--	80.20
				6/20/14 (20 minutes post-AFVR)	--	20.24	--	80.20
12175-MW6	29	10	99.82	6/16/14 (pre-AFVR)	--	19.48	--	80.34
				6/20/14 (immediately post-AFVR)	--	19.79	--	80.03
				6/20/14 (20 minutes post-AFVR)	--	19.79	--	80.03
12175-MW15	27	10	98.47	6/16/14 (pre-AFVR)	--	18.19	--	80.28
				6/20/14 (immediately post-AFVR)	--	18.16	--	80.31
				6/20/14 (20 minutes post-AFVR)	--	18.15	--	80.32
12175-MW1	35	15	98.51	1/4/16 (Pre-AFVR)	17.25	20.80	3.55	75.05
				1/8/16 (immediately post-AFVR)	--	24.75	--	73.76
				1/8/16 (20 minutes post-AFVR)	--	21.56	--	76.95
12175-MW4	29	10	98.61	1/4/16 (Pre-AFVR)	18.25	18.55	0.30	79.84
				1/8/16 (immediately post-AFVR)	--	25.14	--	73.47
				1/8/16 (20 minutes post-AFVR)	--	20.66	--	77.95
12175-MW5	29	10	98.05	1/4/16 (Pre-AFVR)	17.40	17.70	0.30	80.13
				1/8/16 (immediately post-AFVR)	--	22.90	--	75.15
				1/8/16 (20 minutes post-AFVR)	--	21.61	--	76.44
12175-RW1	30	10	98.05	1/4/16 (Pre-AFVR)	--	17.51	--	80.54
				1/8/16 (immediately post-AFVR)	--	21.15	--	76.90
				1/8/16 (20 minutes post-AFVR)	--	21.50	--	76.55
12175-MW18	28	10	101.51	1/4/16 (Pre-AFVR)	--	19.91	--	81.60
				1/8/16 (immediately post-AFVR)	--	21.40	--	80.11
				1/8/16 (20 minutes post-AFVR)	--	21.39	--	80.12
12175-MW15	27	10	98.47	1/4/16 (Pre-AFVR)	--	21.30	--	77.17
				1/8/16 (immediately post-AFVR)	--	17.55	--	80.92
				1/8/16 (20 minutes post-AFVR)	--	17.55	--	80.92
12175-MW3	34	15	100.44	1/4/16 (Pre-AFVR)	--	17.45	--	82.99
				1/8/16 (immediately post-AFVR)	--	20.20	--	80.24
				1/8/16 (20 minutes post-AFVR)	--	20.20	--	80.24
12175-MW2	34	15	100.42	1/11/16 (Pre-AFVR)	20.22	20.89	0.67	79.03
				1/15/16 (immediately post-AFVR)	--	20.04	--	80.38
				1/15/16 (20 minutes post-AFVR)	--	20.60	--	79.82
12175-MW19	28	10	100.01	1/11/16 (Pre-AFVR)	19.96	20.41	0.45	79.26
				1/15/16 (immediately post-AFVR)	--	22.51	--	77.50
				1/15/16 (20 minutes post-AFVR)	--	20.92	--	79.09
12175-MW25	30	10	99.95	1/11/16 (Pre-AFVR)	19.18	22.11	2.93	75.64
				1/15/16 (immediately post-AFVR)	--	22.00	--	77.95
				1/15/16 (20 minutes post-AFVR)	--	20.74	--	79.21
12175-RW2	30	10	100.05	1/11/16 (Pre-AFVR)	19.10	22.35	3.25	74.75
				1/15/16 (immediately post-AFVR)	--	21.65	--	78.40
				1/15/16 (20 minutes post-AFVR)	21.90	22.20	0.30	77.63
12175-RW3	30	10	100.16	1/11/16 (Pre-AFVR)	--	20.08	--	80.08
				1/15/16 (immediately post-AFVR)	--	19.57	--	80.59
				1/15/16 (20 minutes post-AFVR)	--	20.19	--	79.97
12175-MW18	28	10	101.51	1/11/16 (Pre-AFVR)	--	21.40	--	80.11
				1/15/16 (immediately post-AFVR)	--	21.42	--	80.09
				1/15/16 (20 minutes post-AFVR)	--	21.41	--	80.10
12175-MW3	34	15	100.44	1/11/16 (Pre-AFVR)	--	20.05	--	80.39
				1/15/16 (immediately post-AFVR)	--	20.05	--	80.39
				1/15/16 (20 minutes post-AFVR)	--	20.04	--	80.40

- Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.
- Groundwater elevation adjusted for the presence of free product, where present, with an assumed density of 0.75 g/cm<sup>3</sup>.
- Well depths and screened intervals based on well construction records referencing ground surface.
- Depths to fluid measured referencing top of casing as measuring point.
- NM represents not measured.
- represents free phase product was not detected.

## FIGURES

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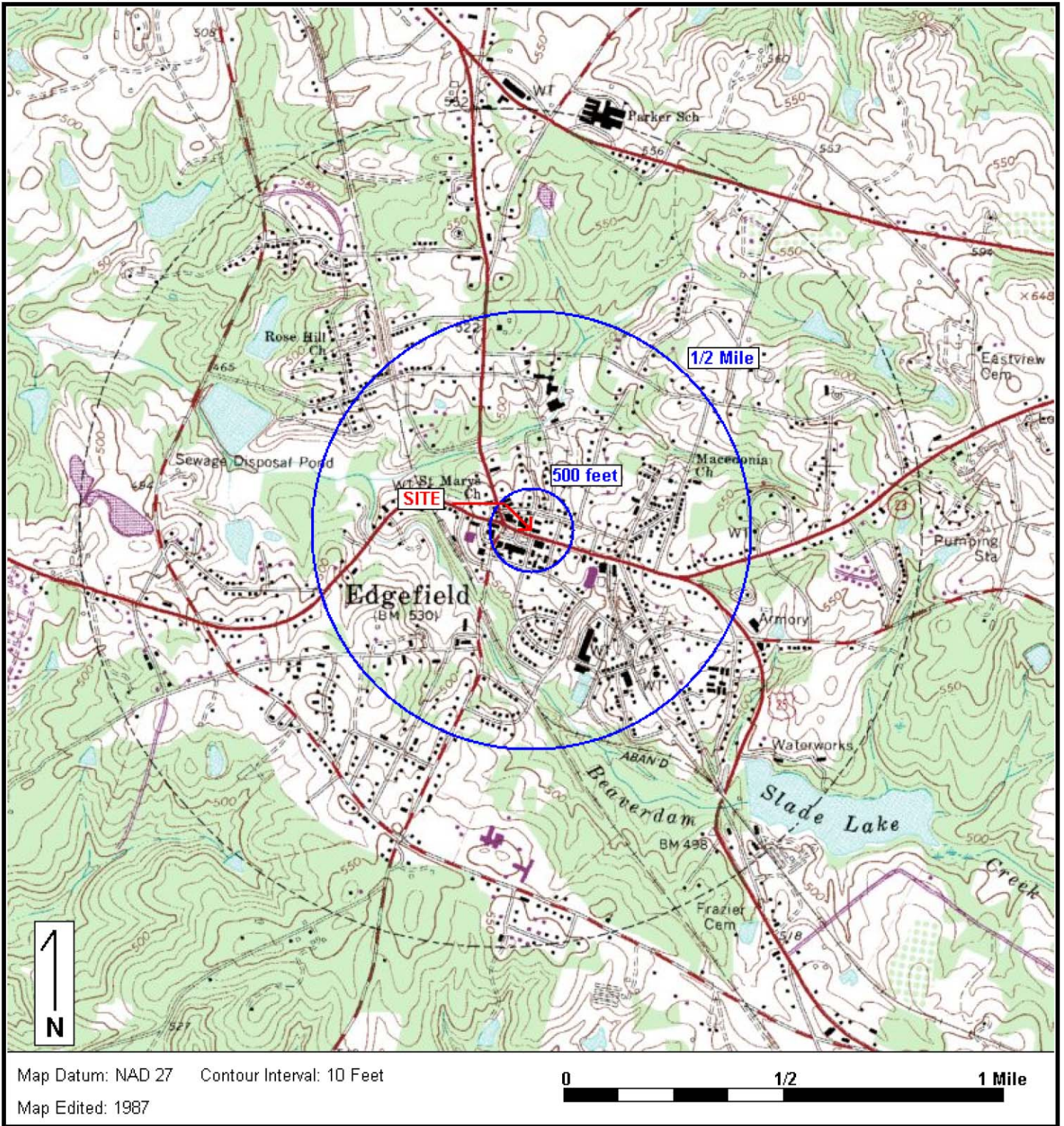




Environmental Compliance Services, Inc.  
 13504 South Point Boulevard  
 Charlotte, NC 28273  
 Phone 704.583.2711  
 www.ecsconsult.com

Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, SC 29824

Figure 1: SITE LOCUS

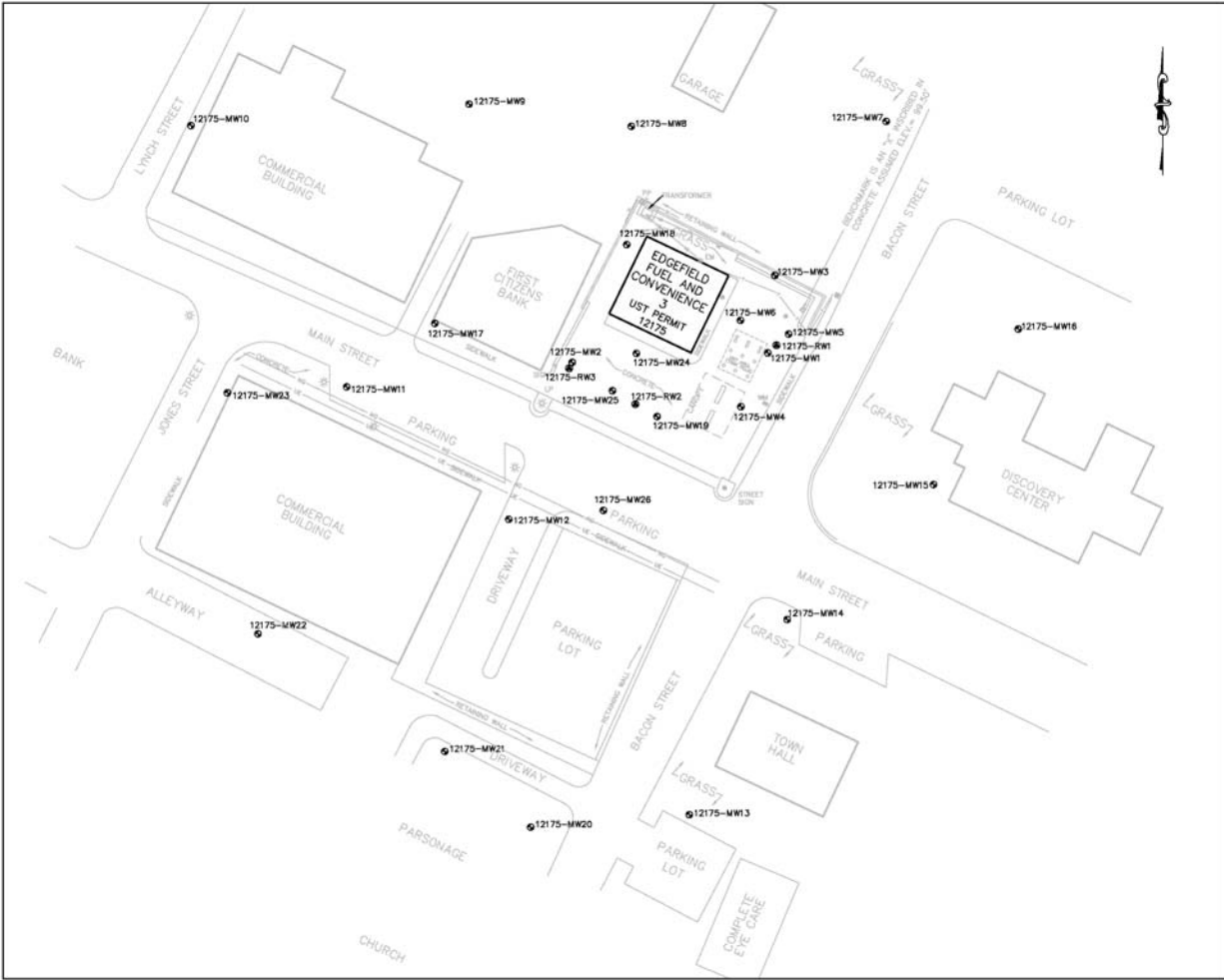


Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins





**Legend**

- UE— Underground Electric Line
- WF— Wood Fence Line
- T— Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ⊕ Light Pole
- ⊕ Light Pole
- ⊕ Shallow (Water Table) Monitoring Well
- ⊕ Recovery Well
- 12175-MW1 Well ID

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.



WHERE ENGINEERING AND THE ENVIRONMENT CONVERGE  
 13004 SOUTH POINT BLVD, UNIT F  
 CHARLOTTE, NORTH CAROLINA 28275  
 TEL: (704)663-2711 FAX: (704)663-2744

PROJECT	Edgefield Fuel & Convenience 3		
TITLE	Site Plan		
CLIENT	Edgefield Fuel & Convenience, LLC		
DRAWN BY	KBP	DESIGNED BY	AW
CHECKED BY	CK	APPROVED BY	CK
SCALE	1"=50'	DATE	6/10/13
FIGURE NO.	14-211651	FIGURE NO.	2



**APPENDIX G**

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**Disposal Manifest**

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page	of
Zebra Job No. 60001	

## GENERATOR INFORMATION

Name <b>ECS, Edgefield Fuel &amp; Conv</b>		US EPA ID No.
Street Address <b>311 main st</b>	Mailing Address	Phone No. <b>583 2744</b>
<b>Edgefield SC</b>		Contact <b>BRIAN</b>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	<b>NON HAZ liquids</b>	<b>/</b>	<b>/</b>	<b>/</b>	<b>1</b>	<b>TT</b>	<b>5112</b>	<b>G</b>
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <b>Kerry Wright</b>	Signature <i>[Signature]</i>	Mo. / Day / Yr. <b>1/5/16</b>
---	---------------------------------	----------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>[Signature]</i>	Shipment Date <b>1-5-16</b>
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <b>KT4 T-11</b>	Signature	Delivery Date
Phone <b>(336) 841-5276</b>		

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature	Receipt Date
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	

# MATERIAL MANIFEST



14-211051

EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.

Page 1 of 1

Zebra Job No. 0001

## GENERATOR INFORMATION

Name <u>Edgefield Pool &amp; Concessions</u>		US EPA ID No.
Street Address <u>311 Majest. Edgefield S.C 29824</u>	Mailing Address	Phone No.
		Contact <u>David</u>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	<u>NON-HAZ. NON-REF. LIQUIDS (MIX)</u>	<u>9999</u>	<u>9999</u>	<u>III</u>	<u>1</u>	<u>55</u>	<u>4623</u>	<u>0</u>
b.								
c.								

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a. <u>Petroleum Contain. Containers</u>			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <u>Brian K. Deay</u> <i>agent of Joel Jolly</i>	Signature <u>Brian K. Deay</u> <i>agent of Joel Jolly</i>	Mo. / Day / Yr. <u>1 6 2016</u>
---	--	------------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <u>[Signature]</u>	Shipment Date <u>1-6-2016</u>
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <u>97-87-10</u>	Signature <u>[Signature]</u>	Delivery Date <u>1-6-2016</u>
Phone <b>(336) 841-5276</b>		

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <u>[Signature]</u>	Receipt Date
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	

# MATERIAL MANIFEST



H. 211051

EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page 1	of 1
Zebra Job No. 61001	

## GENERATOR INFORMATION

Name <b>EDLEFIELD FUEL &amp; CONVEYANCE #3</b>		US EPA ID No.
Street Address <b>311 MAIN ST.</b>	Mailing Address	Phone No. <b>704-583-2744</b>
<b>EDLEFIELD SC</b>		Contact <b>Brewer</b>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers		Total Quantity	Unit Wt./Vol.
					Qty.	Type		
a.	<b>NON HAZARDOUS LIQUIDS - AQS</b>				1	TT	5273	G.
b.								
c.								

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a. <b>AWAKE WATER</b>			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <b>Brian K. P...</b>	Signature <i>[Signature]</i>	Mo. / Day / Yr. <b>11/7/10</b>
--	---------------------------------	-----------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>[Signature]</i>	Mo. / Day / Yr. <b>11/7/10</b>
Transporter or EPA ID No. <b>NCO991302669</b>	Unit No. <b>PT/TH</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone <b>(336) 841-5276</b>	Signature	Delivery Date

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature	Receipt Date
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page	of
Zebra Job No. 60001	

## GENERATOR INFORMATION

Name EGP		US EPA ID No.
Street Address 311 Main St Edgefield SC	Mailing Address	Phone No.
		Contact

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers		Total Quantity	Unit Wt./Vol.
					Qty.	Type		
a.	Non Haz liquids NOS				1	TT	5025	G
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
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## TRANSPORTER INFORMATION

Transporter Zebra Environmental & Industrial Services Inc	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address 901 East Springfield Road High Point, NC 27263	Signature	Shipment Date 1/8/16
Transporter or EPA ID No. NCO991302669	Unit No. R12 + 6	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone (336) 841-5276	Signature	Delivery Date 1/8/16

## FACILITY INFORMATION

Facility Zebra Environmental & Industrial Services, Inc.	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address 901 East Springfield Road High Point, NC 27263	Signature	Receipt Date 1/8/16
Facility or EPA ID No. NCO991302669	Discrepancies / Routing Codes / Handling Methods	
Phone (336) 841-5276	a.	
Contact David Tedder	b.	
	c.	

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	01
Page	of 11
Zebra Job No.	60001

## GENERATOR INFORMATION

Name	EDGEFIELD FUEL & CONVENIENCE #3	US EPA ID No.	
Street Address	311 MAIN ST EDGEFIELD S.C.	Mailing Address	ECS
		Phone No.	704 583 2744
		Contact	NOELLE FRANCE

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	NON HAZARDOUS LIQUID ACES	N/A	N/A	N/A	1	IT	5310	G
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			PETRO CONTACT WATER FOR RECYCLE
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
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## TRANSPORTER INFORMATION

Transporter	Zebra Environmental & Industrial Services Inc	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address	901 East Springfield Road High Point, NC 27263	Signature	TERRY POTTS 1-13-16 Shipment Date
Transporter or EPA ID No.	NCO991302669	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No.	RT-7/T-1	Signature	1-13-16 Delivery Date
Phone	(336) 841-5276		

## FACILITY INFORMATION

Facility	Zebra Environmental & Industrial Services, Inc.	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address	901 East Springfield Road High Point, NC 27263	Signature	4/13/16 Receipt Date
Facility or EPA ID No.	NCO991302669	Discrepancies / Routing Codes / Handling Methods	
Phone	(336) 841-5276	a.	
Contact	David Tedder	b.	
		c.	



# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page	of
Zebra Job No.	

## GENERATOR INFORMATION

Name <b>EDGEFIELD FUEL</b>		US EPA ID No.
Street Address <b>311 MAIN ST EDGEFIELD SC</b>	Mailing Address	Phone No.
		Contact

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	<b>NOS Liquids</b>	/	/	/	1	TT	5012	6
b.								
c.								

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
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## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>[Signature]</i>	Shipment Date <b>1/15/16</b>
Transporter or EPA ID No. <b>NCO991302669</b>	Unit No. <b>21-5-176</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone <b>(336) 841-5276</b>	Signature <i>[Signature]</i>	Delivery Date <b>1/15/16</b>

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>[Signature]</i>	Receipt Date <b>1/15/16</b>
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	



**Data Verification Checklist**

## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			✓
34	Has the current and historical laboratory data been provided in tabular format?			✓
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			✓
40	Has the site potentiometric map been provided? (Figure 5)			✓
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			✓
45	Is the laboratory performing the analyses properly certified?			✓
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		

Explanation for missing and incomplete information?

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Project Verifier (signature) \_\_\_\_\_

(print name) Kenneth J. Perignat, PE \_\_\_\_\_

Date \_\_\_\_\_



**Aggressive Fluid Vapor Recovery Event Data  
Including: Before & After Data;  
Field Data Sheets;  
Air Flow Calculations;  
Pre-Treatment Emission Calculations; and  
Post-Treatment Emission Calculations**

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>Edgefield Fuel and Conv #3</u>	UST Permit No:	<u>12175</u>
Project No:	<u>14-211651</u>	ECS Field Rep. 1:	<u>K. Wright</u>
Start Date:	<u>1/4/2016</u>	ECS Field Rep. 2:	<u>B. Peay</u>
End Date:	<u>1/8/2016</u>		

AFVR Measurements Prior to and After Event

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>	
Water Tank Storage Capacity:	<u>9,600</u>	gallons
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches
Is Tank Empty & Clean (Y/N)	<u>Y</u>	

**Measurements Before AFVR Event**                      **1/4/2016**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>0</u>	gallons
Transfer Pump Flow Meter	<u>569,714</u>	gallons

**Measurements After AFVR Event**                      **1/8/2016**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>3,229</u>	gallons
Transfer Pump Flow Meter	<u>591,544</u>	gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
<b>12175-MW1</b>	17.25	20.80	NP	24.75	NP	21.56
<b>12174-MW4</b>	18.25	18.55	NP	25.14	NP	20.66
<b>12175-MW5</b>	17.40	17.70	NP	22.90	NP	21.61
<b>12175-RW1</b>	NP	17.51	NP	21.15	NP	21.50
<b>12175-MW18</b>	NP	19.91	NP	21.40	NP	21.39
<b>12175-MW15</b>	NP	21.30	NP	17.55	NP	17.55
<b>12175-MW3</b>	NP	17.45	NP	20.20	NP	20.20

NP denotes no measurable free product.

NM denotes not measured.



Project: Edgefield Fuel and Conv #3  
 Project: 14-211651  
 Date: 1/4/16-1/8/16

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ECS Field Rep. 1: K. Wright  
 ECS Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																				PID	
		Stack Outlet				Blower Vacuum (in.Hg)	AFVR Wells								Non-AFVR Wells						Pre-Treatment		
		Date & Time	Air Flow (fpm)	Temperature (°F)	R.H. (%)		TLV (ppm) Pre-Treatment	Post-Treatment	12175-MW1 Vacuum (in.Hg)	Stinger Depth (ft.)	12174-MW4 Vacuum (in.Hg)	Stinger Depth (ft.)	12175-MW5 Vacuum (in.Hg)	Stinger Depth (ft.)	12175-RW1 Vacuum (in.Hg)	Stinger Depth (ft.)	12175-MW18 DTW (ft)	Vacuum (in.wc)	12175-MW15 DTW (ft)	Vacuum (in.wc)			12175-MW3 DTW (ft)
		1/4/16 12:00	← Start time																				
1 hr	30	1/4/16 12:30	350.0	91.4	86.1	100000	10	23.0	11.50	17.75	15.00	18.75	19.50	17.90	15.00	17.50		0.05		0.00		0.05	3172
	30	1/4/16 13:00	341.0	94.1	89.9	100000	20	26.0	12.00	18.25	15.00	19.25	21.00	18.40	15.00	18.00		0.05		0.00		0.05	2850
2 hr	30	1/4/16 13:30	343.0	94.5	89.9	100000	40	25.5	12.00	18.75	15.00	19.75	21.00	18.90	15.50	18.50		0.05		0.00		0.05	3171
	30	1/4/16 14:00	325.0	94.3	88.7	100000	0	26.5	12.00	19.25	15.00	20.25	21.00	19.40	15.50	19.00		0.05		0.00		0.05	7532
3 hr	30	1/4/16 14:30	319.0	93.8	89.1	100000	0	26.5	12.00	19.75	15.00	20.75	21.00	19.90	15.50	19.50		0.05		0.00		0.05	4045
	30	1/4/16 15:00	310.0	94.2	88.5	100000	2	26.5	12.00	20.25	15.00	21.25	21.00	20.40	15.50	20.00		0.05		0.00		0.05	3515
4 hr	30	1/4/16 15:30	287.0	93.7	88.3	100000	0	26.5	12.00	20.75	15.00	21.75	21.00	20.90	15.50	20.50		0.05		0.00		0.05	3621
	30	1/4/16 16:00	291.0	92.7	88.4	100000	2	26.5	12.00	21.25	15.00	22.25	21.00	21.40	15.00	21.00		0.05		0.00		0.05	1588
5 hr	30	1/4/16 16:30	321.0	93.4	91.6	100000	2	26.5	11.00	21.75	15.00	22.75	21.00	21.90	15.00	21.50		0.05		0.00		0.05	1581
	30	1/4/16 17:00	269.0	90.8	89.4	100000	2	28.0	11.00	22.25	15.00	23.25	16.00	22.40	12.00	22.00		0.05		0.00		0.05	1600
6 hr	30	1/4/16 17:30	321.0	89.4	95.0	100000	2	26.0	11.00	23.25	14.00	24.25	16.50	23.40	13.00	23.00		0.05		0.00		0.05	1600
	30	1/4/16 18:00	304.0	83.7	95.6	100000	6	26.0	11.00	23.75	14.00	24.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	1653
7 hr	30	1/4/16 18:30	304.0	80.8	94.1	100000	6	26.0	10.00	24.75	15.00	24.75	19.00	24.90	5.00	24.50		0.05		0.00		0.05	1600
	30	1/4/16 19:00	304.0	76.6	94.6	100000	8	26.0	10.00	25.25	16.00	25.25	19.00	25.40	5.00	25.00		0.05		0.00		0.05	1588
8 hr	30	1/4/16 19:30	304.0	76.0	92.5	100000	6	26.0	11.00	26.25	16.00	26.25	17.00	25.90	12.50	25.50		0.05		0.00		0.05	1600
	30	1/4/16 20:00	297.0	74.8	87.5	100000	8	26.0	11.00	27.00	16.00	27.00	17.00	27.00	12.00	27.00		0.05		0.00		0.05	1581
9 hr	60	1/4/16 21:00	287.0	77.2	94.9	100000	10	26.0	11.00	27.00	15.00	27.00	16.00	27.00	13.00	27.00		0.05		0.00		0.05	1653
10 hr	60	1/4/16 22:00	373.0	81.3	95.1	100000	12	26.0	11.00	25.00	15.00	24.75	16.00	24.90	14.00	25.00		0.05		0.00		0.05	1600
11 hr	60	1/4/16 23:00	363.0	78.2	89.5	100000	8	26.0	11.00	25.00	15.00	23.75	16.00	23.90	14.00	23.50		0.05		0.00		0.05	1633
12 hr	60	1/5/16 0:00	356.0	74.5	86.1	100000	8	26.0	11.00	23.75	15.00	23.75	16.00	23.90	14.00	23.50		0.05		0.00		0.05	1587
13 hr	60	1/5/16 1:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
14 hr	60	1/5/16 2:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
15 hr	60	1/5/16 3:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
16 hr	60	1/5/16 4:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
17 hr	60	1/5/16 5:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
18 hr	60	1/5/16 6:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1604
19 hr	60	1/5/16 7:00	349.5	72.7	85.8	100000	6	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1621
20 hr	60	1/5/16 8:00	343.0	70.8	85.4	100000	4	26.0	11.00	23.75	15.00	23.75	15.00	23.90	14.00	23.50		0.05		0.00		0.05	1795
21 hr	60	1/5/16 9:00	325.0	76.1	86.3	100000	6	26.5	11.00	23.75	15.00	23.75	15.00	23.90	14.00	23.50		0.05		0.00		0.05	1658
22 hr	60	1/5/16 10:00	313.0	79.2	90.8	100000	10	26.5	11.00	23.75	15.00	23.75	15.50	23.90	14.50	23.50		0.05		0.00		0.05	1781
23 hr	60	1/5/16 11:00	310.0	85.4	91.4	100000	8	26.5	11.00	23.75	15.00	23.75	15.50	23.90	14.50	23.50		0.05		0.00		0.05	1688
24 hr	60	1/5/16 12:00	304.0	99.3	98.0	100000	8	26.5	11.00	23.75	15.00	23.75	15.50	23.90	14.50	23.50		0.05		0.00		0.05	1908
26 hr	120	1/5/16 14:00	285.0	104.8	95.3	100000	8	26.0	11.00	23.75	15.00	23.75	15.50	23.90	14.00	23.50		0.05		0.00		0.05	1872
28 hr	120	1/5/16 16:00	322.0	96.3	88.9	100000	2	26.0	11.00	23.75	15.00	23.75	15.00	23.90	14.00	23.50		0.05		0.00		0.05	1861
30 hr	120	1/5/16 18:00	339.0	91.6	96.4	100000	2	26.0	10.00	23.75	12.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	1887
32 hr	120	1/5/16 20:00	408.0	84.9	96.1	100000	8	26.0	10.00	23.75	14.00	23.75	16.00	23.90	13.00	23.50		0.05		0.00		0.05	1812
34 hr	120	1/5/16 22:00	391.0	81.9	96.1	100000	10	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	1831
38 hr	120	1/8/16 0:00	341.0	80.3	96.1	100000	10	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	5485

Project: Edgefield Fuel and Conv #3  
 Project: 14-211651  
 Date: 1/4/16-1/8/16

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ECS Field Rep. 1: K. Wright  
 ECS Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																				PID		
		Date & Time	Stack Outlet			Blower Vacuum (in.Hg)	AFVR Wells								Non-AFVR Wells						Pre-Treatment			
			Air Flow (fpm)	Temperature (°F)	R.H. (%)		TLV (ppm)		12175-MW1		12174-MW4		12175-MW5		12175-RW1		12175-MW18		12175-MW15				12175-MW3	
							Pre-Treatment	Post-Treatment	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)			DTW (ft)	Vacuum (in.wc)
		1/4/16 12:00	← Start time																					
38 hr	120	1/8/16 2:00	362.5	80.2	95.8	100000	9	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	5485	
40 hr	120	1/8/16 4:00	362.5	80.2	95.8	100000	9	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	5485	
42 hr	120	1/8/16 6:00	362.5	80.2	95.8	100000	9	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	9138	
44 hr	120	1/8/16 8:00	334.0	78.4	95.4	100000	8	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	6434	
46 hr	120	1/8/16 10:00	343.0	88.2	95.1	100000	8	26.0	10.00	23.75	13.00	23.75	16.00	23.90	13.00	23.50		0.05		0.00		0.05	8531	
48 hr	120	1/8/16 12:00	371.0	103.3	95.3	100000	8	26.0	10.00	23.75	13.00	23.75	15.50	23.90	13.00	23.50		0.05		0.00		0.05	6800	
50 hr	120	1/8/16 14:00	365.0	106.1	94.3	100000	6	26.0	10.00	23.75	13.00	23.75	15.50	23.90	13.00	23.50		0.05		0.00		0.05	6231	
52 hr	120	1/8/16 16:00	351.0	104.3	94.8	98000	2	26.0	10.00	23.75	13.00	23.75	16.00	23.90	12.00	23.50		0.05		0.00		0.05	8784	
54 hr	120	1/8/16 18:00	373.0	84.0	96.3	100000	8	26.0	11.00	22.75	14.00	22.75	16.00	22.90	14.00	22.50		0.05		0.00		0.05	8321	
56 hr	120	1/8/16 20:00	321.0	89.1	96.5	100000	8	26.0	11.00	22.75	14.00	22.75	16.00	22.90	14.00	22.50		0.05		0.00		0.05	4450	
58 hr	120	1/8/16 22:00	373.0	82.2	94.5	100000	6	26.0	11.00	22.75	14.00	22.75	16.00	22.90	14.00	22.50		0.05		0.00		0.05	4381	
60 hr	120	1/7/16 0:00	343.0	81.7	92.7	100000	6	26.0	11.00	22.75	14.00	22.75	16.00	22.90	14.00	22.50		0.05		0.00		0.05	5415	
62 hr	120	1/7/16 2:00	350.5	81.5	94.3	100000	6	26.0	11.00	22.75	14.00	22.75	15.75	22.90	14.00	22.50		0.05		0.00		0.05	5415	
64 hr	120	1/7/16 4:00	350.5	81.5	94.3	100000	6	26.0	11.00	22.75	14.00	22.75	15.75	22.90	14.00	22.50		0.05		0.00		0.05	5415	
66 hr	120	1/7/16 6:00	350.5	81.5	94.3	100000	6	26.0	11.00	22.75	14.00	22.75	15.75	22.90	14.00	22.50		0.05		0.00		0.05	6448	
68 hr	120	1/7/16 8:00	358.0	81.2	95.8	100000	6	26.0	11.00	22.75	14.00	22.75	15.50	22.90	14.00	22.50		0.05		0.00		0.05	8121	
70 hr	120	1/7/16 10:00	344.0	96.8	96.2	100000	8	26.0	10.50	22.75	14.00	22.75	16.00	22.90	14.00	22.50		0.05		0.00		0.05	6551	
72 hr	120	1/7/16 12:00	367.0	101.4	96.6	100000	8	26.0	10.50	22.75	14.00	22.75	15.00	22.90	14.00	22.50		0.05		0.00		0.05	7588	
74 hr	120	1/7/16 14:00	425.0	114.3	94.3	98000	6	26.0	10.50	22.75	14.00	22.75	15.50	22.90	14.00	22.50		0.05		0.00		0.05	6927	
76 hr	120	1/7/16 16:00	339.0	103.1	94.8	100000	8	26.0	11.00	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6530	
78 hr	120	1/7/16 18:00	321	100.0	95.0	100000	6	26.0	11.00	21.75	15.00	21.75	17.00	21.90	14.00	21.50		0.05		0.00		0.05	7421	
80 hr	120	1/7/16 20:00	339	91.8	94.0	100000	6	26.0	11.00	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6982	
82 hr	120	1/7/16 22:00	356	95.4	95.7	100000	6	26.0	11.00	21.75	15.00	21.75	17.00	21.90	14.00	21.50		0.05		0.00		0.05	7120	
84 hr	120	1/8/16 0:00	339	92.3	94.8	100000	6	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6546	
86 hr	120	1/8/16 2:00	342	92	94	100,000	6	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6546	
88 hr	120	1/8/16 4:00	342	92	94	100,000	6	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6546	
90 hr	120	1/8/16 6:00	342	92	94	100,000	6	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	5971	
92 hr	120	1/8/16 8:00	344	91.8	92.3	100000	6	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6183	
94 hr	120	1/8/16 10:00	329	92.5	93.1	100000	8	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	6250	
96 hr	120	1/8/16 12:00	363	94.3	91.1	100000	2	26.0	10.50	21.75	14.00	21.75	16.00	21.90	14.00	21.50		0.05		0.00		0.05	0	

**NOTES**  
 \*\* = Off-gas treatment system not in operation at this time interval; pre-treatment value applied in post-treatment emission calculation during this time interval.

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: Edgefield Fuel and Conv #3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER: 19.03  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0,057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW1, 4, 5, RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	12:00								
01/04/16	12:30	23.00	350	3	91.4	88.1	0.02847312141	0.0436	16
01/04/16	13:00	26.00	341	3	94.1	89.9	0.03175174231	0.0484	16
01/04/16	13:30	25.50	343	3	94.5	89.9	0.03216590391	0.0490	16
01/04/16	14:00	26.50	325	3	94.3	88.7	0.03151001076	0.0481	15
01/04/16	14:30	26.50	319	3	93.8	89.1	0.03115052344	0.0475	15
01/04/16	15:00	26.50	310	3	94.2	88.5	0.02955564049	0.0452	14
01/04/16	15:30	26.50	287	3	93.7	88.3	0.03075709787	0.0470	13
01/04/16	16:00	26.50	291	3	92.7	88.4	0.02981005631	0.0456	14
01/04/16	16:30	26.50	321	3	93.4	91.6	0.03165557660	0.0483	15
01/04/16	17:00	28.00	269	3	90.8	89.4	0.02835171533	0.0435	13
01/04/16	17:30	26.00	321	3	89.4	95.0	0.02885617963	0.0442	15
01/04/16	18:00	26.00	304	3	83.7	95.6	0.02404252350	0.0371	15
01/04/16	18:30	26.00	304	3	80.8	94.1	0.02145702585	0.0332	15
01/04/16	19:00	26.00	304	3	76.6	94.6	0.01870820740	0.0291	15
01/04/16	19:30	26.00	304	3	76.0	92.5	0.01790958111	0.0279	15
01/04/16	20:00	26.00	297	3	74.8	87.5	0.01623438552	0.0254	15
01/04/16	21:00	26.00	287	3	77.2	94.9	0.01623438552	0.0254	14
01/04/16	22:00	26.00	373	3	81.3	95.1	0.02206166934	0.0341	18
01/04/16	23:00	26.00	363	3	78.2	88.5	0.01844508408	0.0287	18
01/05/16	0:00	26.00	356	3	74.5	86.1	0.01580447638	0.0247	18
01/05/16	1:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	2:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	3:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	4:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	5:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	6:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	7:00	26.00	350	3	72.7	85.8	0.01480180755	0.0232	17
01/05/16	8:00	26.00	343	3	70.8	85.4	0.01379278279	0.0216	17
01/05/16	9:00	26.50	325	3	76.1	86.3	0.01673401135	0.0261	16
01/05/16	10:00	26.50	313	3	79.2	90.8	0.01368824364	0.0594	6
01/05/16	11:00	26.50	310	3	85.4	91.4	0.02431154552	0.0375	15
01/05/16	12:00	26.50	304	3	99.3	98.0	0.04114740373	0.0618	14
01/05/16	14:00	26.00	285	3	104.8	95.3	0.04761451715	0.0709	13
01/05/16	16:00	26.00	322	3	96.3	88.9	0.03369230691	0.0512	15
01/05/16	18:00	26.00	339	3	91.6	96.4	0.03149615242	0.0480	16
01/05/16	20:00	26.00	408	3	84.9	96.1	0.02516145938	0.0388	20
01/05/16	22:00	26.00	391	3	81.9	96.1	0.02275696409	0.0352	19
01/06/16	0:00	26.00	341	3	80.3	96.1	0.02156200917	0.0334	17
01/06/16	2:00	26.00	363	3	80.2	95.8	0.02141986063	0.0332	18
01/06/16	4:00	26.00	363	3	80.2	95.8	0.02141986063	0.0332	18
01/06/16	6:00	26.00	363	3	80.2	95.8	0.02141986063	0.0332	18
01/06/16	8:00	26.00	334	3	78.4	95.4	0.02006522037	0.0311	16

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: Edgefield Fuel and Conv #3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER: 19.03  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0,057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW1, 4, 5, RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>sw</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
01/06/16	10:00	26.00	343	3	88.2	95.1	0.02785955378	0.0427	16
01/06/16	12:00	26.00	371	3	103.3	95.3	0.04539469304	0.0678	17
01/06/16	14:00	26.00	365	3	106.1	94.3	0.04905911342	0.0729	16
01/06/16	16:00	26.00	351	3	104.3	94.8	0.04659915612	0.0695	16
01/06/16	18:00	26.00	373	3	84.0	96.3	0.02446966626	0.0377	18
01/06/16	20:00	26.00	321	3	89.1	96.5	0.02904484193	0.0445	15
01/06/16	22:00	26.00	373	3	82.2	94.5	0.02259098659	0.0349	18
01/07/16	0:00	26.00	343	3	81.7	92.7	0.02177663171	0.0337	17
01/07/16	2:00	26.00	351	3	81.5	94.3	0.02201727026	0.0341	17
01/07/16	4:00	26.00	351	3	81.5	94.3	0.02201727026	0.0341	17
01/07/16	6:00	26.00	351	3	81.5	94.3	0.02201727026	0.0341	17
01/07/16	8:00	26.00	358	3	81.2	95.8	0.02215509064	0.0343	17
01/07/16	10:00	26.00	344	3	96.8	96.2	0.03721890620	0.0563	16
01/07/16	12:00	26.00	367	3	101.4	96.6	0.04334594317	0.0649	17
01/07/16	14:00	26.00	425	3	114.3	94.3	0.06351369208	0.0924	18
01/07/16	16:00	26.00	339	3	103.1	94.8	0.04485247237	0.0670	15
01/07/16	18:00	26.00	321	3	100.0	95.0	0.04071175144	0.0612	15
01/07/16	20:00	26.00	339	3	91.8	94.0	0.03087453329	0.0471	16
01/07/16	22:00	26.00	356	3	95.4	95.7	0.03537408183	0.0536	16
01/08/16	0:00	26.00	339	3	92.3	94.8	0.03166351364	0.0483	16
01/08/16	2:00	26.00	342	3	92.1	93.6	0.03103929712	0.0474	16
01/08/16	4:00	26.00	342	3	92.1	93.6	0.03103929712	0.0474	16
01/08/16	6:00	26.00	342	3	92.1	93.6	0.03103929712	0.0474	16
01/08/16	8:00	26.00	344	3	91.8	92.3	0.03028897366	0.0463	16
01/08/16	10:00	26.00	329	3	92.5	93.1	0.03127065226	0.0477	15
01/08/16	12:00	26.00	363	3	94.3	91.1	0.03240701342	0.0494	17
<b>Average</b>		<b>26.05</b>	<b>339.09</b>	<b>3.07</b>	<b>87.03</b>	<b>92.30</b>	<b>0.0405</b>	<b>0.05</b>	<b>15.98</b>

**NOTES**

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)  
 Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)  
 Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)  
 Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)  
 Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)  
 Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping  
 B<sub>sw</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.  
 B<sub>ws</sub> = water vapor % by volume

**EQUATIONS**

$$B_{ws} = (B_{sw}/18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{sw}/18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528^\circ\text{R}/(\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Con

AFVR EVENT DATE: 1/4/16-1/8/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	--
30	16	100,000	100,000	104,562	1.02	106,653	53,216	0.00332	3.28	3.89	1.94
60	16	100,000	100,000	105,087	1.02	107,189	53,483	0.00334	3.18	3.77	1.88
90	16	100,000	100,000	105,154	1.02	107,257	53,517	0.00334	3.20	3.79	1.89
120	15	100,000	100,000	105,049	1.02	107,150	53,463	0.00334	3.03	3.59	1.80
150	15	100,000	100,000	104,991	1.02	107,091	53,434	0.00334	2.98	3.53	1.76
180	14	100,000	100,000	104,735	1.02	106,830	53,304	0.00333	2.89	3.43	1.71
210	13	100,000	100,000	104,928	1.02	107,027	53,402	0.00333	2.68	3.17	1.59
240	14	100,000	100,000	104,776	1.02	106,872	53,325	0.00333	2.72	3.22	1.61
270	15	100,000	100,000	105,072	1.02	107,173	53,475	0.00334	3.00	3.55	1.78
300	13	100,000	100,000	104,543	1.02	106,633	53,206	0.00332	2.52	2.99	1.50
330	15	100,000	100,000	104,623	1.02	106,716	53,247	0.00332	3.02	3.58	1.79
360	15	100,000	100,000	103,852	1.02	105,929	52,855	0.00330	2.89	3.42	1.71
390	15	100,000	100,000	103,438	1.02	105,507	52,644	0.00329	2.90	3.44	1.72
420	15	100,000	100,000	102,997	1.02	105,057	52,420	0.00327	2.93	3.47	1.73
450	15	100,000	100,000	102,870	1.02	104,927	52,354	0.00327	2.93	3.47	1.74
480	15	100,000	100,000	102,601	1.02	104,653	52,218	0.00326	2.87	3.40	1.70
540	14	100,000	100,000	102,601	1.02	104,653	52,218	0.00326	2.76	3.27	3.27
600	18	100,000	100,000	103,535	1.02	105,605	52,693	0.00329	3.56	4.22	4.22
660	18	100,000	100,000	102,955	1.02	105,014	52,398	0.00327	3.49	4.13	4.13
720	18	100,000	100,000	102,532	1.02	104,583	52,183	0.00326	3.44	4.08	4.08
780	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
840	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
900	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
960	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
1020	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
1080	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
1140	17	100,000	100,000	102,372	1.02	104,419	52,101	0.00325	3.39	4.02	4.02
1200	17	100,000	100,000	102,210	1.02	104,254	52,019	0.00325	3.34	3.96	3.96
1260	16	100,000	100,000	102,681	1.02	104,735	52,259	0.00326	3.13	3.71	3.71
1320	6	100,000	100,000	246,393	1.02	251,321	125,399	0.00783	3.00	3.55	3.55
1380	15	100,000	100,000	103,895	1.02	105,973	52,877	0.00330	2.94	3.48	3.48
1440	14	100,000	100,000	106,593	1.02	108,725	54,249	0.00339	2.81	3.33	3.33
1560	13	100,000	100,000	107,629	1.02	109,781	54,777	0.00342	2.61	3.09	6.18
1680	15	100,000	100,000	105,398	1.02	107,506	53,641	0.00335	2.99	3.54	7.09
1800	16	100,000	100,000	105,046	1.02	107,147	53,462	0.00334	3.18	3.76	7.53
1920	20	100,000	100,000	104,031	1.02	106,112	52,946	0.00331	3.87	4.58	9.17
2040	19	100,000	100,000	103,646	1.02	105,719	52,750	0.00329	3.73	4.42	8.84
2160	17	100,000	100,000	103,455	1.02	105,524	52,652	0.00329	3.26	3.86	7.73
2280	18	100,000	100,000	103,432	1.02	105,501	52,641	0.00329	3.47	4.11	8.22
2400	18	100,000	100,000	103,432	1.02	105,501	52,641	0.00329	3.47	4.11	8.22
2520	18	100,000	100,000	103,432	1.02	105,501	52,641	0.00329	3.47	4.11	8.22
2640	16	100,000	100,000	103,215	1.02	105,279	52,530	0.00328	3.21	3.80	7.60
2760	16	100,000	100,000	104,464	1.02	106,553	53,166	0.00332	3.23	3.83	7.66
2880	17	100,000	100,000	107,273	1.02	109,419	54,596	0.00341	3.40	4.03	8.07
3000	16	100,000	100,000	107,860	1.02	110,018	54,895	0.00343	3.33	3.95	7.90
3120	16	98,000	98,000	105,317	1.02	107,423	53,600	0.00335	3.15	3.73	7.47
3240	18	100,000	100,000	103,921	1.02	105,999	52,889	0.00330	3.54	4.20	8.40

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Con

AFVR EVENT DATE: 1/4/16-1/8/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	15	100,000	100,000	104,654	1.02	106,747	53,262	0.00333	3.02	3.58	7.16
3480	18	100,000	100,000	103,620	1.02	105,692	52,736	0.00329	3.55	4.21	8.42
3600	17	100,000	100,000	103,489	1.02	105,559	52,670	0.00329	3.27	3.88	7.75
3720	17	100,000	100,000	103,528	1.02	105,598	52,689	0.00329	3.35	3.96	7.93
3840	17	100,000	100,000	103,528	1.02	105,598	52,689	0.00329	3.35	3.96	7.93
3960	17	100,000	100,000	103,528	1.02	105,598	52,689	0.00329	3.35	3.96	7.93
4080	17	100,000	100,000	103,550	1.02	105,621	52,701	0.00329	3.42	4.05	8.10
4200	16	100,000	100,000	105,963	1.02	108,083	53,929	0.00337	3.19	3.78	7.57
4320	17	100,000	100,000	106,945	1.02	109,084	54,429	0.00340	3.38	4.00	8.01
4440	18	98,000	98,000	107,973	1.02	110,132	54,952	0.00343	3.75	4.44	8.88
4560	15	100,000	100,000	107,186	1.02	109,330	54,551	0.00341	3.11	3.69	7.37
4680	15	100,000	100,000	106,523	1.02	108,653	54,214	0.00338	2.96	3.51	7.02
4800	16	100,000	100,000	104,947	1.02	107,046	53,412	0.00333	3.17	3.76	7.52
4920	16	100,000	100,000	105,668	1.02	107,781	53,779	0.00336	3.31	3.92	7.85
5040	16	100,000	100,000	105,073	1.02	107,175	53,476	0.00334	3.17	3.76	7.52
5160	16	100,000	100,000	104,973	1.02	107,073	53,425	0.00334	3.20	3.79	7.58
5280	16	100,000	100,000	104,973	1.02	107,073	53,425	0.00334	3.20	3.79	7.58
5400	16	100,000	100,000	104,973	1.02	107,073	53,425	0.00334	3.20	3.79	7.58
5520	16	100,000	100,000	104,853	1.02	106,950	53,364	0.00333	3.22	3.82	7.63
5640	15	100,000	100,000	105,010	1.02	107,110	53,444	0.00334	3.08	3.65	7.29
5760	17	100,000	100,000	105,192	1.02	107,296	53,537	0.00334	3.38	4.01	8.02
<b>Average</b>	<b>16</b>	<b>99941</b>	<b>99941</b>	<b>106426</b>	<b>1</b>	<b>108555</b>	<b>54165</b>	<b>0.00338</b>	<b>3.20</b>	<b>3.79</b>	<b>5.45</b>

Total Pretreatment emissions in pounds: **370.62**

Total Pretreatment emissions in gallons: **61.72**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)

100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)

PPM<sub>wet</sub> = "wet" concentration

PPM<sub>dry</sub> = "dry" concentration

RF (Response Factor) = Multiplying factor for converting ppm meter readings of hexane-calibrated instruments to ppm concentrations of other gases: 1.02 for benzene; 1.03 for toluene; 1.64 for o-xylene. Multiplying factor obtained from Instruction Manual for TLV Sniffer® by Bacharach, Inc., Instruction 23-9613, rev.2, January 1990.

K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)

PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP

C<sub>c:m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon

M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon

K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP

C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP

PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon

PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline

PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

$$PPM_{wet} = PPM_{measured}$$

$$PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$$

$$PPM_c = (PPM_d)(K)$$

$$C_{c:m} = (PPM_c)(M_c / K_3)$$

$$C_c = (C_{c:m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

$$PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$$

$$PMR_g = (PMR_c)(M_g/M_c)$$

$$PMR = (PMR_g)(\#minutes/60)$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Cor

AFVR EVENT DATE: 1/4/16-1/8/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	16	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
60	16	20	20	21	1.02	21	11	0.00000	0.00	0.00	0.00
90	16	40	40	42	1.02	43	21	0.00000	0.00	0.00	0.00
120	15	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
150	15	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
180	14	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
210	13	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
240	14	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
270	15	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
300	13	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
330	15	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
360	15	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
390	15	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
420	15	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
450	15	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
480	15	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
540	14	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
600	18	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
660	18	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
720	18	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
780	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
840	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
900	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
960	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
1020	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
1080	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
1140	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
1200	17	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
1260	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
1320	6	10	10	25	1.02	25	13	0.00000	0.00	0.00	0.00
1380	15	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
1440	14	8	8	9	1.02	9	4	0.00000	0.00	0.00	0.00
1560	13	8	8	9	1.02	9	4	0.00000	0.00	0.00	0.00
1680	15	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
1800	16	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
1920	20	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
2040	19	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
2160	17	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
2280	18	9	9	9	1.02	9	5	0.00000	0.00	0.00	0.00
2400	18	9	9	9	1.02	9	5	0.00000	0.00	0.00	0.00
2520	18	9	9	9	1.02	9	5	0.00000	0.00	0.00	0.00
2640	16	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
2760	16	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
2880	17	8	8	9	1.02	9	4	0.00000	0.00	0.00	0.00
3000	16	6	6	6	1.02	7	3	0.00000	0.00	0.00	0.00
3120	16	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
3240	18	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00



**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Cor

AFVR EVENT DATE: 1/4/16-1/8/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c,m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	15	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
3480	18	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3600	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3720	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3840	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3960	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
4080	17	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
4200	16	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
4320	17	8	8	9	1.02	9	4	0.00000	0.00	0.00	0.00
4440	18	6	6	7	1.02	7	3	0.00000	0.00	0.00	0.00
4560	15	8	8	9	1.02	9	4	0.00000	0.00	0.00	0.00
4680	15	6	6	6	1.02	7	3	0.00000	0.00	0.00	0.00
4800	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
4920	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5040	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5160	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5280	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5400	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5520	16	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5640	15	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
5760	17	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
<b>Average</b>	<b>16</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>4</b>	<b>0.00000</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Total Post-Treatment emissions in pounds: **0.03**

Total Post-Treatment emissions in gallons: **0.00**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)  
 100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)  
 PPM<sub>wet</sub> = "wet" concentration  
 PPM<sub>dry</sub> = "dry" concentration  
 RF (Response Factor) = Multiplying factor for converting ppm meter readings of hexane-calibrated instruments to ppm concentrations of other gases: 1.02 for benzene; 1.03 for toluene; 1.64 for o-xylene. Multiplying factor obtained from Instruction Manual for TLV Sniffer® by Bacharach, Inc., Instruction 23-9613, rev.2, January 1990.  
 K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)  
 PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP  
 C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon  
 M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon  
 K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP  
 C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP  
 PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon  
 PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline  
 PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

$PPM_{wet} = PPM_{measured}$ $PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$ $PPM_c = (PPM_d)(K)$ $C_{c,m} = (PPM_c)(M_c / K_3)$	$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$ $PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$ $PMR_g = (PMR_c)(M_g/M_{cg})$ $PMR = (PMR_g)(\#minutes/60)$
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**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>Edgefield Fuel and Conv #3</u>	UST Permit No:	<u>12175</u>
Project No:	<u>14-211651</u>	ECS Field Rep. 1:	<u>K. Wright</u>
Start Date:	<u>1/11/2016</u>	ECS Field Rep. 2:	<u>B. Peay</u>
End Date:	<u>1/15/2016</u>		

AFVR Measurements Prior to and After Event

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>	
Water Tank Storage Capacity:	<u>9,200</u>	gallons
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches
Is Tank Empty & Clean (Y/N)	<u>Y</u>	

**Measurements Before AFVR Event**      **1/11/2016**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>0</u>	gallons
Transfer Pump Flow Meter	<u>591,544</u>	gallons

**Measurements After AFVR Event**      **1/15/2016**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>5,633</u>	gallons
Transfer Pump Flow Meter	<u>604,491</u>	gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
12175-MW2	20.22	20.98	NP	20.04	NP	20.60
12174-MW19	19.96	20.41	NP	22.51	NP	20.92
12175-MW25	19.18	22.11	NP	22.00	NP	20.74
12175-RW2	19.10	22.35	NP	21.65	21.90	22.20
12175-RW3	NP	20.08	NP	19.57	NP	20.19
12175-MW3	NP	21.40	NP	21.42	NP	21.41
12175-MW18	NP	20.05	NP	20.05	NP	20.04

NP denotes no measurable free product.

NM denotes not measured.

Project Edgefield Fuel and Conv #3  
 Project 14.211851  
 Date: 1/11/16-1/15/16

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ECS Field Rep. 1: K. Wright  
 ECS Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																	PID (ppm)				
		Stack Outlet			TLV (ppm)		Blower (in.Hg)	AFVR Wells										Non-AFVR Wells		Pre Treatment			
		Date & Time	Air Flow (fpm)	Temperature (°F)	R.H (%)	Pre-Treatment		Post-Treatment	12175-MW2		12174-MW19		12175-MW25		12175-RW2		12175-RW3				12175-MW3 DTW (ft)	12175-MW3 Vacuum (in.wc)	12175-MW18 DTW (ft)
1 hr	30	1/11/16 14:30	1894	99.7	37.3	98000	10	14.0	4.00	20.98	4.00	20.41	0.50	22.11	4.00	17.90	0.50	20.08	21.40	0.05	20.05	0.05	0
	30	1/11/16 15:00	2067	112.1	21.7	96000	10	14.0	4.00	21.39	4.00	20.91	0.50	22.61	4.00	18.40	0.50	21.58		0.05		0.05	0
	30	1/11/16 15:30	1950	92.8	39.2	90000	16	14.5	4.50	21.89	5.00	21.41	0.50	23.11	4.00	18.90	1.50	22.08		0.05		0.05	0
	30	1/11/16 16:00	2054	111.0	18.7	98000	16	14.0	5.00	22.39	5.00	21.91	0.50	23.61	4.00	19.40	1.50	22.58		0.05		0.05	0
	30	1/11/16 16:30	2071	108.1	19.4	98400	14	14.0	4.50	22.89	4.00	22.41	0.50	24.11	4.00	19.90	0.50	23.08		0.05		0.05	0
	30	1/11/16 17:00	1967	107.8	27.5	98800	14	15.0	5.00	23.39	5.00	22.91	0.50	24.61	4.50	20.40	1.00	23.58		0.05		0.05	0
	30	1/11/16 17:30	1413	107.4	28.5	100000	14	19.0	9.00	23.89	7.00	23.41	0.50	25.11	5.50	20.90	0.50	24.08		0.05		0.05	0
	30	1/11/16 18:00	1510	106.8	28.5	100000	8	19.0	9.00	24.39	7.00	23.91	0.50	25.61	5.50	21.40	0.50	24.58		0.05		0.05	9411
	30	1/11/16 18:30	1519	104.7	29.4	100000	10	19.0	9.00	24.89	7.00	24.41	0.50	26.11	6.00	21.90	1.00	25.08		0.05		0.05	8315
	30	1/11/16 19:00	1112	101.3	35.4	100000	10	19.0	9.00	25.39	7.00	24.91	0.50	26.61	6.00	22.40	1.00	25.58		0.05		0.05	9432
	30	1/11/16 19:30	1312	100.9	36.7	100000	8	20.0	9.00	25.89	7.00	25.41	0.50	27.00	6.00	23.40	1.50	26.08		0.05		0.05	9328
	30	1/11/16 20:00	1008	95.3	38.9	100000	10	20.0	9.00	26.39	7.00	25.91	1.00	27.00	6.00	23.90	1.50	26.58		0.05		0.05	9451
	30	1/11/16 20:30	972	92.1	39.9	100000	2	20.5	9.00	26.89	7.50	26.41	2.00	27.00	6.00	24.90	2.00	27.00		0.05		0.05	9643
	30	1/11/16 21:00	875	88.7	44.1	100000	8	21.0	9.00	27.00	7.00	26.91	3.00	27.00	6.00	25.40	2.00	27.00		0.05		0.05	9793
	30	1/11/16 21:30	861	85.6	44.5	100000	6	22.0	9.00	27.00	6.00	27.00	3.00	27.00	6.00	25.90	2.00	27.00		0.05		0.05	9872
	30	1/11/16 22:00	821	81.2	45.1	100000	4	19.0	9.00	27.00	6.00	27.00	2.00	27.00	6.00	27.00	2.00	27.00		0.05		0.05	8530
	60	1/11/16 23:00	777	79.3	46.3	100000	2	19.0	9.00	27.00	6.00	27.00	3.00	27.00	6.00	27.00	2.00	27.00		0.05		0.05	8811
	60	1/12/16 0:00	750	77.1	47.3	100000	2	19.0	9.00	27.00	6.00	27.00	3.00	27.00	6.00	24.90	2.00	27.00		0.05		0.05	8535
	60	1/12/16 1:00	1030	76.4	70.5	53900	6	19.0	8.00	23.95	4.75	26.71	2.00	26.56	16.00	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 2:00	1030	76.4	70.5	53900	6	19.0	8.00	23.95	4.75	26.71	2.00	26.56	16.00	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 3:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 4:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 5:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 6:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 7:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 8:00	0	0.0	0.0	0	0	0.0	8.00	23.95	4.75	26.71	2.00	26.56	11.50	23.90	1.50	26.54		0.05		0.05	8381
	60	1/12/16 9:00	1309	75.6	93.7	7800	10	19.0	7.00	20.89	3.50	26.41	1.00	26.11	7.00	23.90	1.00	26.08		0.05		0.05	8226
	60	1/12/16 10:00	1378	70.8	85.4	8200	10	18.0	7.00	20.89	6.00	26.41	1.00	26.11	7.00	23.90	1.00	26.08		0.05		0.05	8411
	60	1/12/16 11:00	1638	76.1	86.3	100000	10	17.0	6.00	20.89	6.00	26.41	1.00	26.11	7.00	23.90	1.50	26.08		0.05		0.05	9893
	60	1/12/16 12:00	1603	79.2	90.8	7600	8	17.0	6.00	20.89	7.00	26.41	1.00	26.11	8.00	23.90	1.00	26.08		0.05		0.05	3433
	60	1/12/16 13:00	1361	85.4	91.4	9000	18	18.5	8.00	20.89	8.00	26.41	1.00	26.11	8.00	23.90	2.00	26.08		0.05		0.05	5036
	60	1/12/16 14:00	1395	99.3	98.0	8600	18	18.5	8.00	20.89	8.00	26.41	1.00	26.11	8.00	23.90	3.00	26.08		0.05		0.05	3109
	120	1/12/16 16:00	1361	104.8	95.3	8600	10	18.5	8.00	20.89	8.00	24.41	1.00	24.11	8.00	23.90	1.00	24.08		0.05		0.05	3399
	120	1/12/16 18:00	1135	96.3	88.9	8600	8	20.0	8.00	20.89	8.00	24.41	1.00	24.11	8.00	23.90	1.00	24.08		0.05		0.05	7141
	120	1/12/16 20:00	1049	91.6	96.4	100000	12	21.5	8.00	20.89	10.00	24.41	1.00	24.11	10.00	23.90	1.50	24.08		0.05		0.05	6563
	120	1/12/16 22:00	1257	84.9	96.1	9200	10	20.0	8.00	20.89	8.00	24.41	1.00	24.11	9.00	23.90	1.00	24.08		0.05		0.05	3841
	120	1/13/16 0:00	1163	81.9	96.1	89000	8	22.0	8.00	20.89	9.00	24.41	1.00	24.11	10.00	23.90	1.00	24.08		0.05		0.05	5774
	120	1/13/16 2:00	1115	85.5	95.9	94500	12	22.0	10.00	20.89	10.00	24.41	16.00	23.90	16.00	23.90		24.08		0.05		0.05	4077

Project: Edgefield Fuel and Conv #3  
 Project: 14.211051  
 Date: 1/11/16-1/15/16

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ECS Field Rep. 1: K. Wright  
 ECS Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																		PID (ppm)			
		Stack Outlet			Blower		AFVR Wells										Non-AFVR Wells						
		Date & Time	Air Flow (fpm)	Temperature (°F)	R.H (%)	Pre-Treatment TLV (ppm)	Post-Treatment TLV (ppm)	Vacuum (in.Hg)	12175-MW2 Vacuum (in.Hg)	12175-MW2 Stinger Depth (ft.)	12174-MW19 Vacuum (in.Hg)	12174-MW19 Stinger Depth (ft.)	12175-MW25 Vacuum (in.Hg)	12175-MW25 Stinger Depth (ft.)	12175-RW2 Vacuum (in.Hg)	12175-RW2 Stinger Depth (ft.)	12175-RW3 Vacuum (in.Hg)	12175-RW3 Stinger Depth (ft.)	DTW (ft)		Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)
		1/11/16 14:00	← Start time																				
38 hr	120	1/13/16 4:00	1115	85.5	95.9	94500	12	22.0	10.00	20.89	10.00	24.41	16.00	23.90	12.50	23.90		24.08		0.05		0.05	4077
40 hr	120	1/13/16 6:00	1115	85.5	95.9	94500	12	22.0	10.00	20.89	10.00	24.41	16.00	23.90	12.50	23.90		24.08		0.05		0.05	4077
42 hr	120	1/13/16 8:00	1086	89.1	95.8	100000	16	22.0	12.00	20.89	11.00	24.41	1.00	23.11	11.00	23.90	1.00	24.08		0.05		0.05	2380
44 hr	120	1/13/16 10:00	1205	90.1	95.4	6600	2	19.5	10.00	23.89	9.00	23.41	1.00	23.11	9.00	24.35	5.00	20.08		0.05		0.05	1850
46 hr	120	1/13/16 12:00	945	88.3	95.1	100000	14	22.0	10.00	23.89	12.00	23.41	3.00	24.11	10.50	24.35	8.00	20.08		0.05		0.05	1352
48 hr	120	1/13/16 14:00	876	99.7	94.6	98000	16	21.5	10.00	23.89	11.00	23.41	2.50	24.11	10.50	24.35	5.00	20.08		0.05		0.05	1436
50 hr	120	1/13/16 16:00	824	97.8	94.5	8900	10	21.0	10.00	23.89	11.50	23.41	2.50	24.11	9.00	24.35	5.00	20.08		0.05		0.05	1890
52 hr	120	1/13/16 18:00	831	85.9	92.2	98000	12	21.5	11.00	23.89	12.00	23.41	2.50	24.11	10.00	24.35	8.00	20.08		0.05		0.05	2030
54 hr	120	1/13/16 20:00	818	84.1	93.1	98000	8	22.0	11.00	23.89	12.00	23.41	3.00	24.11	10.00	24.35	8.00	24.08		0.05		0.05	1958
56 hr	120	1/13/16 22:00	843	84.7	92.5	99000	10	22.0	11.00	23.89	12.00	23.41	2.50	24.11	10.00	24.35	8.00	24.08		0.05		0.05	1588
58 hr	120	1/14/16 0:00	833	85.3	93.3	100000	10	21.5	11.00	23.89	12.00	23.41	2.50	24.11	10.00	24.35	8.00	24.08		0.05		0.05	1977
60 hr	120	1/14/16 2:00	872	84.3	94.1	54200	6	21.5	11.50	24.39	11.50	23.41	4.25	24.11	10.50	24.35	4.50	24.08		0.05		0.05	1906
62 hr	120	1/14/16 4:00	872	84.3	94.1	54200	6	21.5	11.50	24.39	11.50	23.41	4.25	24.11	10.50	24.35	4.50	24.08		0.05		0.05	1906
64 hr	120	1/14/16 6:00	872	84.3	94.1	54200	6	21.5	11.50	24.39	11.50	23.41	4.25	24.11	10.50	24.35	4.50	24.08		0.05		0.05	1906
66 hr	120	1/14/16 8:00	910	83.3	94.8	8400	2	21.5	12.00	24.89	11.00	23.41	6.00	24.11	11.00	24.35	1.00	24.08		0.05		0.05	1834
68 hr	120	1/14/16 10:00	937	100.9	94.9	100000	16	23.0	10.00	24.89	13.00	24.41	4.00	25.11	11.00	25.35	8.00	21.08		0.05		0.05	2000
70 hr	120	1/14/16 12:00	858	104.9	94.7	9000	20	23.0	10.00	24.89	13.00	24.41	4.00	25.11	11.00	25.35	8.50	21.08		0.05		0.05	1756
72 hr	120	1/14/16 14:00	772	105.1	90.8	100000	10	23.0	9.00	24.89	12.00	24.41	4.00	25.11	10.50	25.35	9.00	21.08		0.05		0.05	1858
74 hr	120	1/14/16 16:00	812	98.1	91.2	100000	8	23.0	10.00	21.89	12.00	24.41	3.00	25.11	10.50	25.35	8.00	23.08		0.05		0.05	1565
76 hr	120	1/14/16 18:00	856	91.3	91.8	100000	10	23.0	11.00	21.89	12.00	24.41	4.00	25.11	10.00	25.35	8.00	23.08		0.05		0.05	1616
78 hr	120	1/14/16 20:00	848	84.3	90.9	100000	12	23.0	11.00	21.89	12.00	24.41	4.00	25.11	10.00	25.35	8.00	23.08		0.05		0.05	1810
80 hr	120	1/14/16 22:00	821	83.7	91.2	100000	2	23.0	11.00	21.89	12.00	24.41	4.00	25.11	10.00	25.35	8.00	23.08		0.05		0.05	1752
82 hr	120	1/15/16 0:00	838	83.1	91.4	100000	4	23.0	11.00	21.89	12.00	24.41	4.00	25.11	10.00	25.35	8.00	23.08		0.05		0.05	1731
84 hr	120	1/15/16 2:00	814	82.9	92.7	99000	3	22.8	13.00	21.89	12.00	23.41	5.00	23.61	11.00	24.35	10.00	22.08		0.05		0.05	2045
86 hr	120	1/15/16 4:00	814	82.9	92.7	99000	3	22.8	13.00	21.89	12.00	23.41	5.00	23.61	11.00	24.35	10.00	22.08		0.05		0.05	2045
88 hr	120	1/15/16 6:00	814	82.9	92.7	99000	3	22.8	13.00	21.89	12.00	23.41	5.00	23.61	11.00	24.35	10.00	22.08		0.05		0.05	2045
90 hr	120	1/15/16 8:00	789	82.6	94.0	98000	2	22.5	15.00	21.89	12.00	22.41	6.00	22.11	12.00	23.35	12.00	21.08		0.05		0.05	2358
92 hr	120	1/15/16 10:00	1205	78.4	95.4	8000	8	19.0	7.00	21.89	10.00	22.41	3.00	22.11	9.00	23.35	5.00	21.08		0.05		0.05	1578
94 hr	120	1/15/16 12:00	1135	84.2	95.9	5000	8	19.0	7.00	21.89	10.00	22.41	3.00	22.11	10.00	23.35	7.00	21.08		0.05		0.05	1107
96 hr	120	1/15/16 14:00	1187	84.6	96.1	4200	8	19.5	7.00	21.89	9.50	22.41	3.00	22.11	10.00	23.35		21.08		0.05		0.05	1032

**NOTES**  
 \*\* = Off-gas treatment system not in operation at this time interval, pre-treatment value applied in post-treatment emission calculation during this time interval.

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: Edgefield Fuel and Conv #3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER: 21.05  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW2,19,25, RW2,3  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	14:00								
01/11/16	14:30	14.00	1,894	3	99.7	37.3	0.01523186470	0.0238	90
01/11/16	15:00	14.00	2,067	3	112.1	21.7	0.01270863286	0.0200	96
01/11/16	15:30	14.50	1,950	3	92.8	39.2	0.01291632259	0.0203	94
01/11/16	16:00	14.00	2,054	3	111.0	18.7	0.01057525998	0.0167	96
01/11/16	16:30	14.00	2,071	3	108.1	19.4	0.01007926601	0.0159	97
01/11/16	17:00	15.00	1,967	3	107.8	27.5	0.01425681559	0.0223	92
01/11/16	17:30	19.00	1,413	3	107.4	28.5	0.01461186070	0.0229	66
01/11/16	18:00	19.00	1,510	3	106.8	29.4	0.01481578236	0.0232	71
01/11/16	18:30	19.00	1,519	3	104.7	35.4	0.01682377481	0.0262	71
01/11/16	19:00	19.00	1,112	3	101.3	36.7	0.01573734393	0.0246	52
01/11/16	19:30	20.00	1,312	3	100.9	38.9	0.01650170121	0.0258	62
01/11/16	20:00	20.00	1,008	3	95.3	39.9	0.01423034414	0.0223	48
01/11/16	20:30	20.50	972	3	92.1	44.1	0.01424826265	0.0223	47
01/11/16	21:00	21.00	875	3	88.7	44.5	0.01289795777	0.0202	42
01/11/16	21:30	22.00	861	3	85.6	45.1	0.01182694708	0.0186	42
01/11/16	22:00	19.00	821	3	81.2	46.3	0.01051401821	0.0166	40
01/11/16	23:00	19.00	777	3	79.3	47.3	0.01008786901	0.0159	38
01/12/16	0:00	19.00	750	3	77.1	70.5	0.01407255051	0.0221	37
01/12/16	1:00	19.00	1,030	3	76.4	70.5	0.01374258369	0.0215	51
01/12/16	2:00	19.00	1,030	3	76.4	70.5	0.01374258369	0.0215	51
01/12/16	3:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	4:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	5:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	6:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	7:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	8:00	0.00	0	3	0.0	0.0	0.00000000000	0.0000	0
01/12/16	9:00	19.00	1,309	3	75.6	93.7	0.01790174187	0.0279	64
01/12/16	10:00	18.00	1,378	3	70.8	85.4	0.01379278279	0.0216	69
01/12/16	11:00	17.00	1,638	3	76.1	86.3	0.01673401135	0.0261	81
01/12/16	12:00	17.00	1,603	3	79.2	90.8	0.01959209776	0.0304	78
01/12/16	13:00	18.50	1,361	3	85.4	91.4	0.02428393819	0.0375	65
01/12/16	14:00	18.50	1,395	3	99.3	98.0	0.04114740373	0.0618	63
01/12/16	16:00	18.50	1,361	3	104.8	95.3	0.04761451715	0.0709	61
01/12/16	18:00	20.00	1,135	3	96.3	88.9	0.03369230691	0.0512	52
01/12/16	20:00	21.50	1,049	3	91.6	96.4	0.03149615242	0.0480	49
01/12/16	22:00	20.00	1,257	3	84.9	96.1	0.02516145938	0.0388	60
01/13/16	0:00	22.00	1,163	3	81.9	96.1	0.02275696409	0.0352	56
01/13/16	2:00	22.00	1,115	3	85.5	95.9	0.02561370564	0.0394	53
01/13/16	4:00	22.00	1,115	3	85.5	95.9	0.02561370564	0.0394	53
01/13/16	6:00	22.00	1,115	3	85.5	95.9	0.02561370564	0.0394	53
01/13/16	8:00	22.00	1,066	3	89.1	95.8	0.02882439037	0.0441	50
01/13/16	10:00	19.50	1,205	3	90.1	95.4	0.02965813663	0.0454	57

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: Edgefield Fuel and Conv #3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER: 21.05  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW2,19,25, RW2,3  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>sw</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
01/13/16	12:00	22.00	945	3	88.3	95.1	0.02785955378	0.0427	45

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: Edgefield Fuel and Conv #3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER: 21.05  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW2,19,25, RW2,3  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
01/13/16	14:00	21.50	876	3	99.7	94.6	0.04014101832	0.0604	40
01/13/16	16:00	21.00	824	3	97.8	94.5	0.03771981584	0.0570	38
01/13/16	18:00	21.50	831	3	85.9	92.2	0.02491512563	0.0384	40
01/13/16	20:00	22.00	818	3	84.1	93.1	0.02370465032	0.0366	39
01/13/16	22:00	22.00	843	3	84.7	92.5	0.02402175314	0.0371	40
01/14/16	0:00	21.50	833	3	85.3	93.3	0.02472652485	0.0381	40
01/14/16	2:00	21.50	872	3	84.3	94.1	0.02412960276	0.0372	42
01/14/16	4:00	21.50	872	3	84.3	94.1	0.02412960276	0.0372	42
01/14/16	6:00	21.50	872	3	84.3	94.1	0.02412960276	0.0372	42
01/14/16	8:00	21.50	910	3	83.3	94.8	0.02351682543	0.0363	44
01/14/16	10:00	23.00	937	3	100.9	94.9	0.04185594178	0.0628	42
01/14/16	12:00	23.00	858	3	104.9	94.7	0.04744241866	0.0706	38
01/14/16	14:00	23.00	772	3	105.1	90.8	0.04563420321	0.0681	35
01/14/16	16:00	23.00	812	3	98.1	91.2	0.03667762946	0.0555	37
01/14/16	18:00	23.00	856	3	91.3	91.8	0.02962909000	0.0453	40
01/14/16	20:00	23.00	848	3	84.3	90.9	0.02327833296	0.0360	41
01/14/16	22:00	23.00	821	3	83.7	91.2	0.02289523242	0.0354	39
01/15/16	0:00	23.00	838	3	83.1	91.4	0.02249177451	0.0348	40
01/15/16	2:00	22.75	814	3	82.9	92.7	0.02267112691	0.0351	39
01/15/16	4:00	22.75	814	3	82.9	92.7	0.02267112691	0.0351	39
01/15/16	6:00	22.75	814	3	82.9	92.7	0.02267112691	0.0351	39
01/15/16	8:00	22.50	789	3	82.6	94.0	0.02277070139	0.0352	38
01/15/16	10:00	19.00	1,205	3	78.4	95.4	0.02006522037	0.0311	59
01/15/16	12:00	19.00	1,135	3	84.2	95.9	0.02452738556	0.0378	54
01/15/16	14:00	19.50	1,187	3	84.6	96.1	0.02491098394	0.0384	57
<b>Average</b>		<b>18.34</b>	<b>1033.07</b>	<b>3.07</b>	<b>82.03</b>	<b>69.67</b>	<b>0.0210</b>	<b>0.03</b>	<b>49.08</b>

**NOTES**

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)  
 Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)  
 Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)  
 Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)  
 Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)  
 Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping  
 B<sub>ws</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.  
 B<sub>ws</sub> = water vapor % by volume

**EQUATIONS**

$$B_{ws} = (B_{ws} / 18 \text{ lb-mole } H_2O) / [(1/28.84 \text{ lb-mole dry air}) + (B_{ws} / 18 \text{ lb-mole } H_2O)]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528^\circ R / (\text{Temp} + 460))$$



**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Con

AFVR EVENT DATE: 1/11/16-1/15/16

1/11/16-1/15/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	90	98,000	98,000	100,392	1.02	102,400	51,093	0.00319	17.14	20.31	10.15
60	96	96,000	96,000	97,955	1.02	99,914	49,853	0.00311	17.92	21.24	10.62
90	94	90,000	90,000	91,863	1.02	93,700	46,753	0.00292	16.41	19.44	9.72
120	96	98,000	98,000	99,661	1.02	101,654	50,721	0.00317	18.22	21.59	10.79
150	97	98,400	98,400	99,989	1.02	101,989	50,889	0.00318	18.54	21.97	10.98
180	92	98,800	98,800	101,057	1.02	103,078	51,432	0.00321	17.69	20.96	10.48
210	66	100,000	100,000	102,341	1.02	104,388	52,086	0.00325	12.87	15.25	7.62
240	71	100,000	100,000	102,374	1.02	104,421	52,102	0.00325	13.77	16.31	8.16
270	71	100,000	100,000	102,696	1.02	104,749	52,266	0.00326	13.90	16.47	8.24
300	52	100,000	100,000	102,521	1.02	104,572	52,177	0.00326	10.24	12.13	6.07
330	62	100,000	100,000	102,644	1.02	104,697	52,240	0.00326	12.09	14.32	7.16
360	48	100,000	100,000	102,280	1.02	104,326	52,054	0.00325	9.38	11.12	5.56
390	47	100,000	100,000	102,283	1.02	104,329	52,056	0.00325	9.10	10.78	5.39
420	42	100,000	100,000	102,067	1.02	104,108	51,946	0.00324	8.24	9.76	4.88
450	42	100,000	100,000	101,895	1.02	103,933	51,858	0.00324	8.15	9.66	4.83
480	40	100,000	100,000	101,685	1.02	103,718	51,751	0.00323	7.84	9.29	4.64
540	38	100,000	100,000	101,616	1.02	103,649	51,717	0.00323	7.45	8.82	8.82
600	37	100,000	100,000	102,255	1.02	104,300	52,042	0.00325	7.22	8.55	8.55
660	51	53,900	53,900	55,087	1.02	56,189	28,036	0.00175	5.35	6.34	6.34
720	51	53,900	53,900	55,087	1.02	56,189	28,036	0.00175	5.35	6.34	6.34
780	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
840	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
900	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
960	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1020	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1080	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1140	64	7,800	7,800	8,024	1.02	8,184	4,084	0.00025	0.99	1.17	1.17
1200	69	8,200	8,200	8,381	1.02	8,549	4,266	0.00027	1.10	1.30	1.30
1260	81	100,000	100,000	102,681	1.02	104,735	52,259	0.00326	15.79	18.71	18.71
1320	78	7,600	7,600	7,839	1.02	7,995	3,989	0.00025	1.17	1.38	1.38
1380	65	9,000	9,000	9,350	1.02	9,537	4,759	0.00030	1.16	1.38	1.38
1440	63	8,600	8,600	9,167	1.02	9,350	4,665	0.00029	1.11	1.31	1.31
1560	61	8,600	8,600	9,256	1.02	9,441	4,711	0.00029	1.07	1.27	2.54
1680	52	8,600	8,600	9,064	1.02	9,246	4,613	0.00029	0.91	1.07	2.15
1800	49	100,000	100,000	105,046	1.02	107,147	53,462	0.00334	9.83	11.65	23.29
1920	60	9,200	9,200	9,571	1.02	9,762	4,871	0.00030	1.10	1.30	2.60
2040	56	89,000	89,000	92,245	1.02	94,090	46,947	0.00293	9.87	11.70	23.39
2160	53	94,500	94,500	98,378	1.02	100,346	50,069	0.00313	9.98	11.82	23.64
2280	53	94,500	94,500	98,378	1.02	100,346	50,069	0.00313	9.98	11.82	23.64
2400	53	94,500	94,500	98,378	1.02	100,346	50,069	0.00313	9.98	11.82	23.64
2520	50	100,000	100,000	104,618	1.02	106,711	53,245	0.00332	10.03	11.89	23.78
2640	57	6,600	6,600	6,914	1.02	7,052	3,519	0.00022	0.75	0.89	1.77
2760	45	100,000	100,000	104,464	1.02	106,553	53,166	0.00332	8.91	10.55	21.11
2880	40	98,000	98,000	104,303	1.02	106,389	53,084	0.00331	7.93	9.39	18.78
3000	38	8,900	8,900	9,438	1.02	9,627	4,803	0.00030	0.68	0.81	1.61
3120	40	98,000	98,000	101,912	1.02	103,950	51,867	0.00324	7.71	9.13	18.27
3240	39	98,000	98,000	101,722	1.02	103,756	51,770	0.00323	7.61	9.02	18.04

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Con

AFVR EVENT DATE: 1/11/16-1/15/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	40	99,000	99,000	102,810	1.02	104,867	52,324	0.00327	7.92	9.38	18.76
3480	40	100,000	100,000	103,962	1.02	106,041	52,910	0.00330	7.89	9.35	18.71
3600	42	54,200	54,200	56,295	1.02	57,421	28,651	0.00179	4.48	5.31	10.63
3720	42	54,200	54,200	56,295	1.02	57,421	28,651	0.00179	4.48	5.31	10.63
3840	42	54,200	54,200	56,295	1.02	57,421	28,651	0.00179	4.48	5.31	10.63
3960	44	8,400	8,400	8,717	1.02	8,891	4,436	0.00028	0.73	0.86	1.72
4080	42	100,000	100,000	106,706	1.02	108,840	54,307	0.00339	8.63	10.23	20.46
4200	38	9,000	9,000	9,684	1.02	9,878	4,929	0.00031	0.71	0.84	1.67
4320	35	100,000	100,000	107,312	1.02	109,458	54,615	0.00341	7.06	8.37	16.73
4440	37	100,000	100,000	105,877	1.02	107,994	53,885	0.00336	7.52	8.91	17.82
4560	40	100,000	100,000	104,747	1.02	106,842	53,310	0.00333	8.02	9.51	19.02
4680	41	100,000	100,000	103,730	1.02	105,804	52,792	0.00330	8.05	9.54	19.08
4800	39	100,000	100,000	103,668	1.02	105,742	52,761	0.00329	7.80	9.25	18.49
4920	40	100,000	100,000	103,604	1.02	105,676	52,728	0.00329	7.97	9.45	18.90
5040	39	99,000	99,000	102,596	1.02	104,648	52,215	0.00326	7.67	9.08	18.17
5160	39	99,000	99,000	102,596	1.02	104,648	52,215	0.00326	7.67	9.08	18.17
5280	39	99,000	99,000	102,596	1.02	104,648	52,215	0.00326	7.67	9.08	18.17
5400	38	98,000	98,000	101,575	1.02	103,607	51,696	0.00323	7.36	8.73	17.45
5520	59	8,000	8,000	8,257	1.02	8,422	4,202	0.00026	0.93	1.10	2.19
5640	54	5,000	5,000	5,196	1.02	5,300	2,645	0.00017	0.54	0.64	1.28
5760	57	4,200	4,200	4,368	1.02	4,455	2,223	0.00014	0.47	0.56	1.12
<b>Average</b>	<b>49</b>	<b>66585</b>	<b>66585</b>	<b>68879</b>	<b>1</b>	<b>70256</b>	<b>35055</b>	<b>0.00219</b>	<b>6.95</b>	<b>8.23</b>	<b>10.13</b>

Total Pretreatment emissions in pounds: **688.65**

Total Pretreatment emissions in gallons: **114.68**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)

100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)

PPM<sub>wet</sub> = "wet" concentration

PPM<sub>dry</sub> = "dry" concentration

RF (Response Factor) = Multiplying factor for converting ppm meter readings of hexane-calibrated instruments to ppm concentrations of other gases: 1.02 for benzene; 1.03 for toluene; 1.64 for o-xylene. Multiplying factor obtained from Instruction Manual for TLV Sniffer® by Bacharach, Inc., Instruction 23-9613, rev.2, January 1990.

K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)

PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP

C<sub>c:m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon

M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon

K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP

C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP

PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon

PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline

PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

$$PPM_{wet} = PPM_{measured}$$

$$PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$$

$$PPM_c = (PPM_d)(K)$$

$$C_{c:m} = (PPM_c)(M_c / K_3)$$

$$C_c = (C_{c:m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

$$PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$$

$$PMR_g = (PMR_c)(M_g/M_{cg})$$

$$PMR = (PMR_g)(\#minutes/60)$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Cor

AFVR EVENT DATE: 1/11/16-1/15/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	90	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
60	96	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
90	94	16	16	16	1.02	17	8	0.00000	0.00	0.00	0.00
120	96	16	16	16	1.02	17	8	0.00000	0.00	0.00	0.00
150	97	14	14	14	1.02	15	7	0.00000	0.00	0.00	0.00
180	92	14	14	14	1.02	15	7	0.00000	0.00	0.00	0.00
210	66	14	14	14	1.02	15	7	0.00000	0.00	0.00	0.00
240	71	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
270	71	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
300	52	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
330	62	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
360	48	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
390	47	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
420	42	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
450	42	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
480	40	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
540	38	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
600	37	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
660	51	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
720	51	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
780	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
840	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
900	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
960	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1020	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1080	0	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
1140	64	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
1200	69	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
1260	81	10	10	10	1.02	10	5	0.00000	0.00	0.00	0.00
1320	78	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
1380	65	18	18	19	1.02	19	10	0.00000	0.00	0.00	0.00
1440	63	18	18	19	1.02	20	10	0.00000	0.00	0.00	0.00
1560	61	10	10	11	1.02	11	5	0.00000	0.00	0.00	0.00
1680	52	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
1800	49	12	12	13	1.02	13	6	0.00000	0.00	0.00	0.00
1920	60	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
2040	56	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
2160	53	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
2280	53	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
2400	53	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
2520	50	16	16	17	1.02	17	9	0.00000	0.00	0.00	0.00
2640	57	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
2760	45	14	14	15	1.02	15	7	0.00000	0.00	0.00	0.00
2880	40	16	16	17	1.02	17	9	0.00000	0.00	0.00	0.00
3000	38	10	10	11	1.02	11	5	0.00000	0.00	0.00	0.00
3120	40	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
3240	39	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: Edgefield Fuel and Cor

AFVR EVENT DATE: 1/11/16-1/15/16

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c,m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	40	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
3480	40	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
3600	42	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3720	42	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3840	42	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
3960	44	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
4080	42	16	16	17	1.02	17	9	0.00000	0.00	0.00	0.00
4200	38	20	20	22	1.02	22	11	0.00000	0.00	0.00	0.00
4320	35	10	10	11	1.02	11	5	0.00000	0.00	0.00	0.00
4440	37	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
4560	40	10	10	10	1.02	11	5	0.00000	0.00	0.00	0.00
4680	41	12	12	12	1.02	13	6	0.00000	0.00	0.00	0.00
4800	39	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
4920	40	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
5040	39	3	3	3	1.02	3	2	0.00000	0.00	0.00	0.00
5160	39	3	3	3	1.02	3	2	0.00000	0.00	0.00	0.00
5280	39	3	3	3	1.02	3	2	0.00000	0.00	0.00	0.00
5400	38	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
5520	59	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
5640	54	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
5760	57	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
<b>Average</b>	<b>49</b>	<b>8</b>	<b>8</b>	<b>9</b>	<b>1</b>	<b>9</b>	<b>4</b>	<b>0.00000</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Total Post-Treatment emissions in pounds: **0.10**

Total Post-Treatment emissions in gallons: **0.02**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)  
 100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)  
 PPM<sub>wet</sub> = "wet" concentration  
 PPM<sub>dry</sub> = "dry" concentration  
 RF (Response Factor) = Multiplying factor for converting ppm meter readings of hexane-calibrated instruments to ppm concentrations of other gases: 1.02 for benzene; 1.03 for toluene; 1.64 for o-xylene. Multiplying factor obtained from Instruction Manual for TLV Sniffer® by Bacharach, Inc., Instruction 23-9613, rev.2, January 1990.  
 K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)  
 PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP  
 C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon  
 M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon  
 K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP  
 C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP  
 PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon  
 PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline  
 PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

$PPM_{wet} = PPM_{measured}$ $PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$ $PPM_c = (PPM_d)(K)$ $C_{c,m} = (PPM_c)(M_c / K_3)$	$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$ $PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$ $PMR_g = (PMR_c)(M_g/M_{cg})$ $PMR = (PMR_g)(\#minutes/60)$
---	---



MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE LLC  
P O BOX 388  
EDGEFIELD SC 29824-0388

JUN 05 2017



Re: **Groundwater Sampling Directive**  
Edgefield Fuel & Convenience 3, 311 Main Street, Edgefield, SC  
UST Permit # 12175  
Release reported December 31, 2008  
Edgefield County

Dear Mr. Jolly:

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

The groundwater sampling event should be conducted in accordance with your contractors Annual Contractor Quality Assurance Plan (ACQAP) and must be conducted in compliance with all applicable regulations. Groundwater samples should be collected from all monitoring wells associated with the release and analyzed for BTEX, naphthalene, MTBE, 1,2-DCA, 8 oxygenates, and EDB. Analyses should be in accordance with Contractor's ACQAP to include duplicate samples, field blanks, and trip blanks. A copy of DHEC QAPP for the UST Management Division is available at [http://www.scdhec.gov/Environment/docs/DHEC%20UST%20QAPP\\_Rev-3.1\(2\).pdf](http://www.scdhec.gov/Environment/docs/DHEC%20UST%20QAPP_Rev-3.1(2).pdf).

**Please have your contractor complete and submit the Site-Specific Work Plan and Cost Proposal within thirty (30) days of the date of this letter.** Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from DHEC must be issued before work begins.**

On all correspondence regarding this site, please reference UST Permit #12175. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-7705, by fax at (803) 898-0673, or by e-mail at [Johnsoal@dhec.sc.gov](mailto:Johnsoal@dhec.sc.gov).

Sincerely,

Austin Johnson, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

cc: ATC Group Services, LLC., 7606 Whitehall Executive Drive, Suite 800, Charlotte, NC  
29484  
Technical File

# Document Receipt Information

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Date Received 4.23.2017

Permit Number 12175

Project Manager Austin Johnson

Name of Contractor ATC

UST Certification Number Groundwater Monitoring Report

Docket Number 44Tech

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**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

**GROUNDWATER MONITORING REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**

**UST PERMIT NO. 12175  
ATC PROJECT NO. 14-211651**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

ATC Group Services, LLC  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

June 21, 2017

A handwritten signature in blue ink, appearing to read 'Noelle France'.

---

Noelle France  
Project Manager

A handwritten signature in blue ink, appearing to read 'Kenneth J. Perignat'.

---

Kenneth J. Perignat, P.E.  
SC Licensed Professional Engineer #30238



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## 1.0 INTRODUCTION

This report, prepared by ATC Group Services LLC (ATC), presents the results of the groundwater sampling event conducted at the Edgefield Fuel & Convenience 3 site between October 11 and 12, 2016. The activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1, and Cost Agreement Number 51335 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated November 17, 2015.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-5425

### 1.2 UST OWNER/OPERATOR

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-1900

### 1.3 PROPERTY OWNER INFORMATION

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 367-1900

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** ATC Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina, 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 CERTIFIED LABORATORY INFORMATION

**Company Name:** Pace Analytical Services, Inc.  
**Address:** 9800 Kinsey Avenue, Suite 100  
Huntersville, North Carolina 28078  
**SC Certification:** 99006001

## 1.6 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** 2BA

### UST Permit 12175

UST	Size	Product	Date Installed	Currently in Use	Date Closed
1	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
2	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
3	3,000	Premium Unleaded Gasoline	10/11/1989	Not In Use	Not applicable

The site operates as Edgefield Fuel & Convenience 3, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed at the site and the premium unleaded gasoline UST was not in use during these activities.

## 1.7 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.

## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The Edgefield Fuel & Convenience 3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. The site is bordered to the north by an access road and parking lot for the west abutting Carolina First Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street. A site vicinity map with topographic features is included as **Figure 1**.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority utilize potable water from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One wet weather drainage feature was previously identified as being located approximately 1,000 feet southeast of the site. This wet weather drainage feature flows in a general east to west direction before a turn and then flows toward the southwest. The wet weather drainage feature drains into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and a tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general northwest to southeast direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general northeast to southwest direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located at an elevation of approximately 525 feet above mean sea level (MSL) with an approximate total site topographic relief of three feet. The surface at the site is generally covered by asphalt, and some smaller areas of concrete and grass. The site USTs were overlain with a concrete surface finish. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC) stone and clayey to silty sand to depths of approximately 2 feet below ground surface (bgs). Native soils (residuum), below the fill material, are characterized as tan to brown to red silty sand and silty clay to depths of 6 feet bgs. Soils encountered in the boreholes 6 feet bgs are characterized as yellow to orange and tan to gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet during Tier I assessment activities (March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses, the site was underlain at shallow depths by clayey silty sand.

Historical depths to groundwater measured in shallow monitoring wells at the site ranged from 18.09 feet bgs (12175-MW5 in May 2010) to 25.61 feet bgs (12175-MW2 in October 2010 with 3.65 feet of free product), and averaged 22.24 feet bgs in on-site monitoring wells over time. Historical groundwater elevation data is presented in **Table 2**. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, ranged between 0.11 feet per day (ft/day) and 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

### 3.0 ASSESSMENT INFORMATION

#### 3.1 SOIL ASSESSMENT

Soil assessment was not required for the scope of work outlined in the November 17, 2015 directive.

#### 3.2 GROUNDWATER FIELD SCREENING

Groundwater field screening was not required for the scope of work outlined in the November 17, 2015 directive.

#### 3.3 MONITORING WELL INFORMATION

Monitoring well installation was not required for the scope of work outlined in the November 17, 2015 directive.

#### 3.4 GROUNDWATER ASSESSMENT

##### 3.4.1 Product/Water Level Measurements

Twenty-nine wells (12175-MW1 through 12175-MW26 and 12175-RW1 through 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on October 11, 2016. Free phase product was detected in wells 12175-MW1 (thickness of 3.15 feet), 12175-MW2 (thickness of 0.26 feet), 12175-MW25 (thickness of 3.61 feet), 12175-RW1 (thickness of 0.05 feet) and 12175-RW2 (thickness of 3.89 feet).

On October 11, 2016, the groundwater elevations measured in the shallow monitoring wells, relative to a temporary benchmark with an assumed datum of 99.50 feet, ranged from 79.50 feet (12175-MW16) to 73.21 feet (12175-MW20). Based on these data, the groundwater flow direction is interpreted to trend primarily to the south in the southern site vicinity and to the north-northwest in the northern site vicinity.

The horizontal hydraulic gradient is estimated based on the change in hydraulic head per unit distance, calculated by using the formula  $i = (h_2 - h_1)/d$ , referenced from the "EPA On-line Tools for Site Assessment Calculation" website. In this calculation,  $i$  is the gradient,  $h$  is the hydraulic head at the up gradient monitoring well ( $h_1$ ) and down gradient monitoring well ( $h_2$ ), and  $d$  is the distance between the down gradient monitoring well and the up gradient monitoring well. The horizontal hydraulic gradient was calculated to be approximately 0.00205 ft/ft between monitoring wells 12175-MW16 and 12175-MW23. The horizontal hydraulic gradient was calculated to be approximately 0.0237 ft/ft between monitoring wells 12175-MW24 and 12175-MW20.

Historical groundwater elevation data is presented in **Table 2**. A groundwater elevation map for site monitoring wells is included as **Figure 5**.

##### 3.4.2 Water Sampling and Analyses

Twenty-four monitoring wells (12175-MW3 through 12175-MW24, 12175-MW26, and 12175-RW3) were sampled between October 11 and 12 2016. Groundwater samples were not collected from monitoring wells 12175-MW1, 12175-MW2, 12175-MW25, 12175-RW1 and 12175-RW2 due to the presence of free phase product.



Twenty four monitoring wells (12175-MW3, through 12175-MW24, 12175-MW26 and 12175-RW3) were purged and sampled. Monitoring wells were purged using a combination of new, disposable polyethylene bailers and/or a stainless steel Proactive Mega-Monsoon® (centrifugal pump) with new, disposable polyethylene tubing and/or a Waterra Hydrolift2® pump with decontaminated foot valves and new, disposable polyethylene tubing while wearing new, disposable nitrile gloves.

Purging was accomplished by removing three to five well volumes while observing in-field groundwater quality parameters for stabilization criteria or until the well was bailed dry and allowed to recharge. Measurements of hydrogen ion concentration (pH), conductivity, temperature, oxidation reduction potential (ORP), and dissolved oxygen (DO) were recorded utilizing a Horiba U52® multi-parameter water quality meter. The visual clarity (turbidity) was also noted.

Groundwater samples collected were containerized in laboratory-prepared glass bottles, packed on ice, and transported to Pace Analytical Services, Inc. located in Huntersville, North Carolina, a South Carolina certified laboratory. Standard chain-of-custody procedures were maintained, as documented in **Appendix B**.

The duplicate samples were assigned a unique identification name with no time listed on the chain of custody to avoid potential laboratory analytical bias and identified in the field book. Two field blank samples were collected (per quality assurance/quality control [QAQC], one field blank sample is to be obtained for each 24 hour sampling period), during water sampling activities for quality assurance and quality control. Two sets of trip blank samples, (per QAQC protocol, one set of trip blank samples per each cooler submitted) were included for quality assurance and quality control.

A duplicate sample identified as 12175-DIUP1 was collected from 12175-MW26 within 5 minutes of 12175-MW26 groundwater sample collection. A second duplicate sample, identified as 12175-Duplicate 2, was collected from 12175-MW24 within 5 minutes of 12175-MW24 groundwater sample collection.

Thirty water samples (24 monitoring wells, two duplicates, two field blanks, and two trip blank) were analyzed for benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX compounds), naphthalene, 1,2-dichloroethane (1,2-DCA), methyl tertiary butyl ether (MTBE), tertiary amyl alcohol (TAA), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), tertiary butyl formate (TBF), diisopropyl ether (DIPE), ethanol, ethyl tertiary butyl ether (ETBE), and 3,3-dimethyl-1-butanol by Environmental Protection Agency (EPA) Method 8260. Twenty-eight water samples (24 monitoring wells, two duplicates, and two field blanks) were analyzed for ethylene dibromide (EDB) by EPA Method 8011.

### 3.4.3 Groundwater Analytical Data

Analytical results were compared to the Risk Based Screening Levels (RBSLs), as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D1: RBSLs for Groundwater* and the Action Levels (ALs) as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D2: Action Levels for Groundwater (Oxygenates)*.

ATC requested that the laboratory report include values flagged with a “J”, representing an estimated value between the laboratory reporting limit and the method detection limit. Where the

“J” values are reported in excess of the RBSL or AL, they are included as exceeding the RBSL or AL for that constituent.

Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW11, 12175-MW12, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, and 12175-RW3.

Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW24, and 12175-RW3.

Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW24, and 12175-RW3.

Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW5, 12175-MW17, 12175-MW24, and 12175-RW3.

Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a “J” value) 12175-MW6, and 12175-MW23.

Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a “J” value) 12175-MW6 (as a “J” value) 12175-MW11, 12175-MW17 (as a “J” value), 12175-MW18 (as a “J” value), 12175-MW19, 12175-MW24 (as a “J” value), and 12175-RW3 (as a “J” value).

Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW5, 12175-MW17, 12175-MW1, 12175-MW24 and 12175-RW3

Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater samples collected from well 12175-MW26 (as a “J” value).

Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW6, 12175-MW12, 12175-MW17, 12175-MW19, 12175-MW24, and 12175-MW26, and 12175-RW3.

Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128  $\mu\text{g/L}$  in the groundwater sample collected from monitoring well 12175-MW5 (with a “J” value).

Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400  $\mu\text{g/L}$  was reported in the groundwater sample collected from monitoring wells 12175-MW4 and 12175-MW6.

Chemicals of Concern (COCs) were not detected in the field blanks or trip blanks from the October 2016 groundwater sampling event. .

Per QAPP requirements, precision is measured utilizing the relative percent difference (RPD) calculation. The average RPD for CoC concentrations exceeding the reporting limits from

groundwater sample pair 12175-Dup 1 and 12175-MW26, and groundwater sample pair 12175-Duplicate 2 and 12175-MW24 was calculated to be less than the maximum RPD limits of 20%.

Historical groundwater analytical data are presented in **Table 3**. A groundwater quality map based on the October 2016 data is included as **Figure 4**. Groundwater Sampling Field Data Sheets, the laboratory reports for groundwater samples collected during this assessment, and the QA/QC evaluation are included in **Appendix B**.

#### 3.4.4 Aquifer Characterization

Aquifer characteristics determinations were not required for the scope of work outlined in the November 17, 2015 directive.

### **3.5 INVESTIGATIVE DERIVED WASTE**

Purge water generated during the October 2016 groundwater sampling activities was placed in 55-gallon drums for disposal by Haz-Mat Environmental Services at their Charlotte, North Carolina, facility. The manifest for the disposal of 59 gallons of water is included in **Appendix G**.

## 4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### 4.1 SUMMARY

- Twenty-nine wells (12175-MW1 through 12175-MW26 and 12175-RW1 through 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on October 11, 2016.
- Free phase product was detected in wells 12175-MW1 (thickness of 3.15 feet), 12175-MW2 (thickness of 0.26 feet), 12175-MW25 (thickness of 3.61 feet), 12175-RW1 (thickness of 0.05 feet) and 12175-RW2 (thickness of 3.89 feet).
- Based on the October 2016 gauging data, the groundwater flow direction was interpreted to trend toward the south in the southern site vicinity and towards the north-northwest on the northern site vicinity.
- Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 µg/L in groundwater samples collected from wells 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW11, 12175-MW12, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, and 12175-RW3.
- Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW24, and 12175-RW3.
- Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW24, and 12175-RW3.
- Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000 µg/L in groundwater samples collected from wells 12175-MW5, 12175-MW17, 12175-MW24, and 12175-RW3.
- Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a “J” value) 12175-MW6, and 12175-MW23.
- Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a “J” value) 12175-MW6 (as a “J” value) 12175-MW11, 12175-MW17 (as a “J” value), 12175-MW18 (as a “J” value), 12175-MW19, 12175-MW24 (as a “J” value), and 12175-RW3 (as a “J” value).
- Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05 µg/L in groundwater samples collected from wells 12175-MW5, 12175-MW17, 12175-MW1, 12175-MW24 and 12175-RW3
- Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0 µg/L in groundwater samples collected from well 12175-MW26 (as a “J” value).

- Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW6, 12175-MW12, 12175-MW17, 12175-MW19, 12175-MW24, and 12175-MW26, and 12175-RW3.
- Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128 µg/L in the groundwater sample collected from monitoring well 12175-MW5 (with a “J” value).
- Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400 µg/L was reported in the groundwater sample collected from monitoring wells 12175-MW4 and 12175-MW6.

#### **4.2 CONCLUSIONS**

- Free phase product continues to be detected at the site in wells located at and to the west of the UST system.
- The horizontal and vertical extent of dissolved phase petroleum in the groundwater has not been defined.

#### **4.3 RECOMMENDATIONS**

- ATC recommends performing two 96-hour aggressive fluid vapor recovery (AFVR) events in order to aid in mitigation of onsite free phase product. The first event will target monitoring wells 12175-MW1, and 12175-RW1, and a second event will target monitoring wells 12175-MW2, 12175-MW25, and recovery well 12175-RW2. Groundwater gauging events will be conducted prior to and at the conclusion of each AFVR event.
- Additional monitoring wells appear appropriate to delineate CoC above RBSLs in groundwater. It is recommended that these wells be installed subsequent to the removal of free phase petroleum product at the site.

## 5.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ATC. Although the accuracy of these data cannot be verified, for the purposes of this report, ATC assumes that they are correct.

### 5.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## **TABLES**

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**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW1	35	20-35	98.51	12/17/04	22.13	23.68	1.55	75.99	NM
				05/10/10	17.83	21.00	3.17	79.89	NM
				10/20/10	19.38	25.07	5.69	77.71	NM
				09/12/11	20.59	26.35	5.76	76.48	NM
				08/16/13	19.33	22.72	3.39	78.33	NM
				01/09/14	19.37	22.77	3.40	78.29	NM
				01/23/15	18.70	20.10	1.40	79.46	33.30
				09/15/15	19.15	22.67	3.52	78.48	NM
12175-MW2	34	19-34	100.42	12/17/04	---	24.55	---	75.87	34.05
				05/10/10	20.27	22.73	2.46	79.54	33.98
				10/20/10	21.96	25.61	3.65	77.55	NM
				09/12/11	23.01	27.06	4.05	76.40	NM
				08/16/13	22.35	22.67	0.32	77.99	NM
				01/09/14	22.08	22.91	0.83	78.13	NM
				01/23/15	21.10	21.90	0.80	79.12	34.00
				09/15/15	21.80	22.63	0.83	78.41	NM
12175-MW3	34	19-34	100.44	12/17/04	---	24.38	---	76.06	34.00
				05/10/10	---	20.54	---	79.90	33.91
				10/20/10	---	22.71	---	77.73	33.90
				09/12/11	---	23.90	---	76.54	33.89
				08/16/13	---	22.32	---	78.12	---
				01/09/14	---	22.11	---	78.33	---
				12/22/14	---	21.90	---	78.54	33.90
				09/15/15	---	21.77	---	78.67	33.90
12175-MW4	29	19-29	98.61	10/11/16	---	21.38	---	79.06	27.89
				05/10/10	---	18.92	---	79.69	28.91
				10/20/10	---	21.04	---	77.57	28.95
				09/12/11	---	22.22	---	76.39	28.96
				08/16/13	20.49	21.49	1.00	77.87	---
				01/09/14	20.27	21.15	0.88	78.12	---
				01/23/15	19.30	19.85	0.55	79.17	29.00
				09/15/15	19.93	20.90	0.97	78.44	NM
12175-MW5	29	19-29	98.05	10/11/16	---	19.65	---	78.96	28.89
				05/10/10	---	18.09	---	79.96	29.04
				10/20/10	20.22	20.57	0.35	77.74	NM
				09/12/11	20.66	24.05	3.39	76.54	NM
				08/16/13	19.39	21.83	2.44	78.05	NM
				01/09/14	19.24	20.96	1.72	78.38	NM
				01/23/15	18.55	18.90	0.35	79.41	29.00
				09/15/15	19.35	19.72	0.37	78.61	NM
12175-MW6	29	19-29	99.82	10/11/16	---	18.80	---	79.25	28.99
				05/10/10	---	19.94	---	79.88	28.99
				10/20/10	---	22.09	---	77.73	29.02
				09/12/11	---	23.27	---	76.55	28.99
				08/16/13	---	21.75	---	78.07	---
				01/09/14	---	21.51	---	78.31	---
				12/22/14	---	21.24	---	78.58	29.01
				09/15/15	---	21.12	---	78.70	28.99

**TABLE 2  
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Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW7	20	10-20	93.32	05/10/10	---	13.51	---	79.81	20.33
				10/20/10	---	15.91	---	77.41	20.25
				09/12/11	---	17.00	---	76.32	20.36
				08/16/13	---	15.18	---	78.14	---
				01/09/14	---	14.95	---	78.37	---
				12/22/14	---	15.10	---	78.22	20.40
				09/15/15	---	15.03	---	78.29	20.40
12175-MW8	27	17-27	100.59	05/10/10	---	21.61	---	78.98	26.85
				10/20/10	---	23.83	---	76.76	26.89
				09/12/11	---	24.89	---	75.70	26.89
				08/16/13	---	22.87	---	77.72	---
				01/09/14	---	22.73	---	77.86	---
				12/22/14	---	23.07	---	77.52	26.90
				09/15/15	---	23.01	---	77.58	26.90
12175-MW9	27	17-27	97.55	05/10/10	---	18.81	---	78.74	27.03
				10/20/10	---	21.12	---	76.43	27.07
				09/12/11	---	22.16	---	75.39	26.93
				08/16/13	---	20.03	---	77.52	---
				01/09/14	---	19.75	---	77.80	---
				12/22/14	---	20.30	---	77.25	26.89
				09/15/15	---	20.36	---	77.19	26.89
12175-MW10	30	20-30	101.31	05/10/10	---	22.88	---	78.43	30.31
				10/20/10	---	24.90	---	76.41	30.40
				09/12/11	---	25.87	---	75.44	30.39
				08/16/13	---	23.86	---	77.45	---
				01/09/14	---	23.74	---	77.57	---
				12/22/14	---	24.10	---	77.21	30.30
				09/15/15	---	23.89	---	77.42	30.30
12175-MW11	31	21-31	101.65	05/10/10	---	22.16	---	79.49	31.04
				10/20/10	---	24.10	---	77.55	31.07
				09/12/11	---	25.25	---	76.40	30.91
				08/16/13	---	23.69	---	77.96	---
				01/09/14	---	23.61	---	78.04	---
				12/22/14	---	23.41	---	78.24	30.85
				09/15/15	---	23.09	---	78.56	30.85
12175-MW12	30	20-30	100.55	05/10/10	---	21.78	---	78.77	30.15
				10/20/10	---	23.75	---	76.80	30.10
				09/12/11	---	25.00	---	75.55	30.04
				08/16/13	---	23.35	---	77.20	---
				01/09/14	---	23.24	---	77.31	---
				12/22/14	---	22.98	---	77.57	30.05
				09/15/15	---	22.70	---	77.85	30.05
				10/11/16	---	22.29	---	78.26	29.95

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Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW13	25	15-25	93.20	05/10/10	---	17.82	---	75.38	25.20
				10/20/10	---	20.26	---	72.94	25.24
				09/12/11	---	21.60	---	71.60	25.24
				08/16/13	---	19.20	---	74.00	---
				01/09/14	---	18.87	---	74.33	---
				12/22/14	---	19.44	---	73.76	25.25
				09/15/15	---	18.86	---	74.34	25.25
12175-MW14	30	20-30	100.05	05/10/10	---	22.47	---	77.58	29.54
				10/20/10	---	24.77	---	75.28	29.59
				09/12/11	---	25.97	---	74.08	29.57
				08/16/13	---	24.06	---	75.99	---
				01/09/14	---	23.70	---	76.35	---
				12/22/14	---	23.90	---	76.15	29.60
				09/15/15	---	23.40	---	76.65	29.60
12175-MW15	27	17-27	98.47	05/10/10	---	18.81	---	79.66	26.93
				10/20/10	---	21.16	---	77.31	26.97
				09/12/11	---	22.10	---	76.37	26.96
				08/16/13	---	20.66	---	77.81	---
				01/09/14	---	20.24	---	78.23	---
				12/22/14	---	20.09	---	78.38	26.93
				09/15/15	---	19.70	---	78.77	26.93
12175-MW16	20	10-20	93.01	05/10/10	---	12.34	---	80.67	19.92
				10/20/10	---	14.97	---	78.04	19.89
				09/12/11	---	16.15	---	76.86	19.66
				08/16/13	---	14.68	---	78.33	---
				01/09/14	---	14.28	---	78.73	---
				12/22/14	---	13.61	---	79.40	19.25
				09/15/15	---	13.93	---	79.08	19.25
12175-MW17	28	18-28	101.09	10/20/10	---	23.52	---	77.57	28.70
				09/12/11	---	24.67	---	76.42	28.68
				08/16/13	22.62	24.66	2.04	77.96	---
				01/09/14	---	23.00	---	78.09	---
				12/22/14	---	22.82	---	78.27	28.66
				09/15/15	---	22.72	---	78.37	28.66
				10/11/16	---	22.21	---	78.88	28.61
12175-MW18	28	18-28	101.51	10/20/10	---	24.01	---	77.50	28.66
				09/12/11	---	25.14	---	76.37	28.58
				08/16/13	---	23.45	---	78.06	---
				01/09/14	---	23.33	---	78.18	---
				12/22/14	---	23.31	---	78.20	28.60
				09/15/15	---	23.12	---	78.39	28.60
12175-MW19	28	18-28	100.01	10/20/10	22.35	23.19	0.84	77.45	NM
				09/12/11	22.57	27.18	4.61	76.29	NM
				08/16/13	20.73	23.35	2.62	78.63	NM
				01/09/14	21.58	23.25	1.67	78.01	NM
				01/23/15	20.05	20.80	0.75	79.77	28.30
				09/15/15	21.53	22.05	0.52	78.35	NM
10/11/16	---	21.18	---	78.83	28.16				

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW20	27	17-27	91.80	10/20/10	---	20.28	---	71.52	26.24
				09/12/11	---	21.66	---	70.14	26.24
				08/16/13	---	18.98	---	72.82	---
				01/09/14	---	18.42	---	73.38	---
				12/22/14	---	19.21	---	72.59	26.25
				09/15/15	---	19.13	---	72.67	26.25
12175-MW21	29	19-29	94.30	10/11/16	---	18.59	---	73.21	26.15
				10/20/10	---	21.70	---	72.60	29.37
				09/12/11	---	22.94	---	71.36	29.35
				08/16/13	---	20.70	---	73.60	---
				01/09/14	---	20.33	---	73.97	---
				12/22/14	---	20.81	---	73.49	29.37
12175-MW22	30	20-30	99.82	09/15/15	---	20.58	---	73.72	29.37
				10/11/16	---	20.01	---	74.29	29.25
				10/20/10	---	25.99	---	73.83	29.89
				09/12/11	---	26.94	---	72.88	29.89
				08/16/13	---	24.04	---	75.78	---
				01/09/14	---	23.98	---	75.84	---
12175-MW23	31	21-31	102.29	12/22/14	---	25.15	---	74.67	29.90
				09/15/15	---	24.79	---	75.03	29.90
				10/11/16	---	23.73	---	76.09	29.80
				10/20/10	---	24.86	---	77.43	31.37
				09/12/11	---	25.99	---	76.30	31.34
				08/16/13	20.87	24.35	3.48	80.55	NM
12175-MW24	30	20-30	100.23	01/09/14	---	24.32	---	77.97	---
				12/22/14	---	24.21	---	78.08	31.35
				09/15/15	---	23.90	---	78.39	31.35
				10/11/16	---	23.61	---	78.68	31.23
				08/16/13	---	22.07	---	78.16	---
				01/09/14	---	22.08	---	78.15	---
12175-MW25	30	20-30	99.95	12/22/14	---	21.85	---	78.38	30.15
				09/15/15	---	21.76	---	78.47	30.15
				10/11/16	---	21.21	---	79.02	30.05
				08/16/13	21.40	23.87	2.47	77.93	NM
				01/09/14	21.22	23.75	2.53	78.10	NM
				01/23/15	19.90	21.90	2.00	79.55	30.15
12175-MW26	30	20-30	99.89	09/15/15	20.48	24.45	3.97	78.48	NM
				10/11/16	20.16	23.77	3.61	78.89	NM
				08/16/13	---	22.81	---	77.08	---
				01/09/14	---	22.68	---	77.21	---
				12/22/14	---	22.45	---	77.44	30.09
				09/15/15	---	22.13	---	77.76	30.09
12175-RW1	30	20-30	98.05	10/11/16	---	21.66	---	78.23	29.97
				08/16/13	---	19.80	---	78.25	---
				08/16/13	19.64	19.67	0.03	78.40	NM
				04/03/14	18.31	18.35	0.04	79.73	NM
				12/22/14	---	19.38	---	78.67	29.18
				09/15/15	---	19.42	---	78.63	NM
12175-RW2	30	20-30	100.05	10/11/16	18.75	18.80	0.05	79.29	NM
				08/16/13	20.75	20.87	0.12	79.27	NM
				08/16/13	21.16	24.18	3.02	78.14	NM
				04/03/14	19.79	22.38	2.59	79.61	NM
				01/23/15	20.00	22.50	2.50	79.43	30.10
				09/15/15	20.45	24.40	3.95	78.61	NM
12175-RW3	30	20-30	100.16	10/11/16	20.20	24.09	3.89	78.88	NM
				08/16/13	---	22.16	---	78.00	---
				01/09/14	---	22.00	---	78.16	---
				12/22/14	---	21.78	---	78.38	30.00
				09/15/15	---	21.68	---	78.48	NM
				10/11/16	---	21.28	---	78.88	30.08

**Notes:**

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free phase product with an assumed density of 0.75g/cm<sup>3</sup>, where present.

Well depths and screen lengths based on well construction records referencing ground surface.

Measured depths to fluids reference top of casing as measuring point.

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	125	1,400	NE	150	10,000	47	NE	
12175-MW1	03/04/09	FREE PHASE PRODUCT																	
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
12175-MW2	03/04/09	4,970	7,470	1,020	4,400	183	142	0.46	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
12175-MW3	03/04/09	7.9	33.9	<5.0	12.8	<5.0	<5.0	<0.019	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	<5.0	4.57	<5.0	5.77	<5.0	<5.0	<0.020	<5.0	<5.0	<100	<100	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	7.5	<5.0	<5.0	4.77	<5.0	3.67	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	21.4	<1	<0.5	3.5	<1	<5	<0.0189	<0.5	NR	<20	<1	2.61	<160	<1	<800	<1	<40	
	12/23/14	43.1	1.77	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	3.17	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW4	10/12/2016	8.5	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/10/10	411	29.8	8.3	31.97	256	<5.0	<0.020	<5.0	17.6	3,120	11.8	322	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	1,360	87.5	108	121.6	630	15.2	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	626	10.6	9.5	19.2	862	<25	<0.019	<2.5	NR	7,600	30	350	<800	4.41	<4,000	<5	<200	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
12175-MW5	10/12/2016	415	3210	1630	7070	464	526	<0.019	<45.0	NR	20900	<85.0	2750	<182	<42.5	<3280	<90.0	<802	
	05/10/10	20,900	30,900	1,090	12,100	11,400	316	0.93	<5.0	21.7	25,300	1,620	<100	<50.0	131	<200	47.1	<100	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
12175-MW6	10/12/2016	26000	41800	3100	17000	660 J	819 J	2.1	<45.0	NR	<19200	1370 J	<14400	<1820	<425	<32800	<900	<8020	
	05/10/10	270	200	20.1	213.3	59.4	<5.0	<0.019	<5.0	9.4	757	<100	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	1,830	1,140	110	677	186	9.17	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	1,500	351	19.5	353	155	<5.0	<0.0187	<5	NR	<200	6.71	<200	<1,600	<10	<8,000	<10	<460	
	12/23/14	2,350	183	483	263	459	26.6	<0.019	<25.0	NR	13,600	<50.0	1,050	<250	<25.0	<1,000	<50.0	<500	
	09/15/15	1890	<100	708	<200	905	<100	<0.020	<100	NR	28300	<200	2020	<1000	<100	<4000	<200	<2000	
12175-MW7	10/12/2016	1660	395	497	842	770	43.5 J	<0.020	<36.0	NR	34800	<68.0	2870	<146	<34.0	<2620	<72.0	<642	
	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	59.3	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0187	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW8	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/10/10	<5.0	3.77	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	57.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	1.91	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW9	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/10/10	<5.0	3.17	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	34.4	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0185	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	2.87	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW20	10/21/10	5.6	7.0	1.1J	9.1J	9.5	2.9J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	0.17 I	<0.5	<2	5	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW21	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	10/21/10	2.5J	10.5	1.8J	8.2J	<5.0	3.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/23/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW22	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	3.2 J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	9.9	<0.019	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	10/21/10	<5.0	4.5J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0191	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
12175-MW23	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	1110	<16.0	<16.0	51.6 J	117	22.1 J	<0.020	<18.0	NR	<768	65.4 J	<57.7	<73.0	<17.0	<1310	<36.0	<32.1	
	12/23/14	12,100	32,800	1,780	21,100	75.5	469	<0.020	<50.0	NR	17,400	119	644 J	<500	<50.0	<2,000	<100	<1,000	
12175-MW24	09/16/15	4720	17000	2600	14600	<625	1320	<0.020	<625	NR	15600	<1250	<12500	<6250	<625	<25000	<1250	<12500	
	10/12/2016	4320	13600	2170	11300	<170	493 J	0.35	<180	NR	18700	<340	<5770	<730	<170	<13100	<360	<3210	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
12175-MW26	10/11/16	FREE PHASE PRODUCT																	
	12/22/14	967	41.8	<25.0	<50.0	84.6	25.6	<0.019	13.9 J	NR	1,310	44.7 J	306 J	<250	16.0 J	<1,000	<50.0	161 J	
	09/15/15	563	<25.0	<25.0	<50.0	54.4	47.5	<0.020	12.1 J	NR	1200	27.4 J	<500	<250	18.6 J	<1000	<50.0	<500	
	10/12/2016	238	<4.0	<4.0	<6.8	37.2	<5.0	<0.019	7.6 J	NR	1100	30.6	249 J	<18.2	10.0 J	<328	<9.0	<80.2	
12175-RW1	12/23/14	27,900	44,800	2,900	17,000	4,540	525	1.2	<100	NR	18,100	2,010	1,550 J	<1,000	145	<4,000	<200	<2,000	
	09/16/15	26800	51700	3630	21600	2330	3120	0.39	<2000	NR	41800	1570 J	<40000	<20000	<2000	<80000	<4000	<40000	
	10/11/16	FREE PHASE PRODUCT																	
12175-RW2	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
12175-RW3	12/23/14	13,300	36,200	3,140	15,700	<2,500	<2,500	0.028	<2,300	NR	<50,000	<5,000	<50,000	<25,000	<2,500	<100,000	<5,000	<50,000	
	09/16/15	8210	29800	2410	16000	<125	705	<0.019	<125	NR	19600	<250	<2500	<1250	<125	<5000	<250	<2500	
	10/12/2016	11200	34900	3280	17100	<425	602 J	0.21	<450	NR	39000	<850	<14400	<1820	<425	<32800	<900	<8020	

Notes:  
 Analyses for BTEX constituents, MTBE, naphthalene, 1,2-DCA, and oxygenates by EPA Method 8260, analyses for EDB by EPA Method 8011, analyses for total lead by EPA Method 6010  
 Risk-Based Screening Level (RBSL) as defined in Appendix B of SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.  
 South Carolina Risk-Based Corrective Action for Petroleum Releases  
 Action Level (AL) as defined in SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, October 22, 2008, Certification of the Oxygenate

Concentrations in bold face type exceeded the RBSL / Action Level  
 < = less than the reporting limit specified in the laboratory report  
 NR = analysis not requested  
 NS = not sampled  
 J value = an estimated value between the laboratory reporting limit and the method detection limit  
 I value = an estimated value between the laboratory method detection limit and the laboratory practical quantitation limit  
 NE = not established  
 NF = well not found

EDB = 1,2-Dibromoethane  
 TBF = *tert*-Butyl Formate  
 TAA = *tert*-Amyl Alcohol  
 1,2-DCA = 1,2-Dichloroethane  
 TBA = *tert*-Butyl Alcohol  
 MTBE = Methyl-*tert*-butyl ether  
 TAME = *tert*-Amyl methyl ether  
 DIPE = Diisopropyl ether  
 ETBE = Ethyl-*tert*-butyl ether

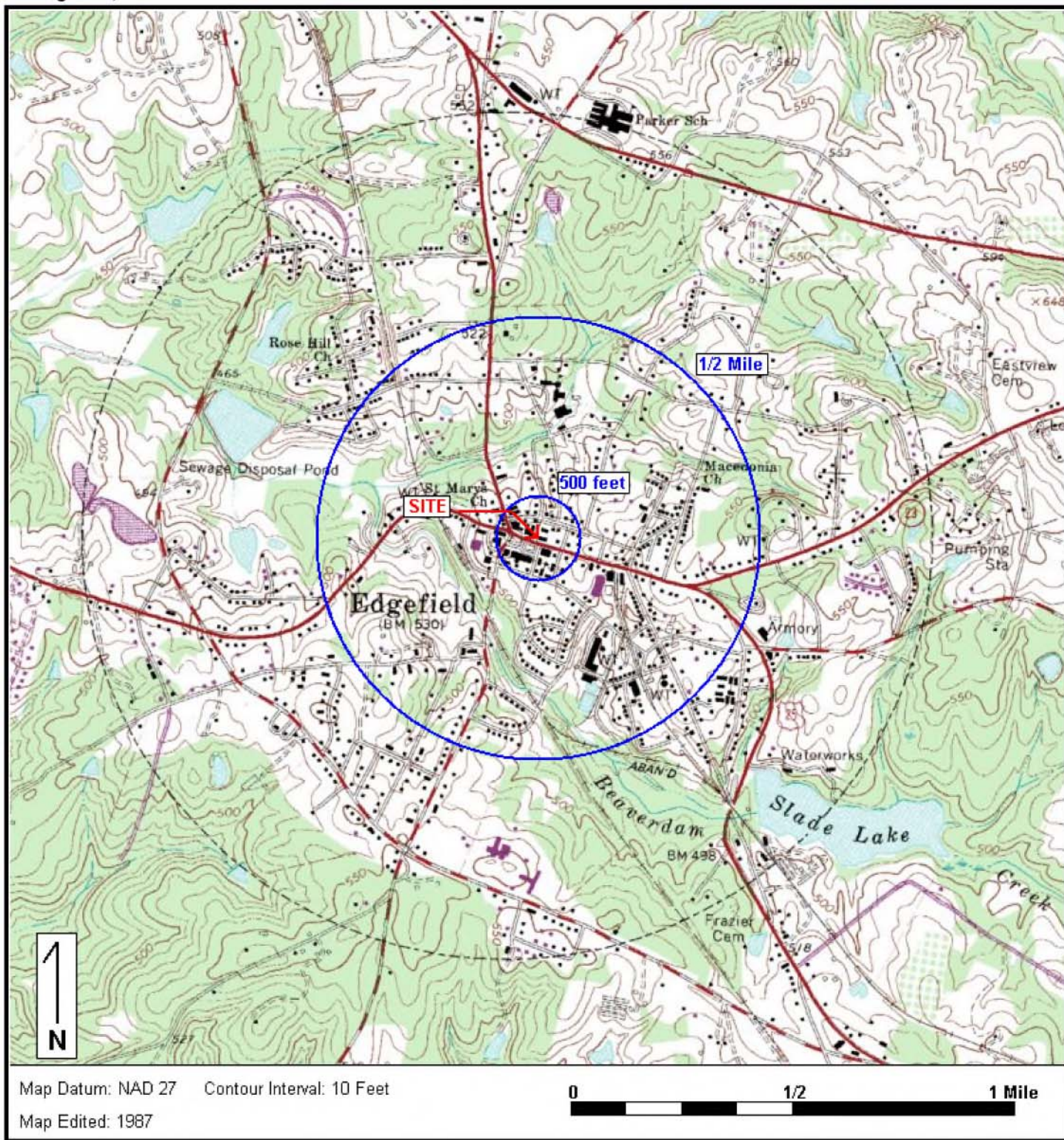


## **FIGURES**

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Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

Figure 1: SITE LOCUS

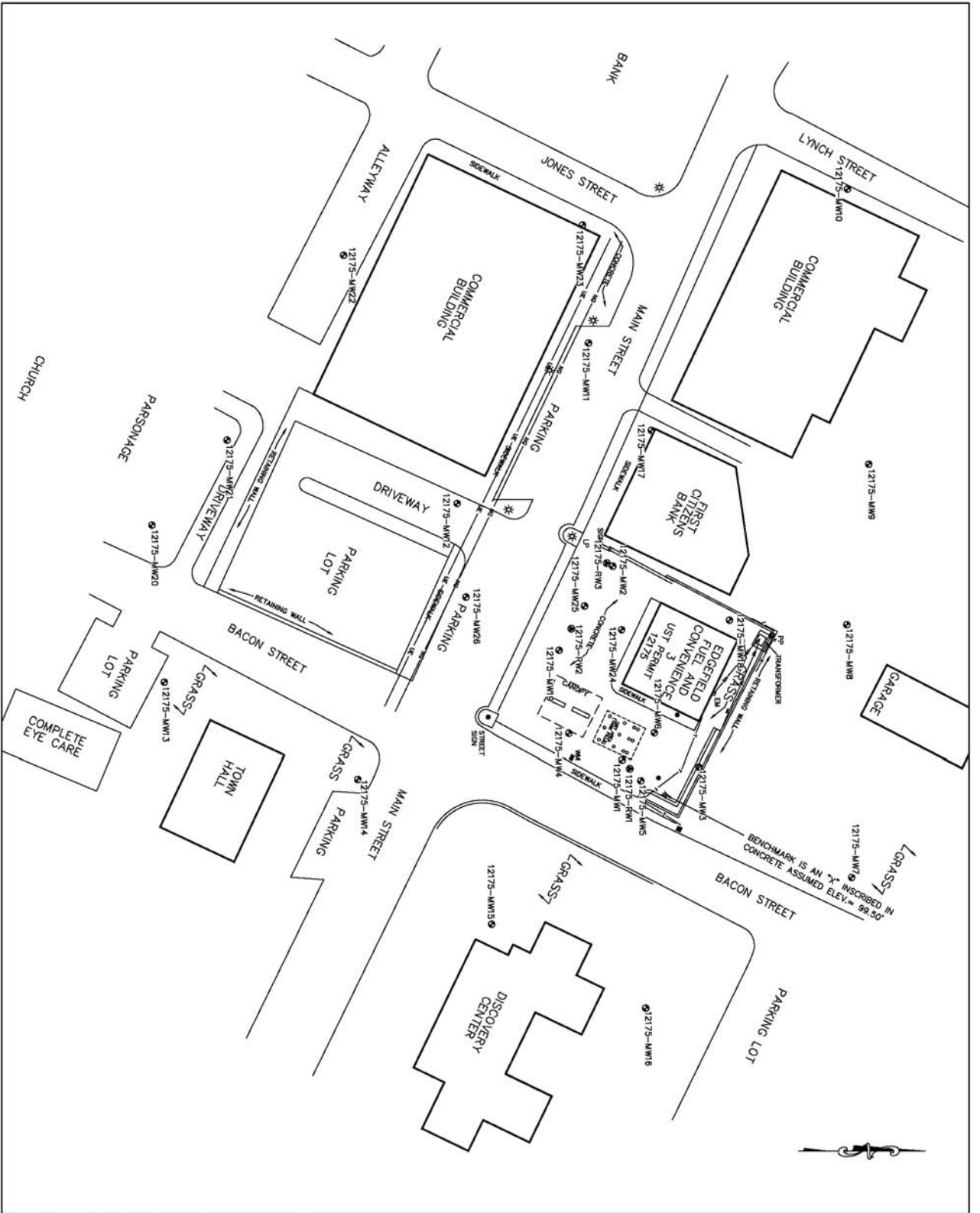


Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins






**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ⊕ Light Pole
- ⊕ Light Pole
- ⊕ Shallow (Water Table) Monitoring Well
- ⊕ Recovery Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

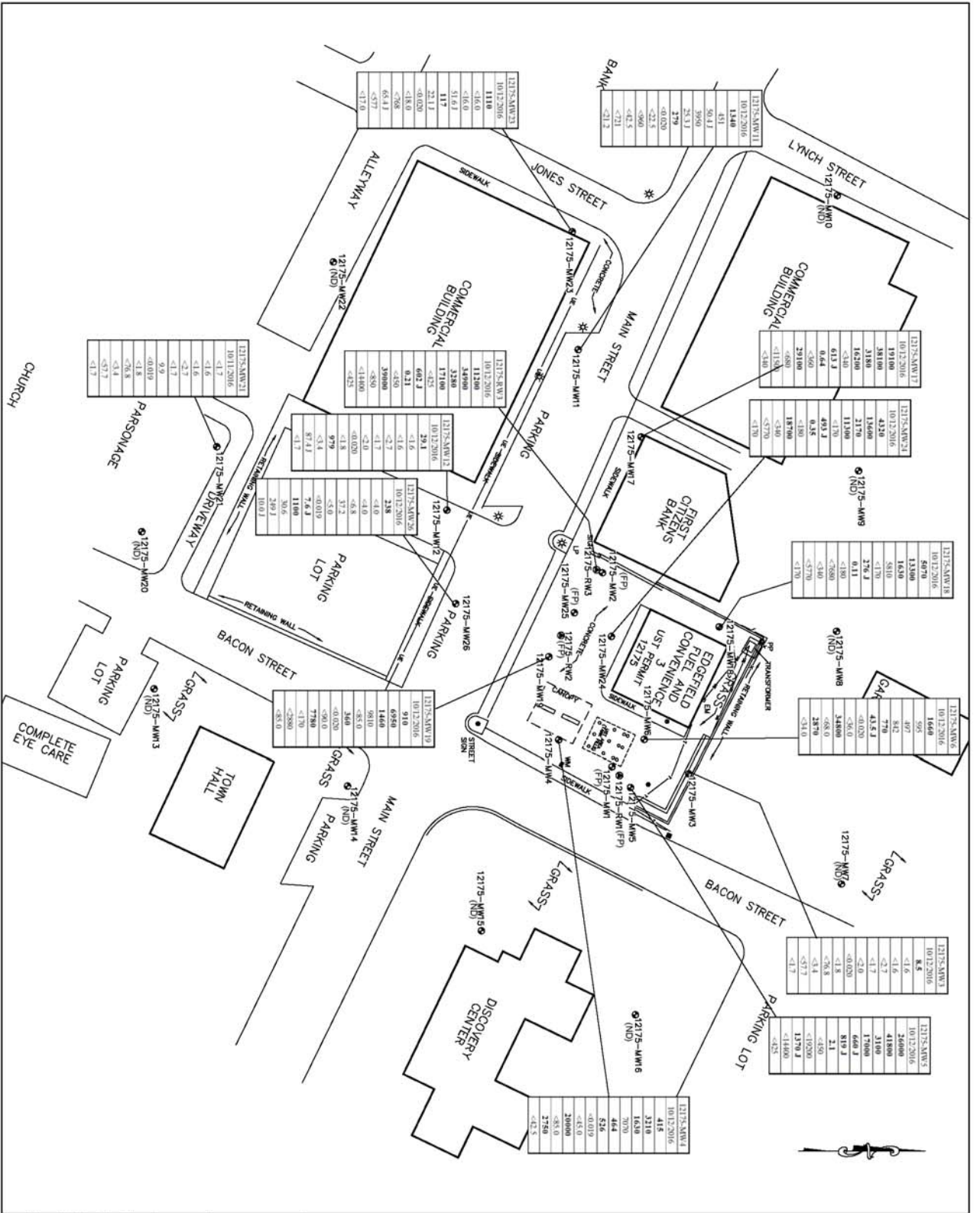


**7000 Wilkeshall Executive Center, Suite 800**  
 Charlotte, NC 28217  
 Phone: (704) 585-5711 Fax: (704) 585-2144

**PROJECT:**  
**Edgely Fuel & Convenience 3**  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
**Site Plan**

CLIENT:	DATE:	DRAWN BY:
Edgely Fuel & Convenience, LLC	1/27/15	RH
CHECKED BY:	DATE:	DESIGNED BY:
AV	14-211651	KDP
APPROVED BY:	FIGURE NO:	APP'D BY:
DM	2	AV



**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- 12175-MW1 Station (Water Table)
- Monitoring Well
- 12175-MW2 Recovery Well

Sample ID	Date	RSL/ALS
Benzo(a)anthracene	5	1,000
Benzo(b)fluoranthene	1,000	700
Benzo(k)fluoranthene	700	10,000
Methyl-tert-butyl ether	40	1,000
Naphthalene	25	2.1
1,2-Dibromochloroethane (EDB)	0.05	2.1
1,2-Dichloroethane	5	150
tert-Amyl Alcohol	240	1,400
tert-Butyl Alcohol	128	150
Diisopropyl ether	150	

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

All concentrations are measured in micrograms per liter (µg/L). Above concentrations represent RSLs as defined in Programmatic O&P, Revision 31 August 2016. Table D1-RSBLs for Groundwater and the Action Levels (ALs) as defined in Appendix C of SOHDEC Bureau of Land and Water Management, USF Management Decision Programmatic O&P, 12/18/16, Table D1: Action Levels for Groundwater (Organics).

<1.0 - Less than the laboratory specified reporting limit.

ND - Conc not detected.

NE - Not Found

FP - Free Phase Petroleum Product present

Samples collected 10/12/16

7000 Whitcomb Executive Center Drive, Suite 800  
 Carolina, NC 27617  
 Phone: (919)885-2711 Fax: (919)885-2914

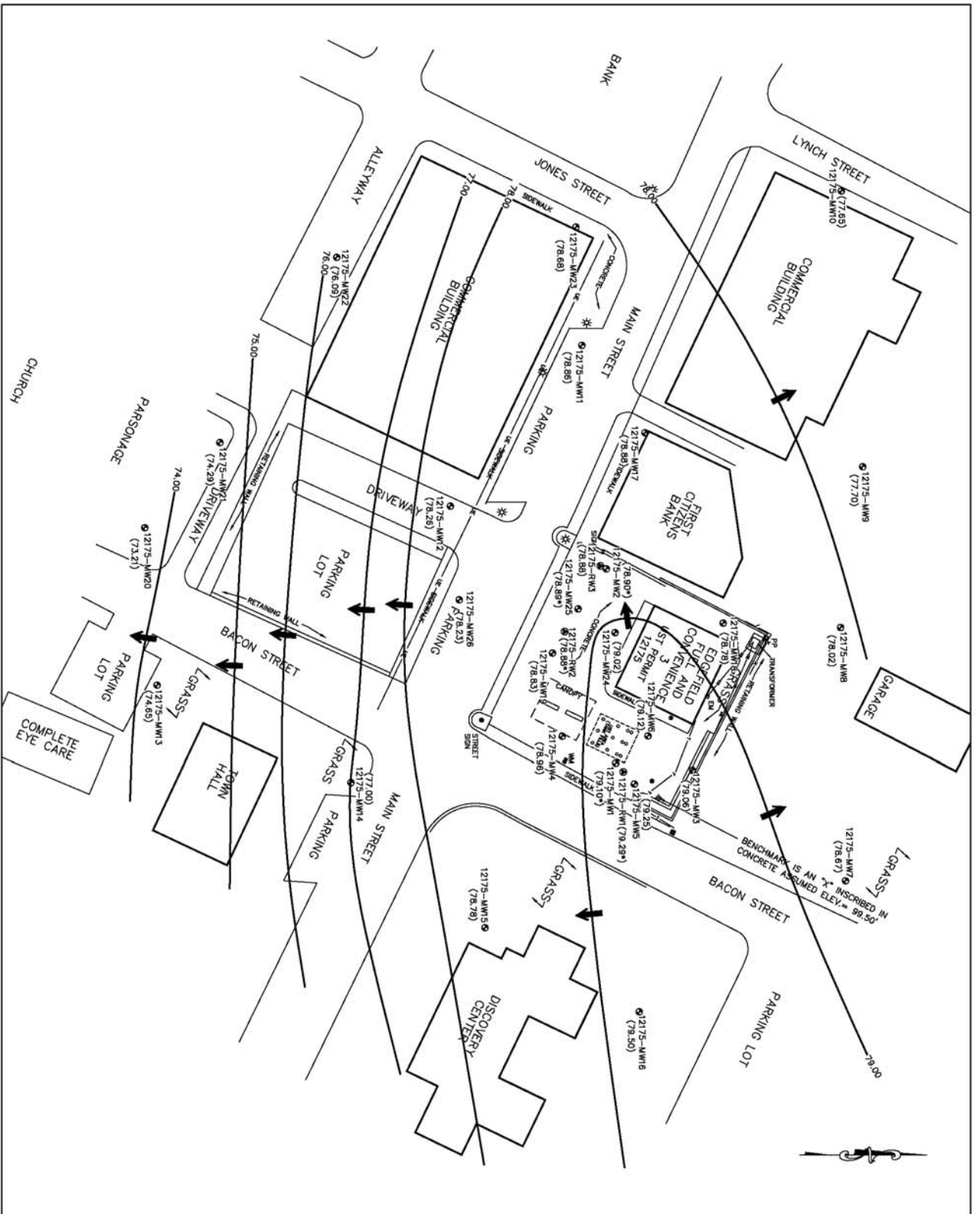


**Edgelyield Fuel & Convenience 3**

311 Main Street  
 Edgelyield, South Carolina

Groundwater Quality Map

DATE	BY	CHECKED BY	APPROVED BY
10/12/2016	12175-MW1	12175-MW2	12175-MW3
10/12/2016	12175-MW4	12175-MW5	12175-MW6
10/12/2016	12175-MW7	12175-MW8	12175-MW9
10/12/2016	12175-MW10	12175-MW11	12175-MW12
10/12/2016	12175-MW13	12175-MW14	12175-MW15
10/12/2016	12175-MW16	12175-MW17	12175-MW18
10/12/2016	12175-MW19	12175-MW20	12175-MW21
10/12/2016	12175-MW22	12175-MW23	12175-MW24
10/12/2016	12175-MW25	12175-MW26	



**Legend**

- E— Undergroud Electric Line
- X— Wood Fence Line
- — — Undergroud Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Gate Top Drop Inlet
- ⊕ Light Pole
- ⊕ Light Pole
- ⊕ Shallow (Water Table) Monitoring Well
- ⊕ Recovery Well

- (79.10) Groundwater Elevation (ft)
- 79.00 Water Table Contour (Dashed when inferred)
- Flow Direction Indicator

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes. Horizontal and vertical locations of wells, and selected site features determined through measurements made by representatives of ATC.

Groundwater elevations are relative to a temporary benchmark with an assumed datum of 89.50 feet. Groundwater elevations are based on measurements made on 10/11/15.

Water table contours, and flow directions assume homogeneity, isotropic aquifer conditions, and horizontal flow.

Fluctuations in the level of the water table may occur due to factors not accounted for at the time of measurement. Water table contours are interpolated between data points, and inferred in other areas.

\*Groundwater elevation corrected using estimated density of 0.75g/cm<sup>3</sup> for free phase product, measured on 10/11/15.

**ATC**

7808 Wakehall Executive Center Drive, Suite 800  
 Columbia, SC 29226  
 Phone: (803) 738-2711 Fax: (803) 738-2714

**PROJECT:**  
 Edgfield Fuel & Convenience 3  
 311 Main Street  
 Edgfield, South Carolina

**TITLE:** Groundwater Elevation Map

**CLIENT:** Edgfield Fuel & Convenience, LLC

DATE:	9/30/15	DATE:	14-211651
SCALE:	1"=50'	FIGURE NO.:	5

**APPENDIX B**

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Sampling Logs, Laboratory Reports, COC Forms, QA/QC Evaluation





# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
Ambient Air Temp (°F): 80			

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: Y or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10 : Y or N at °C	DO 8.78 mg/L ± 5%: Y or N
Comments:			

## Well Information

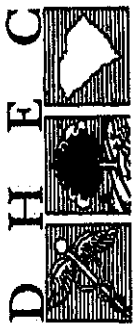
Well ID: 12175-NW1	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: _X_ Bailor _ Pump
X_MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Screened Interval (ft): 20 - 35	Depth to Free Product (DTP) (ft.): 18.62	Free Product Thickness (ft): 3.15
Depth to Groundwater (DTW) (ft.): 21.77	Total Well Depth (TWD) (ft):	3 casing volumes (3 x CV) (gals.):	
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):		

## Purging Data

	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	Initial 0						0
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time:
Notes: Not sampled	Duplicate: Y or N
	If yes, Duplicate Time:
Signature: <i>Erin Greene</i>	



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
			Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10 : Y or N at °C Specific Conductivity 4.49 mS/cm ± 5%: Y or N Turbidity 0.0 NTU ± 5%: Y or N DO 8.78 mg/L ± 5%: Y or N
Comments:		

## Well Information

Well ID: 12175- MW2	Well Diameter (inches): 2	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> JW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Depth to Free Product (DTP) (ft.): 21.46
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft): 19 - 34	Free Product Thickness (ft): 0.26
Depth to Groundwater (DTW) (ft.): 21.72	Total Well Depth (TWD) (ft):	3 casing volumes (3 x CV) (gals.):
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):	

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time:
Notes: <i>NOT sampled</i>	Duplicate: Y or N
If yes, Duplicate Time:	
Signature: <i>Erin Greene</i>	





# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/2/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <u>Y</u> or <u>N</u>
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN XH7778STN	pH 4.00 ± 0.10 <u>(Y)</u> or <u>N</u> at <u>13.68</u> °C	DO 8.78 mg/L ± 5%: <u>Y</u> or <u>N</u>
Comments:			

## Well Information

Well ID: 12175- <u>MW3</u>	Well Diameter (inches): <u>2</u>	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <u>X</u> Bailer <u>  </u> Pump
<u>X</u> MW <u>  </u> IW <u>  </u> RW <u>  </u> Surface Water <u>  </u> Other <u>  </u>	Screened Interval (ft.): <u>19 - 34</u>	Depth to Free Product (DTP) (ft.): <u>  </u>	Free Product Thickness (ft.): <u>  </u>
Depth to Groundwater (DTW) (ft.): <u>21.38</u>	Total Well Depth (TWD) (ft.): <u>27.89</u>	Free Product Thickness (ft.): <u>  </u>	
Length of water column (LWC = TWD - DGW) (ft.): <u>6.51</u>	1 casing volume (CV = LWC x C) (gals.): <u>1.06</u>	3 casing volumes (3 x CV) (gals.): <u>3.18</u>	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.06			3.18				0
Time (military)	1340	1343	1340		1349				1353
PH (s.u.)	6.38	6.20	6.23		6.14				6.04
Specific Conductivity (µS/cm)	0.810	0.812	0.823		0.815				0.277
Water Temperature (°C)	24.22	22.59	22.24		21.70				22.22
Turbidity (NTU)	45.4	307.6	226		220				172
Dissolved Oxygen (mg/L)	4.33	0.76	0.23		0.07				0.12

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: <u>1353</u>	Duplicate: <u>Y</u> or <u>(N)</u>	If yes, Duplicate Time: <u>  </u>
Notes: <u>Pur &amp; water disposed of onsite</u>			
Signature: <u>Erin Greene</u>			



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/12/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <u>Y</u> or <u>N</u>
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN XH77 VSTN	pH 4.00 ± 0.10: <u>Y</u> or <u>N</u> at °C <u>13.68</u>	DO 8.78 mg/L ± 5%: <u>Y</u> or <u>N</u>
Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or <u>N</u>			
Comments:			

## Well Information

Well ID: 12175- MW4	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <u>  </u> X_Bailer <u>  </u> Pump
X_MW <u>  </u> IW <u>  </u> RW <u>  </u> Surface Water <u>  </u> Other <u>  </u>	Screened Interval (ft): <u>19 - 29</u>	Depth to Free Product (DTP) (ft.): <u>  </u>	Free Product Thickness (ft): <u>  </u>
Private WSW <u>  </u> Public WSW <u>  </u>	Total Well Depth (TWD) (ft): <u>28.89</u>	3 casing volumes (3 x CV) (gals.): <u>1.5</u>	
Depth to Groundwater (DTW) (ft.): <u>19.65</u>	Length of water column (LWC = TWD - DGW) (ft.): <u>9.24</u>		

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0		4.5		6.0	7.5	0
Time (military)	1057	1100	1104						1115
PH (s.u.)	6.33	6.42	6.44						6.54
Specific Conductivity (µS/cm)	6.330	6.389	6.382						6.406
Water Temperature (°C)	22.31	22.10	21.96						22.51
Turbidity (NTU)	8.2	1100	1100						401
Dissolved Oxygen (mg/L)	0.12	0.20	2.18						2.34

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1115	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: <u>  </u>
Notes: 107 purged at 1057 @ 2 new volumes + 0.60 gallons purge water contained			
Signature: <u>Erin Greene</u>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
			Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	-685ADCT/RE3E1URN XH77-05TN	pH 4.00 ± 0.10 : <input checked="" type="radio"/> Y or <input type="radio"/> N at °C 13.68 Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or <input type="radio"/> N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> Y or <input type="radio"/> N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or <input type="radio"/> N
Comments:		

## Well Information

Well ID: 12175- MW5	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 19 - 29	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer <input type="checkbox"/> Pump
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Total Well Depth (TWD) (ft): 28.99	Depth to Free Product (DTP) (ft.): /
Depth to Groundwater (DTW) (ft.): 18.80	1 casing volume (CV = LWC x C) (gals.): 1.60	Free Product Thickness (ft.): /
Length of water column (LWC = TWD - DGW) (ft.): 10.19		3 casing volumes (3 x CV) (gals.): 4.98

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.66	/	/	4.98	/	/	/	0
Time (military)	1200	1204	1208	/	1220	/	/	/	1220
PH (s.u.)	6.22	5.97	5.98	/	6.03	/	/	/	6.03
Specific Conductivity (µS/cm)	0.203	0.238	0.276	/	0.313	/	/	/	0.304
Water Temperature (°C)	23.28	22.37	22.03	/	21.64	/	/	/	23.53
Turbidity (NTU)	69.5	511	470	/	1000	/	/	/	362
Dissolved Oxygen (mg/L)	0.00	0.00	0.55	/	1.56	/	/	/	0.51

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1720	Duplicate: <input checked="" type="radio"/> Y or <input type="radio"/> N
Notes: heavy petes odor purged degas well volumes purge water contained		
		Signature: <u>Erin Greene</u>



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/16/16      Site ID #: 12175      Site Name: EF & C #3      Field Personnel: Phil Pike/ Erin Greene

County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Partly Sunny      Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: \_\_\_\_\_ Serial #: \_\_\_\_\_ Calibration: \_\_\_\_\_

Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      SGSSADCT/RE3E1URN      pH 4.00 ± 0.10:  Y or  N at °C 13.68      Turbidity 0.0 NTU ± 5%:  Y or  N

Comments: XH 770STN      Specific Conductivity 4.49 mS/cm ± 5%:  Y or  N      DO 8.78 mg/L ± 5%:  Y or  N

## Well Information

Well ID: 12175- MW 6      Well Diameter (inches): 2      Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652      Method of Purging/Sample Collection:  X\_Bailer \_ Pump

MW  IW  RW  Surface Water  Other \_\_\_\_\_      Screened Interval (ft): 19 - 29      Depth to Free Product (DTP) (ft.): \_\_\_\_\_

Depth to Groundwater (DTW) (ft.): 20.70      Total Well Depth (TWD) (ft.): 28.93      Free Product Thickness (ft.): \_\_\_\_\_

Length of water column (LWC = TWD - DGW) (ft.): 8.23      1 casing volume (CV = LWC x C) (gals.): 1.34      3 casing volumes (3 x CV) (gals.): 4.02

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.34	2.68	✓	4.02				0
Time (military)	1258	1301	1304	✓					1315
PH (s.u.)	6.51	6.53	6.58	✓					6.65
Specific Conductivity (µS/cm)	0.494	0.500	0.506	✓					0.526
Water Temperature (°C)	24.49	22.59	22.10	✓					22.75
Turbidity (NTU)	0.0	272	1000	✓					157
Dissolved Oxygen (mg/L)	0.00	0.03	0.15	✓					0.049

## Sampling Data

Sampled By: Phil Pike/Erin Greene      Sampling Time: 1315      Duplicate:  Y or  N      If yes, Duplicate Time: \_\_\_\_\_

Notes: 1308 - Purged dry after 2 well volumes + ~10 gal.      Pump Water contained

Signature: *Erin E. Greene*



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/10/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="radio"/> Y or N at °C 21	DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or N
Comments:			

## Well Information

Well ID: 12175-MW7	Well Diameter (inches): 2	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer_Pump
X_MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Depth to Free Product (DTP) (ft.):
Depth to Groundwater (DTW) (ft.): 14.65	Screened Interval (ft.): 10 - 20	Free Product Thickness (ft.):
Length of water column (LWC = TWD - DGW) (ft.): 5.03	Total Well Depth (TWD) (ft.): 20.28	3 casing volumes (3 x CV) (gals.):
	1 casing volume (CV = LWC x C) (gals.): 0.92	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	0.92							0
Time (military)	1307	1310	1312		1314		1316	1319	1321
PH (s.u.)	4.39	4.46	4.73		4.97		5.10	5.29	5.74
Specific Conductivity (µS/cm)	0.234	0.166	0.139		0.134		0.140	0.156	0.197
Water Temperature (°C)	22.90	23.25	22.95		22.59		22.55	22.43	22.43
Turbidity (NTU)	0.0	1000	+1000		+1000		11000	+1000	11000
Dissolved Oxygen (mg/L)	6.02	4.52	4.24		4.20		3.94	3.68	5.16

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1321	Duplicate: <input checked="" type="radio"/> Y or <input checked="" type="radio"/> N
Notes: P.W. & water disposed of on site		
Signature: <i>Erin Williams</i>		



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	pH 4.00 ± 0.10: <input checked="" type="radio"/> or N at <input checked="" type="radio"/> °C <u>21</u>
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN		Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
			DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:			

## Well Information

Well ID: 12175- MW 8	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer _ Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 17 - 27	Depth to Free Product (DTP) (ft.):	
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 26.80	Free Product Thickness (ft):	
Depth to Groundwater (DTW) (ft.): 22.57	1 casing volume (CV = LWC x C) (gals.): 0.69	3 casing volumes (3 x CV) (gals.):	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)	1453	1455	1456		1458		1501	1503	1505
PH (s.u.)	5.56	5.55	5.63		8.679		5.85	6.04	6.09
Specific Conductivity (µS/cm)	0.229	0.398	0.410		0.435		0.468	0.485	0.429
Water Temperature (°C)	23.15	22.83	22.56		22.55		22.62	22.53	22.83
Turbidity (NTU)	40.0	522	1000		849		568	1000	1000
Dissolved Oxygen (mg/L)	3.28	2.58	2.52		2.32		2.71	2.33	2.60

## Sampling Data

Sampled By: Phil Pike/Erin Greene/Am Williams	Sampling Time: 1505	Duplicate: Y or <input checked="" type="radio"/> N
Notes: <u>purge water disposed of on site</u>		
Signature: <u>Am Williams</u>		
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL		
DHEC 0423 (10/2012)		



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/17/16      Site ID #: 12175      Site Name: EF & C #3      Field Personnel: Phil Pike/Erin Greene / A. Williams  
 County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Partly Sunny      Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: \_\_\_\_\_      Serial #: \_\_\_\_\_      Calibration: \_\_\_\_\_  
 Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      SG8SADCT/RE3E1URN  
 pH 4.00 ± 0.10: Y or N at      °C 21      Turbidity 0.0 NTU ± 5%: Y or N  
 Specific Conductivity 4.49 mS/cm ± 5%: Y or N      DO 8.78 mg/L ± 5%: Y or N  
 Comments: \_\_\_\_\_

## Well Information

Well ID: 12175- MW9      Well Diameter (inches): 2      Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652  
 Method of Purging/Sample Collection: \_\_\_\_\_  
 X\_MW IW RW \_\_\_\_\_ Surface Water \_\_\_\_\_ Other \_\_\_\_\_  
 Private WSW \_\_\_\_\_ Public WSW \_\_\_\_\_  
 Depth to Groundwater (DTW) (ft.): 19.85      Total Well Depth (TWD) (ft.): 26.97      Depth to Free Product (DTP) (ft.): \_\_\_\_\_  
 Length of water column (LWC = TWD - DGW) (ft.): 7.12      1 casing volume (CV = LWC x C) (gals.): 1.16      Free Product Thickness (ft.): \_\_\_\_\_  
 3 casing volumes (3 x CV) (gals.): \_\_\_\_\_

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)	1347	1349	1353		1355		1358		1405
PH (s.u.)	5.785	5.50	5.42		5.46		5.55		5.57
Specific Conductivity (µS/cm)	0.123	0.120	0.120		0.122		0.122		6.124
Water Temperature (°C)	22.25	21.88	20.74		20.40		20.18		19.80
Turbidity (NTU)	0.0	9.10	+1000		1.000		+10.00		143
Dissolved Oxygen (mg/L)	5.60	1.41	1.46		1.74		1.91		2.08

## Sampling Data

Sampled By: Phil Pike/Erin Greene / A. Williams      Sampling Time: 1405      Duplicate: Y or N      If yes, Duplicate Time: \_\_\_\_\_  
 Notes: DM @ 4 well volumes  
Puff was disposed of on site  
 Signature: A. Williams





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/12/16      Site ID #: 12175      Site Name: EF & C #3      Field Personnel: Phil Pike/ Erin Greene / A. Williamson  
 County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Partly Sunny      Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: \_\_\_\_\_ Serial #: \_\_\_\_\_ Calibration: \_\_\_\_\_  
 Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      SG8SADCT/RE3E1URN      pH 4.00 ± 0.10 : Y or N at      °C 21      Turbidity 0.0 NTU ± 5%: Y or N  
 Specific Conductivity 4.49 mS/cm ± 5%: Y or N      DO 8.78 mg/L ± 5%: Y or N  
 Comments: \_\_\_\_\_

## Well Information

Well ID: 12175- MW10      Well Diameter (inches): 2      Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652      Method of Purging/Sample Collection: \_\_\_\_\_  
 MW  RW  Surface Water  Other \_\_\_\_\_  
 Private WSW  Public WSW  
 Depth to Groundwater (DTW) (ft.): 23.60      Total Well Depth (TWD) (ft): 30.25      Free Product Thickness (ft): \_\_\_\_\_  
 Length of water column (LWC = TWD - DGW) (ft.): 6.59      1 casing volume (CV = LWC x C) (gals.): 1.07      3 casing volumes (3 x CV) (gals.): \_\_\_\_\_  
 Screened Interval (ft): 20 - 10      Depth to Free Product (DTP) (ft.): \_\_\_\_\_

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)	14:18	14:21	14:25	<del>14:28</del>	<del>14:31</del>	<del>14:34</del>	14:31	14:34	14:36
PH (s.u.)	5.65	5.25	5.20	5.27	5.27	5.27	5.28	5.27	5.36
Specific Conductivity (µS/cm)	0.080	0.089	0.082	0.085	0.085	0.085	0.086	0.085	0.085
Water Temperature (°C)	20.88	20.59	20.52	20.58	20.58	20.58	20.34	20.36	20.39
Turbidity (NTU)	6.0	1700	1700	1700	1700	1700	1000	100	1000
Dissolved Oxygen (mg/L)	5.27	3.80	3.51	3.84	3.84	3.84	3.85	3.97	4.17

## Sampling Data

Sampled By: Phil Pike/Erin Greene / A. Williamson      Sampling Time: 14:36      Duplicate: Y or N      if yes, Duplicate Time: \_\_\_\_\_  
 Notes: Purging water disposed of on site  
 Signature: Aaron Williamson  
 DHEC 0423 (10/2012)      SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/2/16      Site ID #: 12175      Site Name: EF & C #3      Field Personnel: Phil Pike/ Erin Greene  
 County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Partly Sunny      Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: \_\_\_\_\_ Serial #: \_\_\_\_\_ Calibration: \_\_\_\_\_  
 Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      SG8SADCT/RE3E1URN      pH 4.00 ± 0.10: 7 or N at 15 °C      Turbidity 0.0 NTU ± 5%: 0 or N  
 Specific Conductivity 4.49 mS/cm ± 5%: 7 or N      DO 8.78 mg/L ± 5%: 0 or N  
 Comments: \_\_\_\_\_

## Well Information

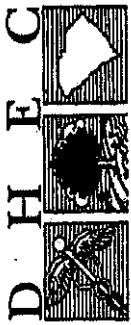
Well ID: 12175- Mw 11      Well Diameter (inches): 2      Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652      Method of Purging/Sample Collection: X\_Bailer\_Pump  
 MW  IW  RW  Surface Water  Other \_\_\_\_\_  
 Private WSW  Public WSW  
 Depth to Groundwater (DTW) (ft.): 22.79      Total Well Depth (TWD) (ft.): 30.85      Free Product Thickness (ft.): \_\_\_\_\_  
 Length of water column (LWC = TWD - DGW) (ft.): 8.06      1 casing volume (CV = LWC x C) (gals.): 1.31      3 casing volumes (3 x CV) (gals.): 3.93  
 Screened Interval (ft.): \_\_\_\_\_      Depth to Free Product (DTP) (ft.): \_\_\_\_\_

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.31	1.31		1.0				0
Time (military)	1013	1016	1019						1030
PH (s.u.)	5.35	5.71	5.60						5.88
Specific Conductivity (µS/cm)	869	877	829						856
Water Temperature (°C)	20.80	21.09	21.06						20.88
Turbidity (NTU)	0.0	122.0	829.0						615.0
Dissolved Oxygen (mg/L)	3.24	4.65	1.50						1.92

## Sampling Data

Sampled By: Phil Pike/Erin Greene      Sampling Time: 1030      Duplicate: Y or N      If yes, Duplicate Time: \_\_\_\_\_  
 Notes: well purged day after 2 weeks 5/15/16  
 Signature: [Signature]



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 10/12/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
Ambient Air Temp (°F): 80			

### Quality Assurance

Meter Name:	Serial #:	Calibration:	
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RETURN XH77PSTN	pH 4.00 ± 0.10: (Y) or N at 13.68 °C	Turbidity 0.0 NTU ± 5%: (Y) or N
		Specific Conductivity 4.49 mS/cm ± 5%: (Y) or N	DO 8.78 mg/L ± 5%: (Y) or N
Comments:			

### Well Information

Well ID: 12175- MW1Z	Well Diameter (inches): 2	Method of Purging/Sample Collection: X_Bailer_Pump
X_MW IW RW Public WSW	Surface Water Other	
Depth to Groundwater (DTW) (ft.): 22.29	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): /
Length of water column (LWC = TWD - DGW) (ft.): 7.66	Total Well Depth (TWD) (ft): 29.95	Free Product Thickness (ft): /
	1 casing volume (CV = LWC x C) (gals.): 1.25	3 casing volumes (3 x CV) (gals.): 3.75

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.25			3.75				0
Time (military)	906	909	912		916		920	923	925
PH (s.u.)	6.03	6.05	6.12		6.10		6.13	6.16	6.20
Specific Conductivity (µS/cm)	19.370	19.386	19.397		19.393		19.394	19.394	19.392
Water Temperature (°C)	19.14	19.72	20.03		20.09		20.21	20.24	20.05
Turbidity (NTU)	35.0	26.1	9.54		4.29		3.01	3.51	4.86
Dissolved Oxygen (mg/L)	3.34	0.20	0.14		0.69		0.51	3.94	1.74

### Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 925
Duplicate: Y or (N)	
If yes, Duplicate Time:	
Notes: Plug water contained	
Signature: <i>Erin Greene</i>	



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/11/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: SG8SADCT/RE3E1URN	Calibration:	pH 4.00 ± 0.10 : Y or N at °C Specific Conductivity 4.49 mS/cm ± 5%: Y or N Turbidity 0.0 NTU ± 5%: Y or N DO 8.78 mg/L ± 5%: Y or N
Comments:			

## Well Information

Well ID: 12175- MLV13	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):	
Depth to Groundwater (DTW) (ft.): 18.55	Total Well Depth (TWD) (ft): 25.15	Free Product Thickness (ft):	
Length of water column (LWC = TWD - DGW) (ft.): 6.6	1 casing volume (CV = LWC x C) (gals.): 1.08	3 casing volumes (3 x CV) (gals.): 3.23	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.08	6.08						0
Time (military)	1657	1700	1703						1715
PH (s.u.)	4.52	4.57	4.48						4.47
Specific Conductivity (µS/cm)	8.172	1.84	2.07						2.09
Water Temperature (°C)	21.81	21.53	21.25						20.94
Turbidity (NTU)	0.0	2.24	790.0						473.0
Dissolved Oxygen (mg/L)	5.49	2.41	2.38						3.33

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1715	Duplicate: Y or <input checked="" type="checkbox"/> N
Notes: Well purged dry after 2 WVs		
Signature: <i>[Signature]</i>		



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16      Site ID #: 12175      Site Name: EF & C #3      Field Personnel: Phil Pike/ Erin Greene

County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Partly Sunny      Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: \_\_\_\_\_ Serial #: \_\_\_\_\_ Calibration: \_\_\_\_\_

Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      SG8SADCT/RE3E1URN      pH 4.00 ± 0.10:  or N at 21 °C      Turbidity 0.0 NTU ± 5%:  or N

Specific Conductivity 4.49 mS/cm ± 5%:  or N      DO 8.78 mg/L ± 5%:  or N

Comments: \_\_\_\_\_

## Well Information

Well ID: 12175-MW14      Well Diameter (inches): 2      Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652      Method of Purging/Sample Collection:  X\_Bailer \_ Pump

X\_MW \_\_\_ IW \_\_\_ RW \_\_\_ Surface Water \_\_\_ Other      Screened Interval (ft): -      10'      Depth to Free Product (DTP) (ft.): \_\_\_\_\_

Private WSW \_\_\_ Public WSW \_\_\_\_\_      Total Well Depth (TWD) (ft): 29.46      Free Product Thickness (ft): \_\_\_\_\_

Depth to Groundwater (DTW) (ft.): 23.05      1 casing volume (CV = LWC x C) (gals.): 1.04      3 casing volumes (3 x CV) (gals.): 3.13

Length of water column (LWC = TWD - DGW) (ft.): 6.41

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.04	1.04		1.04				0
Time (military)	1414	1619	1622		1628				1640
PH (s.u.)	5.53	5.18	4.97		4.94				4.98
Specific Conductivity (µS/cm)	227	172	154		153				151
Water Temperature (°C)	21.11	21.61	21.73		21.69				22.86
Turbidity (NTU)	0.4	34.7	64.3		332.0				409.0
Dissolved Oxygen (mg/L)	2.52	2.35	2.14		2.12				2.27

## Sampling Data

Sampled By: Phil Pike/Erin Greene      Sampling Time: 1640      Duplicate: Y or  N      If yes, Duplicate Time: \_\_\_\_\_

Notes: Well purged day after 3 WWS

Signature: *[Signature]*



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/11/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Well ID: 12175- MW 15	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Total Well Depth (TWD) (ft): 196'	Free Product Thickness (ft):
Depth to Groundwater (DTW) (ft.): 71.2	1 casing volume (CV = LWC x C) (gals.): 1.17	3 casing volumes (3 x CV) (gals.): 3.52

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.17	1.17						0
Time (military)	1545	1548	1551						1605
PH (s.u.)	6.21	6.32	6.40						6.39
Specific Conductivity (µS/cm)	1.05	1.06	1.03						1.03
Water Temperature (°C)	20.09	19.97	19.84						19.79
Turbidity (NTU)	0.5	482.0	687.0						21.6
Dissolved Oxygen (mg/L)	8.90	2.32	2.57						3.30

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1605	Duplicate: Y or <input checked="" type="checkbox"/> If yes, Duplicate Time:
Notes: Well purged day after 2.0.16		
Signature: <i>Phil Pike</i>		



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input type="checkbox"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="checkbox"/> or N at 2 / °C	DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N
Comments:			

## Well Information

Well ID: 12175- MW16	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: _X_Bailer _ Pump
X_MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):	
Depth to Groundwater (DTW) (ft.): 13.67	Total Well Depth (TWD) (ft): 19.29	Free Product Thickness (ft):	
Length of water column (LWC = TWD - DGW) (ft.): 5.78	1 casing volume (CV = LWC x C) (gals.): 99	3 casing volumes (3 x CV) (gals.): 2.83	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	94	194		194		194	94	0
Time (military)	1453	1458	1501		1504		1507	1510	1515
PH (s.u.)	4.91	5.48	5.56		5.55		5.57	5.57	5.54
Specific Conductivity (µS/cm)	281	169	159		158		154	155	155
Water Temperature (°C)	20.40	20.59	20.59		20.60		20.58	20.54	20.57
Turbidity (NTU)	1.6	421.0	499.0		475.0		422.0	356.0	258.0
Dissolved Oxygen (mg/L)	3.01	2.73	3.03		2.76		3.15	3.59	3.24

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1515	Duplicate: Y or <input checked="" type="checkbox"/> N	If yes, Duplicate Time:
Notes:			
Signature: <i>EPike</i>			
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL			
DHEC 0423 (10/2012)			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/12/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: SG8SADCT/RE3E1URN	Calibration:	pH 4.00 ± 0.10 : <input checked="" type="checkbox"/> or N at 15 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="checkbox"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N
Comments:			

## Well Information

Well ID: 12175-MW17	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer _ Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): - 10'	Depth to Free Product (DTP) (ft.):	
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 28.61	Free Product Thickness (ft):	
Depth to Groundwater (DTW) (ft.): 22.21	1 casing volume (CV = LWC x C) (gals.): 1.04	3 casing volumes (3 x CV) (gals.): 3.12	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.04	1.04		15				0
Time (minutes)	937	940	943						1020
PH (s.u.)	5.50	5.42	5.41						5.43
Specific Conductivity (µS/cm)	154	166	162						163
Water Temperature (°C)	20.46	21.15	21.13						20.91
Turbidity (NTU)	4.7	160.0	300						50.6
Dissolved Oxygen (mg/L)	1.43	1.10	1.73						1.08

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1000	Duplicate: Y or <input checked="" type="checkbox"/> N	If yes, Duplicate Time:
Notes: Well purged day after 2 WWS plus 15 gal.			
Signature:			



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/2/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	pH 4.00 ± 0.10 : <input checked="" type="radio"/> or N at 15 °C
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN		Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
			DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:			

## Well Information

Well ID: 12175-MLS18	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input type="checkbox"/> X_Bailer _ Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):	
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Total Well Depth (TWD) (ft): 22.73	Free Product Thickness (ft):	
Depth to Groundwater (DTW) (ft.): 5.76	1 casing volume (CV = LWC x C) (gals.): 94	3 casing volumes (3 x CV) (gals.): 282	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	94	94	15					0
Time (military)	916	913	916						930
PH (s.u.)	5.64	5.85	5.84						5.86
Specific Conductivity (µS/cm)	320	292	278						295
Water Temperature (°C)	19.08	19.26	19.44						19.07
Turbidity (NTU)	0.0	47.3	71.000						71.000
Dissolved Oxygen (mg/L)	1.69	1.93	1.86						1.09

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 930	Duplicate: Y or <input checked="" type="radio"/> D	If yes, Duplicate Time:
Notes: Well purged dry after 2 wells + 15 gals.			
Signature: <i>Phil Pike</i>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
Ambient Air Temp (°F): 80			

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5% <u>Y</u> or <u>N</u>
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG85ADCT/RE3E1URN X14770STN	pH 4.00 ± 0.10: <u>Y</u> or <u>N</u> at °C <u>13.68</u>	DO 8.78 mg/L ± 5% <u>Y</u> or <u>N</u>
Comments:			

## Well Information

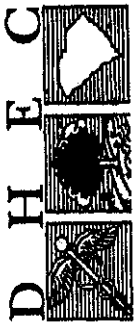
Well ID: 12175- MW19	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Screened Interval (ft): 18 - 28	Depth to Free Product (DTP) (ft.):
Depth to Groundwater (DTW) (ft.): 21.18	Total Well Depth (TWD) (ft): 28.16	Free Product Thickness (ft):	
Length of water column (LWC = TWD - DGW) (ft.): 6.98			
1 casing volume (CV = LWC x C) (gals.): 1.14			

## Purging Data

Volume Purged (gallons)	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Time (military)	0	1.14	1007	/	3.42	/	1014	1018	0
PH (s.u.)	6.42	6.42	6.49	/	6.54	/	6.58	6.63	6.65
Specific Conductivity (µS/cm)	0.088	0.109	0.122	/	0.134	/	0.120	0.126	0.097
Water Temperature (°C)	20.41	21.03	21.02	/	20.84	/	20.08	21.13	20.91
Turbidity (NTU)	79.6	1000	1000	/	1000	/	1000	1000	576
Dissolved Oxygen (mg/L)	0.65	0.00	1.60	/	0.04	/	0.95	3.59	0.00

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1015
Duplicate: <u>Y</u> or <u>N</u> <input checked="" type="checkbox"/> If yes, Duplicate Time: /	
Notes: <u>Very heavy Petro odor, heavy sheen on purge water</u>	
Signature: <u>Erin P. Greene</u>	



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name: _____ Serial #: _____	Calibration: _____ pH 4.00 ± 0.10: <input checked="" type="checkbox"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="checkbox"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N Comments: _____
--------------------------------------	--

## Well Information

Well ID: 12175- MW Z0	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
X_MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Screened Interval (ft): - 10'	Method of Purging/Sample Collection: ___ X_Bailer ___ Pump
Depth to Groundwater (DTW) (ft.): 18.59	Total Well Depth (TWD) (ft): 26.15	Free Product Thickness (ft):
Length of water column (LWC = TWD - DGW) (ft.): 7.56	1 casing volume (CV = LWC x C) (gals.): 1.23	3 casing volumes (3 x CV) (gals.): 3.70

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.23	2.46		3.7				0
Time (military)	1800	1803	1805		18:08				1820
PH (s.u.)	4.23	4.16	4.11		4.14				4.23
Specific Conductivity (µS/cm)	247	0.239	0.240		0.238				0.239
Water Temperature (°C)	19.91	20.16	20.03		19.88				19.89
Turbidity (NTU)	1.7	3.02	1.00		1.00				0.81.0
Dissolved Oxygen (mg/L)	1.31	3.38	2.11		<del>0.37</del> 4.0				2.40

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1820	Duplicate: Y or <input checked="" type="checkbox"/> N
Notes: Purged okay @ 3 well volumes		
Signature: <i>[Signature]</i>		If yes, Duplicate Time: _____



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/11/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Well ID: 12175-MWZ1	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): - 18	
Depth to Groundwater (DTW) (ft.): 20.01		
Total Well Depth (TWD) (ft.): 29.25		
Free Product Thickness (ft.):		
Length of water column (LWC = TWD – DGW) (ft.): 9.24		
1 casing volume (CV = LWC x C) (gals.): 1.51		
Method of Purging/Sample Collection: <input type="checkbox"/> X_Bailer_Pump		

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.57	1.57	1.57				0
Time (military)	1730	1734	1737	1741				1745
PH (s.u.)	4.66	4.57	4.54	4.57				4.57
Specific Conductivity (µS/cm)	195	197	195	191				193
Water Temperature (°C)	20.09	19.93	19.79	19.65				19.59
Turbidity (NTU)	6.0	3.2	1.75	7.000				7.000
Dissolved Oxygen (mg/L)	0.73	0.63	0.73	2.62				4.9

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1745	Duplicate: Y or <input checked="" type="radio"/> N
Notes:		
Signature: <i>Phil Pike</i>		



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
			Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="checkbox"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="checkbox"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N
Comments:		

## Well Information

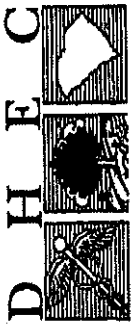
Well ID: 12175- MW 22	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
X MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other <input type="checkbox"/>	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer_Pump	
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft): - 157	Depth to Free Product (DTP) (ft.):
Depth to Groundwater (DTW) (ft.): 23.73	Total Well Depth (TWD) (ft): 29.80	Free Product Thickness (ft):
Length of water column (LWC = TWD - DGW) (ft.): 6.07	1 casing volume (CV = LWC x C) (gals.): 99	3 casing volumes (3 x CV) (gals.): 297

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	99	199		299				0
Time (military)	18:31	17:34	18:37		18:46		18:43	18:46	18:50
PH (s.u.)	5.37	5.52	5.67		5.65		5.72	5.77	5.80
Specific Conductivity (µS/cm)	121	141	153		153		148	148	152
Water Temperature (°C)	20.32	20.44	20.40		20.25		20.25	20.26	20.21
Turbidity (NTU)	1.6	459.0	563.0		1600		903	11000	588
Dissolved Oxygen (mg/L)	3.70	4.28	4.02		4.95		4.31	4.57	4.66

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1:50P	Duplicate: Y or <input checked="" type="checkbox"/> N	If yes, Duplicate Time:
Notes:			
Signature: <i>Phil Pike</i>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/24/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	
Ambient Air Temp (°F): 80			

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="checkbox"/> or N at 15°C	DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N
Comments:			

## Well Information

Well ID: 12175-MW 23	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input type="checkbox"/> X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 21 - 31	Depth to Free Product (DTP) (ft.):	
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 23.61	Free Product Thickness (ft):	
Depth to Groundwater (DTW) (ft.): 7.62	1 casing volume (CV = LWC x C) (gals.): 1.24	3 casing volumes (3 x CV) (gals.): 3.72	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	6.24	1.24		1.24		1.24	1.24	0
Time (military)	1050	1053	1056		1059		1102	1105	1110
PH (s.u.)	5.48	6.30	5.25		5.27		5.19	5.28	5.29
Specific Conductivity (µS/cm)	458	452	495		423		423	423	416
Water Temperature (°C)	20.98	21.08	21.04		21.05		21.03	21.05	20.91
Turbidity (NTU)	1.1	2.00	71.000		71.000		742	422.0	254.0
Dissolved Oxygen (mg/L)	1.55	1.76	1.26		3.17		4.12	1.86	3.34

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 1110	Duplicate: Y or <input checked="" type="checkbox"/> N
Notes:		
Signature: <i>[Signature]</i>		





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/12/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10: <input checked="" type="checkbox"/> or N at 73 °C	DO 8.78 mg/L ± 5%: <input checked="" type="checkbox"/> or N
Comments:			

## Well Information

Well ID: 12175- MW 24	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> X_Bailer _ Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):
Depth to Groundwater (DTW) (ft.): 21.21	Total Well Depth (TWD) (ft.): 30.05	Free Product Thickness (ft.):	Free Product Thickness (ft.):
Length of water column (LWC = TWD - DGW) (ft.): 8.84	1 casing volume (CV = LWC x C) (gals.): 1.44	3 casing volumes (3 x CV) (gals.): 4.32	

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.44	1.44	1.44				0
Time (military)	825	828	831	835				850
PH (s.u.)	426	430	434	467				4.78
Specific Conductivity (µS/cm)	286	314	318	325				326
Water Temperature (°C)	20.44	21.00	21.44	21.18				21.27
Turbidity (NTU)	3.1	6.14	305.0	7600				639.0
Dissolved Oxygen (mg/L)	2.52	2.01	1.60	2.22				3.38

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 850	Duplicate: <input checked="" type="checkbox"/> or N	If yes, Duplicate Time: 850
Notes: <i>well purged dry w 3 w's. MW 24 used as duplicate 2</i>			

Signature: *[Signature]*



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/1/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: Y or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10 : Y or N at °C	DO 8.78 mg/L ± 5%: Y or N
Comments:			

## Well Information

Well ID: 12175- MW25	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: _ X_Bailer _ Pump
X_MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): 26.16	Free Product Thickness (ft): 3.61
Depth to Groundwater (DTW) (ft.): 23.77	Total Well Depth (TWD) (ft):	3 casing volumes (3 x CV) (gals.):	
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):		

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:
Notes: <u>NOT SAMPLED</u>			
Signature: <u>Erin E. Greene</u>			



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 10/12/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN XH77 ØSTN	pH 4.00 ± 0.10: <input checked="" type="radio"/> or N at °C 13.68	DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:			

## Well Information

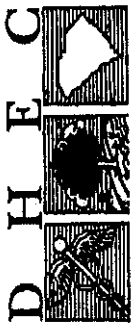
Well ID: 12175-MW20	Well Diameter (inches): 2	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: <input type="checkbox"/> X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.):
Depth to Groundwater (DTW) (ft.): 21.66	Total Well Depth (TWD) (ft.): 29.97	Free Product Thickness (ft.):	
Length of water column (LWC = TWD - DGW) (ft.): 8.31	1 casing volume (CV = LWC x C) (gals.): 1.35	3 casing volumes (3 x CV) (gals.): 40.6	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.35			4.06				0
Time (military)	809	814	819		822				835
PH (s.u.)	6.05	6.21	6.30		6.36				6.48
Specific Conductivity (µS/cm)	10.997	1.01	0.981		0.952				0.877
Water Temperature (°C)	21.13	20.21	20.26		20.27				19.57
Turbidity (NTU)	32.4	1.07	2.57		3.98				12.0
Dissolved Oxygen (mg/L)	1.04	1.14	2.57		4.91				1.81

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 835	Duplicate <input checked="" type="radio"/> or <input type="radio"/>	If yes, Duplicate Time: 835
Notes: 825 purged clay @ 3 well volumes + ~ 0.5 gal collected @ 12175-Dup 1 Contained purge water			
Signature: <i>Phil Pike</i>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/11/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: Y or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/REBEURN	pH 4.00 ± 0.10 : Y or N at °C	DO 8.78 mg/L ± 5%: Y or N
Comments:			

## Well Information

Well ID: 12175- Rwl	Well Diameter (inches): 4	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Method of Purging/Sample Collection: _X_ Bailor _ Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input checked="" type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): 18.75
Depth to Groundwater (DTW) (ft.): 18.80	Total Well Depth (TWD) (ft.):	Free Product Thickness (ft): 0.05	
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):	3 casing volumes (3 x CV) (gals.):	

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time:
Notes: <u>Not sampled</u>	Duplicate: Y or N
If yes, Duplicate Time:	
Signature: <u>Erin Greene</u>	



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 10/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: Y or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10 : Y or N at °C	DO 8.78 mg/L ± 5%: Y or N
Comments:			

## Well Information

Well ID: 12175-2W2	Well Diameter (inches): 24	Method of Purging/Sample Collection: X_Bailer_Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input checked="" type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652	Depth to Free Product (DTP) (ft.): 20.10
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft): 20 - 30	Free Product Thickness (ft): 3.99
Depth to Groundwater (DTW) (ft.): 21.09	Total Well Depth (TWD) (ft):	3 casing volumes (3 x CV) (gals.):
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

## Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:
Notes: Not sampled			
Signature: <i>Erin Greene</i>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 10/2/16	Site ID #: 12175	Site Name: EF & C #3	Field Personnel: Phil Pike/ Erin Greene
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Partly Sunny	Ambient Air Temp (°F): 80

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SG8SADCT/RE3E1URN	pH 4.00 ± 0.10 : <input checked="" type="radio"/> or N at 15 °C
		Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Well ID: 12175-RW3	Well Diameter (inches): 24"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.163, 4" well = 0.652
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): - 10'	Depth to Free Product (DTP) (ft.):
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 30.05	Free Product Thickness (ft):
Depth to Groundwater (DTW) (ft.): 21.25	1 casing volume (CV = LWC x C) (gals.): 5.74	3 casing volumes (3 x CV) (gals.): 17.21

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	5.74	5.74		5.74			0
Time (military)	7:37	7:43	7:49		7:53			8:00
PH (s.u.)	4.46	4.57	4.63		4.64			4.45
Specific Conductivity (µS/cm)	173	118	131		166			177
Water Temperature (°C)	19.09	20.28	20.36		20.69			20.50
Turbidity (NTU)	24.5	30.2	65.2		71.00			938.0
Dissolved Oxygen (mg/L)	2.94	2.81	2.77		2.57			2.35

### Sampling Data

Sampled By: Phil Pike/Erin Greene	Sampling Time: 7:00	Duplicate: Y or <input checked="" type="radio"/>
Notes:		
Signature: <i>Phil Pike</i>		

October 19, 2016

Noelle France  
ATC Group Services LLC- South Charlotte  
13504 South Point Blvd.  
Unit F  
Charlotte, NC 28273

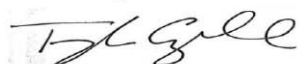
RE: Project: EFC #3  
Pace Project No.: 92315903

Dear Noelle France:

Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Taylor Ezell  
taylor.ezell@pacelabs.com  
Project Manager

Enclosures

cc: Aaron Williamson, ATC Group Services LLC- South  
Charlotte



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: EFC #3  
Pace Project No.: 92315903

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### Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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## SAMPLE SUMMARY

Project: EFC #3  
Pace Project No.: 92315903

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92315903001	12175-MW11	Water	10/12/16 10:30	10/13/16 10:36
92315903002	12175-MW13	Water	10/11/16 17:15	10/13/16 10:36
92315903003	12175-MW14	Water	10/11/16 16:40	10/13/16 10:36
92315903004	12175-MW15	Water	10/11/16 16:05	10/13/16 10:36
92315903005	12175-MW16	Water	10/11/16 15:15	10/13/16 10:36
92315903006	12175-MW17	Water	10/12/16 10:00	10/13/16 10:36
92315903007	12175-MW18	Water	10/12/16 09:30	10/13/16 10:36
92315903008	12175-MW20	Water	10/11/16 18:20	10/13/16 10:36
92315903009	12175-MW21	Water	10/11/16 17:45	10/13/16 10:36
92315903010	12175-MW22	Water	10/11/16 18:50	10/13/16 10:36
92315903011	12175-MW23	Water	10/12/16 11:10	10/13/16 10:36
92315903012	12175-MW24	Water	10/12/16 08:50	10/13/16 10:36
92315903013	12175-RW3	Water	10/12/16 08:00	10/13/16 10:36
92315903014	12175-FB1	Water	10/11/16 17:10	10/13/16 10:36
92315903015	12175-FB2	Water	10/12/16 09:45	10/13/16 10:36
92315903016	12175-DUPLICATE 2	Water	10/12/16 00:00	10/13/16 10:36
92315903017	TRIP BLANK	Water	10/12/16 00:00	10/13/16 10:36

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### SAMPLE ANALYTE COUNT

Project: EFC #3  
Pace Project No.: 92315903

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92315903001	12175-MW11	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903002	12175-MW13	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903003	12175-MW14	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903004	12175-MW15	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903005	12175-MW16	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903006	12175-MW17	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903007	12175-MW18	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903008	12175-MW20	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903009	12175-MW21	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903010	12175-MW22	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903011	12175-MW23	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903012	12175-MW24	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903013	12175-RW3	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903014	12175-FB1	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903015	12175-FB2	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903016	12175-DUPLICATE 2	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315903017	TRIP BLANK	EPA 8260	GAW	18	PASI-C

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW11      Lab ID: 92315903001      Collected: 10/12/16 10:30      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 06:48	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	10/14/16 13:49	10/15/16 06:48	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		10/18/16 08:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12.5		10/18/16 08:29	994-05-8	
Benzene	<b>1340</b>	ug/L	62.5	21.2	12.5		10/18/16 08:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		10/18/16 08:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		10/18/16 08:29	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		10/18/16 08:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		10/18/16 08:29	107-06-2	
Diisopropyl ether	ND	ug/L	62.5	21.2	12.5		10/18/16 08:29	108-20-3	
Ethanol	ND	ug/L	2500	1640	12.5		10/18/16 08:29	64-17-5	
Ethylbenzene	<b>50.4J</b>	ug/L	62.5	20.0	12.5		10/18/16 08:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45.0	12.5		10/18/16 08:29	637-92-3	
Methyl-tert-butyl ether	<b>25.3J</b>	ug/L	62.5	21.2	12.5		10/18/16 08:29	1634-04-4	
Naphthalene	<b>279</b>	ug/L	62.5	25.0	12.5		10/18/16 08:29	91-20-3	
Toluene	<b>451</b>	ug/L	62.5	20.0	12.5		10/18/16 08:29	108-88-3	
Xylene (Total)	<b>3950</b>	ug/L	125	33.8	12.5		10/18/16 08:29	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		12.5		10/18/16 08:29	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		12.5		10/18/16 08:29	17060-07-0	
Toluene-d8 (S)	109	%	70-130		12.5		10/18/16 08:29	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW13      Lab ID: 92315903002      Collected: 10/11/16 17:15      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 07:07	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	10/14/16 13:49	10/15/16 07:07	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 03:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 03:13	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 03:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 03:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 03:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 03:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 03:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:13	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 03:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 03:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 03:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:13	1634-04-4	
Naphthalene	3.5J	ug/L	5.0	2.0	1		10/15/16 03:13	91-20-3	C8
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 03:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 03:13	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		10/15/16 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		10/15/16 03:13	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		10/15/16 03:13	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW14      Lab ID: 92315903003      Collected: 10/11/16 16:40      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 07:26	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	10/14/16 13:49	10/15/16 07:26	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 03:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 03:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 03:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 03:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 03:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 03:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 03:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:30	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 03:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 03:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 03:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 03:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 03:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 03:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		10/15/16 03:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/15/16 03:30	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		10/15/16 03:30	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW15      Lab ID: 92315903004      Collected: 10/11/16 16:05      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 07:45	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	10/14/16 13:49	10/15/16 07:45	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 03:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 03:47	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 03:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 03:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 03:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 03:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 03:47	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:47	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 03:47	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 03:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 03:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 03:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 03:47	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 03:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 03:47	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		10/15/16 03:47	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/15/16 03:47	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		10/15/16 03:47	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW16      Lab ID: 92315903005      Collected: 10/11/16 15:15      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:31	10/14/16 15:02	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	10/14/16 12:31	10/14/16 15:02	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 04:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 04:03	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 04:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 04:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 04:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 04:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 04:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:03	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 04:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 04:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 04:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 04:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 04:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 04:03	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		10/15/16 04:03	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/15/16 04:03	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		10/15/16 04:03	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW17      Lab ID: 92315903006      Collected: 10/12/16 10:00      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.64	ug/L	0.020	0.020	1	10/14/16 12:31	10/14/16 15:22	106-93-4	C2
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	10/14/16 12:31	10/14/16 15:22	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	29100	ug/L	20000	15400	200		10/18/16 09:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	680	200		10/18/16 09:02	994-05-8	
Benzene	19100	ug/L	1000	340	200		10/18/16 09:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	6420	200		10/18/16 09:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	11500	200		10/18/16 09:02	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1460	200		10/18/16 09:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	360	200		10/18/16 09:02	107-06-2	
Diisopropyl ether	ND	ug/L	1000	340	200		10/18/16 09:02	108-20-3	
Ethanol	ND	ug/L	40000	26200	200		10/18/16 09:02	64-17-5	
Ethylbenzene	3180	ug/L	1000	320	200		10/18/16 09:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	720	200		10/18/16 09:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1000	340	200		10/18/16 09:02	1634-04-4	
Naphthalene	613J	ug/L	1000	400	200		10/18/16 09:02	91-20-3	
Toluene	38100	ug/L	1000	320	200		10/18/16 09:02	108-88-3	
Xylene (Total)	16200	ug/L	2000	540	200		10/18/16 09:02	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	70-130		200		10/18/16 09:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		200		10/18/16 09:02	17060-07-0	
Toluene-d8 (S)	101	%	70-130		200		10/18/16 09:02	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW18      Lab ID: 92315903007      Collected: 10/12/16 09:30      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.11	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 16:24	106-93-4	C2
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	10/14/16 12:32	10/14/16 16:24	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		10/18/16 09:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		10/18/16 09:19	994-05-8	
Benzene	5070	ug/L	500	170	100		10/18/16 09:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		10/18/16 09:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		10/18/16 09:19	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		10/18/16 09:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		10/18/16 09:19	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		10/18/16 09:19	108-20-3	
Ethanol	ND	ug/L	20000	13100	100		10/18/16 09:19	64-17-5	
Ethylbenzene	1630	ug/L	500	160	100		10/18/16 09:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		10/18/16 09:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		10/18/16 09:19	1634-04-4	
Naphthalene	276J	ug/L	500	200	100		10/18/16 09:19	91-20-3	
Toluene	13300	ug/L	500	160	100		10/18/16 09:19	108-88-3	
Xylene (Total)	5810	ug/L	1000	270	100		10/18/16 09:19	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		100		10/18/16 09:19	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		100		10/18/16 09:19	17060-07-0	
Toluene-d8 (S)	104	%	70-130		100		10/18/16 09:19	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW20      Lab ID: 92315903008      Collected: 10/11/16 18:20      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 16:44	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	10/14/16 12:32	10/14/16 16:44	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 04:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 04:20	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 04:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 04:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 04:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 04:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 04:20	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:20	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 04:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 04:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 04:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 04:20	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 04:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 04:20	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		10/15/16 04:20	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/15/16 04:20	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		10/15/16 04:20	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW21      Lab ID: 92315903009      Collected: 10/11/16 17:45      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/14/16 12:32	10/14/16 17:04	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	10/14/16 12:32	10/14/16 17:04	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 04:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 04:37	994-05-8	M1
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 04:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 04:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 04:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 04:37	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 04:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:37	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 04:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 04:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 04:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:37	1634-04-4	
Naphthalene	9.9	ug/L	5.0	2.0	1		10/15/16 04:37	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 04:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 04:37	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		10/15/16 04:37	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		10/15/16 04:37	17060-07-0	
Toluene-d8 (S)	112	%	70-130		1		10/15/16 04:37	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW22      Lab ID: 92315903010      Collected: 10/11/16 18:50      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 17:25	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	10/14/16 12:32	10/14/16 17:25	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 04:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 04:54	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 04:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 04:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 04:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 04:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 04:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:54	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 04:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 04:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 04:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 04:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 04:54	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 04:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 04:54	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	70-130		1		10/15/16 04:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		10/15/16 04:54	17060-07-0	
Toluene-d8 (S)	112	%	70-130		1		10/15/16 04:54	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW23      Lab ID: 92315903011      Collected: 10/12/16 11:10      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 17:45	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	10/14/16 12:32	10/14/16 17:45	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	1000	768	10		10/18/16 09:36	75-85-4	
tert-Amylmethyl ether	<b>65.4J</b>	ug/L	100	34.0	10		10/18/16 09:36	994-05-8	
Benzene	<b>1110</b>	ug/L	50.0	17.0	10		10/18/16 09:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		10/18/16 09:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		10/18/16 09:36	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		10/18/16 09:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		10/18/16 09:36	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		10/18/16 09:36	108-20-3	
Ethanol	ND	ug/L	2000	1310	10		10/18/16 09:36	64-17-5	
Ethylbenzene	ND	ug/L	50.0	16.0	10		10/18/16 09:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		10/18/16 09:36	637-92-3	
Methyl-tert-butyl ether	<b>117</b>	ug/L	50.0	17.0	10		10/18/16 09:36	1634-04-4	
Naphthalene	<b>22.1J</b>	ug/L	50.0	20.0	10		10/18/16 09:36	91-20-3	
Toluene	ND	ug/L	50.0	16.0	10		10/18/16 09:36	108-88-3	
Xylene (Total)	<b>51.6J</b>	ug/L	100	27.0	10		10/18/16 09:36	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		10		10/18/16 09:36	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		10		10/18/16 09:36	17060-07-0	
Toluene-d8 (S)	107	%	70-130		10		10/18/16 09:36	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-MW24      Lab ID: 92315903012      Collected: 10/12/16 08:50      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.35	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 18:06	106-93-4	C2
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	10/14/16 12:32	10/14/16 18:06	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	18700	ug/L	10000	7680	100		10/18/16 13:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		10/18/16 13:48	994-05-8	
Benzene	4320	ug/L	500	170	100		10/18/16 13:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		10/18/16 13:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		10/18/16 13:48	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		10/18/16 13:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		10/18/16 13:48	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		10/18/16 13:48	108-20-3	
Ethanol	ND	ug/L	20000	13100	100		10/18/16 13:48	64-17-5	
Ethylbenzene	2170	ug/L	500	160	100		10/18/16 13:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		10/18/16 13:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		10/18/16 13:48	1634-04-4	
Naphthalene	493J	ug/L	500	200	100		10/18/16 13:48	91-20-3	
Toluene	13600	ug/L	500	160	100		10/18/16 13:48	108-88-3	
Xylene (Total)	11300	ug/L	1000	270	100		10/18/16 13:48	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		100		10/18/16 13:48	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		100		10/18/16 13:48	17060-07-0	
Toluene-d8 (S)	106	%	70-130		100		10/18/16 13:48	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-RW3      Lab ID: 92315903013      Collected: 10/12/16 08:00      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.21	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 18:26	106-93-4	C2
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	83	%	60-140		1	10/14/16 12:32	10/14/16 18:26	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	39000	ug/L	25000	19200	250		10/18/16 10:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	850	250		10/18/16 10:10	994-05-8	
Benzene	11200	ug/L	1250	425	250		10/18/16 10:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	8020	250		10/18/16 10:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	14400	250		10/18/16 10:10	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	1820	250		10/18/16 10:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	450	250		10/18/16 10:10	107-06-2	
Diisopropyl ether	ND	ug/L	1250	425	250		10/18/16 10:10	108-20-3	
Ethanol	ND	ug/L	50000	32800	250		10/18/16 10:10	64-17-5	
Ethylbenzene	3280	ug/L	1250	400	250		10/18/16 10:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	900	250		10/18/16 10:10	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1250	425	250		10/18/16 10:10	1634-04-4	
Naphthalene	602J	ug/L	1250	500	250		10/18/16 10:10	91-20-3	
Toluene	34900	ug/L	1250	400	250		10/18/16 10:10	108-88-3	
Xylene (Total)	17100	ug/L	2500	675	250		10/18/16 10:10	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		250		10/18/16 10:10	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		250		10/18/16 10:10	17060-07-0	
Toluene-d8 (S)	105	%	70-130		250		10/18/16 10:10	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-FB1      Lab ID: 92315903014      Collected: 10/11/16 17:10      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:32	10/14/16 18:47	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	10/14/16 12:32	10/14/16 18:47	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 15:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 15:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 15:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 15:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 15:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 15:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 15:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:30	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 15:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 15:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 15:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 15:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 15:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 15:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		10/15/16 15:30	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		10/15/16 15:30	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		10/15/16 15:30	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-FB2      Lab ID: 92315903015      Collected: 10/12/16 09:45      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 12:33	10/14/16 19:07	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	10/14/16 12:33	10/14/16 19:07	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 15:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 15:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 15:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 15:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 15:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 15:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 15:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:46	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 15:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 15:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 15:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 15:46	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 15:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 15:46	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		10/15/16 15:46	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		10/15/16 15:46	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		10/15/16 15:46	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: 12175-DUPLICATE 2      Lab ID: 92315903016      Collected: 10/12/16 00:00      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.35	ug/L	0.020	0.020	1	10/14/16 12:33	10/14/16 19:28	106-93-4	C2
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	10/14/16 12:33	10/14/16 19:28	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	19800	ug/L	10000	7680	100		10/18/16 14:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		10/18/16 14:04	994-05-8	
Benzene	4690	ug/L	500	170	100		10/18/16 14:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		10/18/16 14:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		10/18/16 14:04	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		10/18/16 14:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		10/18/16 14:04	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		10/18/16 14:04	108-20-3	
Ethanol	ND	ug/L	20000	13100	100		10/18/16 14:04	64-17-5	
Ethylbenzene	2280	ug/L	500	160	100		10/18/16 14:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		10/18/16 14:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		10/18/16 14:04	1634-04-4	
Naphthalene	501	ug/L	500	200	100		10/18/16 14:04	91-20-3	
Toluene	14600	ug/L	500	160	100		10/18/16 14:04	108-88-3	
Xylene (Total)	11700	ug/L	1000	270	100		10/18/16 14:04	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		100		10/18/16 14:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		100		10/18/16 14:04	17060-07-0	
Toluene-d8 (S)	105	%	70-130		100		10/18/16 14:04	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315903

Sample: TRIP BLANK      Lab ID: 92315903017      Collected: 10/12/16 00:00      Received: 10/13/16 10:36      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 16:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 16:03	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 16:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 16:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 16:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 16:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 16:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 16:03	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 16:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 16:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 16:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 16:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 16:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 16:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 16:03	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		10/15/16 16:03	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		10/15/16 16:03	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		10/15/16 16:03	2037-26-5	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

QC Batch: 333270 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315903002, 92315903003, 92315903004, 92315903005, 92315903008, 92315903009, 92315903010

METHOD BLANK: 1847027 Matrix: Water  
Associated Lab Samples: 92315903002, 92315903003, 92315903004, 92315903005, 92315903008, 92315903009, 92315903010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/15/16 00:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/15/16 00:09	
Benzene	ug/L	ND	5.0	1.7	10/15/16 00:09	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/15/16 00:09	
Ethanol	ug/L	ND	200	131	10/15/16 00:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/15/16 00:09	
Ethylbenzene	ug/L	ND	5.0	1.6	10/15/16 00:09	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/15/16 00:09	
Naphthalene	ug/L	ND	5.0	2.0	10/15/16 00:09	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/15/16 00:09	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/15/16 00:09	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/15/16 00:09	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/15/16 00:09	
Toluene	ug/L	ND	5.0	1.6	10/15/16 00:09	
Xylene (Total)	ug/L	ND	10.0	2.7	10/15/16 00:09	
1,2-Dichloroethane-d4 (S)	%	101	70-130		10/15/16 00:09	
4-Bromofluorobenzene (S)	%	99	70-130		10/15/16 00:09	
Toluene-d8 (S)	%	111	70-130		10/15/16 00:09	

LABORATORY CONTROL SAMPLE: 1847028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.6	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	53.6	107	70-130	
Diisopropyl ether	ug/L	50	56.9	114	70-130	
Ethanol	ug/L	2000	1980	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	49.7	99	70-130	
Methyl-tert-butyl ether	ug/L	50	59.3	119	70-130	
Naphthalene	ug/L	50	50.0	100	70-130	
tert-Amyl Alcohol	ug/L	1000	921	92	70-130	
tert-Amylmethyl ether	ug/L	100	107	107	70-130	
tert-Butyl Alcohol	ug/L	500	458	92	70-130	
tert-Butyl Formate	ug/L	400	427	107	70-130	
Toluene	ug/L	50	47.8	96	70-130	
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			95	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

MATRIX SPIKE SAMPLE: 1847265		92315903009	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	14.6	73	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	285	71	70-130	
Benzene	ug/L	ND	20	15.7	78	70-130	
Diisopropyl ether	ug/L	ND	20	15.3	76	70-130	
Ethanol	ug/L	ND	800	590	74	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	28.6	71	70-130	
Ethylbenzene	ug/L	ND	20	14.9	75	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	14.9	74	70-130	
Naphthalene	ug/L	9.9	20	24.7	74	70-130	
tert-Amyl Alcohol	ug/L	ND	400	284	71	70-130	
tert-Amylmethyl ether	ug/L	ND	40	27.2	68	70-130	M1
tert-Butyl Alcohol	ug/L	ND	200	155	77	70-130	
tert-Butyl Formate	ug/L	ND	160	85.7	54	70-130	P5
Toluene	ug/L	ND	20	15.2	76	70-130	
1,2-Dichloroethane-d4 (S)	%				104	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1847029

Parameter	Units	92315903010	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	103	2		
4-Bromofluorobenzene (S)	%	99	101	2		
Toluene-d8 (S)	%	112	111	1		

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

QC Batch: 333331 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315903014, 92315903015, 92315903017

METHOD BLANK: 1847268 Matrix: Water  
Associated Lab Samples: 92315903014, 92315903015, 92315903017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/15/16 14:39	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/15/16 14:39	
Benzene	ug/L	ND	5.0	1.7	10/15/16 14:39	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/15/16 14:39	
Ethanol	ug/L	ND	200	131	10/15/16 14:39	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/15/16 14:39	
Ethylbenzene	ug/L	ND	5.0	1.6	10/15/16 14:39	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/15/16 14:39	
Naphthalene	ug/L	ND	5.0	2.0	10/15/16 14:39	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/15/16 14:39	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/15/16 14:39	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/15/16 14:39	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/15/16 14:39	
Toluene	ug/L	ND	5.0	1.6	10/15/16 14:39	
Xylene (Total)	ug/L	ND	10.0	2.7	10/15/16 14:39	
1,2-Dichloroethane-d4 (S)	%	97	70-130		10/15/16 14:39	
4-Bromofluorobenzene (S)	%	103	70-130		10/15/16 14:39	
Toluene-d8 (S)	%	109	70-130		10/15/16 14:39	

LABORATORY CONTROL SAMPLE: 1847269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.7	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	969	97	70-130	
Benzene	ug/L	50	54.8	110	70-130	
Diisopropyl ether	ug/L	50	60.2	120	70-130	
Ethanol	ug/L	2000	2080	104	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	50.0	100	70-130	
Methyl-tert-butyl ether	ug/L	50	62.6	125	70-130	
Naphthalene	ug/L	50	52.8	106	70-130	
tert-Amyl Alcohol	ug/L	1000	919	92	70-130	
tert-Amylmethyl ether	ug/L	100	111	111	70-130	
tert-Butyl Alcohol	ug/L	500	477	95	70-130	
tert-Butyl Formate	ug/L	400	458	114	70-130	
Toluene	ug/L	50	48.9	98	70-130	
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			96	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

MATRIX SPIKE SAMPLE: 1847271		92316040003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	13.7	68	70-130	M1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	299	75	70-130	
Benzene	ug/L	ND	20	15.8	73	70-130	
Diisopropyl ether	ug/L	ND	20	15.4	70	70-130	
Ethanol	ug/L	ND	800	1110	139	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	25.8	64	70-130	M1
Ethylbenzene	ug/L	ND	20	14.2	71	70-130	
Methyl-tert-butyl ether	ug/L	23.2	20	43.5	101	70-130	
Naphthalene	ug/L	ND	20	12.9	65	70-130	M1
tert-Amyl Alcohol	ug/L	ND	400	304	76	70-130	
tert-Amylmethyl ether	ug/L	ND	40	26.1	63	70-130	M1
tert-Butyl Alcohol	ug/L	ND	200	160	80	70-130	
tert-Butyl Formate	ug/L	ND	160	89.3	56	70-130	P5
Toluene	ug/L	ND	20	14.5	71	70-130	
1,2-Dichloroethane-d4 (S)	%				104	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 1847270

Parameter	Units	92316040001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	102	3		
4-Bromofluorobenzene (S)	%	102	101	1		
Toluene-d8 (S)	%	110	111	1		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

QC Batch: 333463 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315903001, 92315903006, 92315903007, 92315903011, 92315903012, 92315903013, 92315903016

METHOD BLANK: 1848019 Matrix: Water  
Associated Lab Samples: 92315903001, 92315903006, 92315903007, 92315903011, 92315903012, 92315903013, 92315903016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/18/16 05:08	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/18/16 05:08	
Benzene	ug/L	ND	5.0	1.7	10/18/16 05:08	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/18/16 05:08	
Ethanol	ug/L	ND	200	131	10/18/16 05:08	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/18/16 05:08	
Ethylbenzene	ug/L	ND	5.0	1.6	10/18/16 05:08	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/18/16 05:08	
Naphthalene	ug/L	ND	5.0	2.0	10/18/16 05:08	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/18/16 05:08	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/18/16 05:08	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/18/16 05:08	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/18/16 05:08	
Toluene	ug/L	ND	5.0	1.6	10/18/16 05:08	
Xylene (Total)	ug/L	ND	10.0	2.7	10/18/16 05:08	
1,2-Dichloroethane-d4 (S)	%	100	70-130		10/18/16 05:08	
4-Bromofluorobenzene (S)	%	100	70-130		10/18/16 05:08	
Toluene-d8 (S)	%	111	70-130		10/18/16 05:08	

LABORATORY CONTROL SAMPLE: 1848020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.7	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	53.5	107	70-130	
Diisopropyl ether	ug/L	50	60.5	121	70-130	
Ethanol	ug/L	2000	2300	115	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	48.0	96	70-130	
Methyl-tert-butyl ether	ug/L	50	61.9	124	70-130	
Naphthalene	ug/L	50	50.5	101	70-130	
tert-Amyl Alcohol	ug/L	1000	976	98	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	517	103	70-130	
tert-Butyl Formate	ug/L	400	444	111	70-130	
Toluene	ug/L	50	47.0	94	70-130	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			96	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

MATRIX SPIKE SAMPLE: 1848022		92315902006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.3	106	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	369	92	70-130	
Benzene	ug/L	ND	20	22.6	113	70-130	
Diisopropyl ether	ug/L	ND	20	22.0	110	70-130	
Ethanol	ug/L	ND	800	2710	339	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	41.2	103	70-130	
Ethylbenzene	ug/L	ND	20	21.9	109	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.3	106	70-130	
Naphthalene	ug/L	ND	20	19.6	98	70-130	
tert-Amyl Alcohol	ug/L	ND	400	389	97	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.8	102	70-130	
tert-Butyl Alcohol	ug/L	ND	200	257	129	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1,P5
Toluene	ug/L	ND	20	21.8	109	70-130	
1,2-Dichloroethane-d4 (S)	%				105	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1848021

Parameter	Units	92315902005	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	98	101	2		
4-Bromofluorobenzene (S)	%	102	100	2		
Toluene-d8 (S)	%	109	111	2		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

QC Batch: 333183 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92315903001, 92315903002, 92315903003, 92315903004

METHOD BLANK: 1846261 Matrix: Water  
Associated Lab Samples: 92315903001, 92315903002, 92315903003, 92315903004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	10/14/16 23:44	
1-Chloro-2-bromopropane (S)	%	100	60-140		10/14/16 23:44	

LABORATORY CONTROL SAMPLE & LCSD: 1846262

Parameter	Units	1846263		LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result						
1,2-Dibromoethane (EDB)	ug/L	.25	0.31	126	128	60-140	2	20	
1-Chloro-2-bromopropane (S)	%			103	107	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1846264 1846265

Parameter	Units	92315902001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
1,2-Dibromoethane (EDB)	ug/L	ND	.49	.49	0.45	0.50	90	102	60-140	12	20	
1-Chloro-2-bromopropane (S)	%						84	89	60-140			

SAMPLE DUPLICATE: 1846266

Parameter	Units	92315902007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	103	107	2		

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315903

QC Batch: 333210 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92315903005, 92315903006, 92315903007, 92315903008, 92315903009, 92315903010, 92315903011, 92315903012, 92315903013, 92315903014, 92315903015, 92315903016

METHOD BLANK: 1846445 Matrix: Water  
Associated Lab Samples: 92315903005, 92315903006, 92315903007, 92315903008, 92315903009, 92315903010, 92315903011, 92315903012, 92315903013, 92315903014, 92315903015, 92315903016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	10/14/16 14:00	
1-Chloro-2-bromopropane (S)	%	94	60-140		10/14/16 14:00	

LABORATORY CONTROL SAMPLE & LCSD: 1846446

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	1846447		% Rec Limits	RPD	Max RPD	Qualifiers
					LCS % Rec	LCSD % Rec				
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.29	114	117	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				99	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1846448

Parameter	Units	92315903006 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
1,2-Dibromoethane (EDB)	ug/L	0.64	.24	.24	0.79	0.88	63	97	60-140	10	20	
1-Chloro-2-bromopropane (S)	%						100	102	60-140			

SAMPLE DUPLICATE: 1846450

Parameter	Units	92315883001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	94	92	2		

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## QUALIFIERS

Project: EFC #3  
Pace Project No.: 92315903

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte

### ANALYTE QUALIFIERS

- |    |   |
|----|---|
| C2 | Relative percent difference between results from each column was greater than 40%. The lower of the two results was reported.                       |
| C8 | Result may be biased high due to carryover from previously analyzed sample.   |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.   |
| P5 | The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes. |

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC #3  
Pace Project No.: 92315903

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92315903001	12175-MW11	EPA 8011	333183	EPA 8011	333239
92315903002	12175-MW13	EPA 8011	333183	EPA 8011	333239
92315903003	12175-MW14	EPA 8011	333183	EPA 8011	333239
92315903004	12175-MW15	EPA 8011	333183	EPA 8011	333239
92315903005	12175-MW16	EPA 8011	333210	EPA 8011	333229
92315903006	12175-MW17	EPA 8011	333210	EPA 8011	333229
92315903007	12175-MW18	EPA 8011	333210	EPA 8011	333229
92315903008	12175-MW20	EPA 8011	333210	EPA 8011	333229
92315903009	12175-MW21	EPA 8011	333210	EPA 8011	333229
92315903010	12175-MW22	EPA 8011	333210	EPA 8011	333229
92315903011	12175-MW23	EPA 8011	333210	EPA 8011	333229
92315903012	12175-MW24	EPA 8011	333210	EPA 8011	333229
92315903013	12175-RW3	EPA 8011	333210	EPA 8011	333229
92315903014	12175-FB1	EPA 8011	333210	EPA 8011	333229
92315903015	12175-FB2	EPA 8011	333210	EPA 8011	333229
92315903016	12175-DUPLICATE 2	EPA 8011	333210	EPA 8011	333229
92315903001	12175-MW11	EPA 8260	333463		
92315903002	12175-MW13	EPA 8260	333270		
92315903003	12175-MW14	EPA 8260	333270		
92315903004	12175-MW15	EPA 8260	333270		
92315903005	12175-MW16	EPA 8260	333270		
92315903006	12175-MW17	EPA 8260	333463		
92315903007	12175-MW18	EPA 8260	333463		
92315903008	12175-MW20	EPA 8260	333270		
92315903009	12175-MW21	EPA 8260	333270		
92315903010	12175-MW22	EPA 8260	333270		
92315903011	12175-MW23	EPA 8260	333463		
92315903012	12175-MW24	EPA 8260	333463		
92315903013	12175-RW3	EPA 8260	333463		
92315903014	12175-FB1	EPA 8260	333331		
92315903015	12175-FB2	EPA 8260	333331		
92315903016	12175-DUPLICATE 2	EPA 8260	333463		
92315903017	TRIP BLANK	EPA 8260	333331		

### REPORT OF LABORATORY ANALYSIS

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Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
**F-CAR-CS-033-Rev.00**

Document Revised: Sept. 21, 2016  
 Page 1 of 2  
 Issuing Authority:  
 Pace Quality Office

Page 2 of 2 for Internal Use ONLY

**Sample Condition Upon Receipt**

Client Name: ECS

Project # **NO# : 92315903**



Courier:  Commercial  Fed Ex  Pace  UPS  USPS  Other:  Client

Custody Seal Present?  Yes  No Seals Intact?  Yes  No

Date/Initials Person Examining Contents: 10-13-16 SK

Packing Material:  Bubble Wrap  Bubble Bags  None  Other: \_\_\_\_\_

Thermometer:  IR Gun ID: TI505 Type of Ice:  Wet  Blue  None  Samples on ice, cooling process has begun

Correction Factor: Cooler Temp Corrected (°C): 3.2 Biological Tissue Frozen?  Yes  No  N/A

Temp should be above freezing to 6°C

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?  Yes  No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

	Comments/Discrepancy:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Short Hold Time Analysis (<72 hr.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Samples Field Filtered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked and documented on page two of SCURF? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg	
Samples checked for dechlorination? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Headspace in VOA Vials (>5-6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Sample Discrepancy: \_\_\_\_\_

Project Manager SCURF Review: [Signature] Date: 10/13

Project Manager SRF Review: [Signature] Date: 10/13

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

Laboratory receiving samples:  
 Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville



www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2003757

<b>Section A</b> Required Client Information: Company: <b>ECS</b> Address: <b>F. RYAN BLVD</b> <b>CHARLOTTE NC</b> Email To: <b>ANTHONY@ECSLABS.COM</b> Phone: <b>704-583-2711</b> Fax: Requested Due Date/TAT: <b>5/14/2012</b>		<b>Section B</b> Required Project Information: Report To: <b>Noelle FRANCE</b> Copy To: Purchase Order No.: <b>14-211651</b> Project Name: <b>EP2e + 3</b> Project Number: <b>14-211651</b>		<b>Section C</b> Invoice Information: Attention: <b>Acct Dept</b> Company Name: <b>ECS</b> Address: <b>ASHWAM MA</b> Pace Quote Reference: <b>THYON E2E2L</b> Pace Project Manager: Pace Profile #:	
<b>REGULATORY AGENCY</b> <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		Site Location STATE: <b>SC</b>		Requested Analysis Filtered (Y/N)	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME			DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				
1	12175-MW 11		WT 6		10/12	1030		6								X			
2	12175-MW 13				10/11	1715										X			
3	12175-MW 14				10/11	1640										X			
4	12175-MW 15				10/11	1605										X			
5	12175-MW 16				10/11	1515										X			
6	12175-MW 17				10/12	1600										X			
7	12175-MW 18				10/12	930										X			
8	12175-MW 20				10/11	1820										X			
9	12175-MW 21				10/11	1755										X			
10	12175-MW 22				10/11	1830										X			
11	12175-MW 23				10/12	1110										X			
12	12175-MW 24				10/12	830										X			

<b>ADDITIONAL COMMENTS</b> Report 5 valves		<b>RELINQUISHED BY / AFFILIATION</b> EES OFFICE		<b>DATE</b> 10/12/11		<b>TIME</b> 1700		<b>ACCEPTED BY / AFFILIATION</b> EES OFFICE		<b>DATE</b> 10/12/11		<b>TIME</b> 1700		<b>SAMPLE CONDITIONS</b> Temp in °C: 3.2 Received on Ice (Y/N): Y Custody Sealed Cooler (Y/N): N Samples Intact (Y/N): Y	
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ORIGINAL

<b>SAMPLER NAME AND SIGNATURE</b> PRINT Name of SAMPLER: <b>Philip Rhee</b> SIGNATURE of SAMPLER: <i>Philip Rhee</i>		<b>DATE Signed (MM/DD/YY):</b> 10/12/11	
--	--	---	--

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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

**Section A**  
Required Client Information:

**Section B**  
Required Project Information:

**Section C**  
Invoice Information:

Company: <b>ECS</b>	Report To: <b>Nuelle France</b>	Attention: <b>Acct. Dept</b>
Address: <b>5 Point Bump</b>	Copy To:	Company Name: <b>ECS</b>
<b>Charles Rie</b>	Purchase Order No.: <b>14-211651</b>	Address: <b>Acton MA</b>
<b>NEPA-CD-ECS-CONSULT.COM</b>	Project Name: <b>EP RC 43</b>	Pace Quote Reference: <b>TAHCON ELEC</b>
Phone: <b>203-559-2711</b> Fax:	Project Number: <b>14-211651</b>	Pace Project Manager: <b>TAHCON ELEC</b>
Requested Due Date/TAT: <b>5/14/2014</b>		Pace Profile #:

Page: **2003758** of **34**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX I CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME			DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH				
1	12175-AM 3		WT 6		12/12	8:00		6										
2	12175-FB1				12/14	17:10		6										
3	12175-PB2				10/12	9:45		1										
4	12175-Dry Leach 2							2										
5	Thig Bunkle							2										
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report of values	Charles Rie	12/14/12	17:00	ECS OFFICE	12/14/12	10:34 AM	
	ECS OFFICE	12/14/12	15:00	JAMES RYAN	10/12/14	10:46 AM	

ORIGINAL

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: <b>Phil Sider</b>	DATE Signed (MM/DD/YY): <b>10/12/14</b>
SIGNATURE of SAMPLER: <i>Phil Sider</i>	
Temp in °C	Received on Ice (Y/N)
	Custody Sealed Cooler (Y/N)
	Samples Intact (Y/N)

October 20, 2016

Noelle France  
ATC Group Services LLC- South Charlotte  
13504 South Point Blvd.  
Unit F  
Charlotte, NC 28273

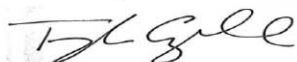
RE: Project: EFC #3  
Pace Project No.: 92315902

Dear Noelle France:

Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Taylor Ezell  
taylor.ezell@pacelabs.com  
Project Manager

Enclosures

cc: Aaron Williamson, ATC Group Services LLC- South  
Charlotte



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: EFC #3  
Pace Project No.: 92315902

---

### Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: EFC #3  
Pace Project No.: 92315902

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92315902001	12175-MW3	Water	10/12/16 13:53	10/13/16 10:57
92315902002	12175-MW4	Water	10/12/16 11:15	10/13/16 10:57
92315902003	12175-MW5	Water	10/12/16 12:20	10/13/16 10:57
92315902004	12175-MW6	Water	10/12/16 13:15	10/13/16 10:57
92315902005	12175-MW7	Water	10/12/16 13:21	10/13/16 10:57
92315902006	12175-MW10	Water	10/12/16 14:36	10/13/16 10:57
92315902007	12175-MW9	Water	10/12/16 14:05	10/13/16 10:57
92315902008	12175-MW8	Water	10/12/16 15:05	10/13/16 10:57
92315902009	12175-MW12	Water	10/12/16 09:25	10/13/16 10:57
92315902010	12175-MW19	Water	10/12/16 10:25	10/13/16 10:57
92315902011	12175-MW26	Water	10/12/16 08:35	10/13/16 10:57
92315902012	12175-DIUP1	Water	10/12/16 00:00	10/13/16 10:57
92315902013	TRIP BLANK	Water	10/12/16 00:00	10/13/16 10:57

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### SAMPLE ANALYTE COUNT

Project: EFC #3  
Pace Project No.: 92315902

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92315902001	12175-MW3	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902002	12175-MW4	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902003	12175-MW5	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902004	12175-MW6	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902005	12175-MW7	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902006	12175-MW10	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902007	12175-MW9	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902008	12175-MW8	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902009	12175-MW12	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902010	12175-MW19	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902011	12175-MW26	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902012	12175-DIUP1	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	18	PASI-C
92315902013	TRIP BLANK	EPA 8260	GAW	18	PASI-C

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW3      Lab ID: 92315902001      Collected: 10/12/16 13:53      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:48	10/15/16 01:59	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	10/14/16 13:48	10/15/16 01:59	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 00:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 00:42	994-05-8	
Benzene	8.5	ug/L	5.0	1.7	1		10/15/16 00:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 00:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 00:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 00:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 00:42	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 00:42	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 00:42	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 00:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 00:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 00:42	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 00:42	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 00:42	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 00:42	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		10/15/16 00:42	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/15/16 00:42	17060-07-0	
Toluene-d8 (S)	114	%	70-130		1		10/15/16 00:42	2037-26-5	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW4      Lab ID: 92315902002      Collected: 10/12/16 11:15      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/14/16 13:48	10/15/16 02:57	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	78	%	60-140		1	10/14/16 13:48	10/15/16 02:57	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	<b>20000</b>	ug/L	2500	1920	25		10/15/16 08:15	75-85-4	M1
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		10/15/16 08:15	994-05-8	
Benzene	<b>415</b>	ug/L	125	42.5	25		10/15/16 08:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		10/15/16 08:15	624-95-3	
tert-Butyl Alcohol	<b>2750</b>	ug/L	2500	1440	25		10/15/16 08:15	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		10/15/16 08:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		10/15/16 08:15	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		10/15/16 08:15	108-20-3	
Ethanol	ND	ug/L	5000	3280	25		10/15/16 08:15	64-17-5	
Ethylbenzene	<b>1630</b>	ug/L	125	40.0	25		10/15/16 08:15	100-41-4	M1
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		10/15/16 08:15	637-92-3	
Methyl-tert-butyl ether	<b>464</b>	ug/L	125	42.5	25		10/15/16 08:15	1634-04-4	M1
Naphthalene	<b>526</b>	ug/L	125	50.0	25		10/15/16 08:15	91-20-3	
Toluene	<b>3210</b>	ug/L	125	40.0	25		10/15/16 08:15	108-88-3	
Xylene (Total)	<b>7070</b>	ug/L	250	67.5	25		10/15/16 08:15	1330-20-7	MS
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	105	%	70-130		25		10/15/16 08:15	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		25		10/15/16 08:15	17060-07-0	
Toluene-d8 (S)	106	%	70-130		25		10/15/16 08:15	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW5      Lab ID: 92315902003      Collected: 10/12/16 12:20      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	2.1	ug/L	0.079	0.079	4	10/19/16 13:29	10/20/16 10:20	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	104	%	60-140		4	10/19/16 13:29	10/20/16 10:20	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	25000	19200	250		10/18/16 05:58	75-85-4	
tert-Amylmethyl ether	1370J	ug/L	2500	850	250		10/18/16 05:58	994-05-8	
Benzene	26000	ug/L	1250	425	250		10/18/16 05:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	8020	250		10/18/16 05:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	14400	250		10/18/16 05:58	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	1820	250		10/18/16 05:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	450	250		10/18/16 05:58	107-06-2	
Diisopropyl ether	ND	ug/L	1250	425	250		10/18/16 05:58	108-20-3	
Ethanol	ND	ug/L	50000	32800	250		10/18/16 05:58	64-17-5	
Ethylbenzene	3100	ug/L	1250	400	250		10/18/16 05:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	900	250		10/18/16 05:58	637-92-3	
Methyl-tert-butyl ether	660J	ug/L	1250	425	250		10/18/16 05:58	1634-04-4	
Naphthalene	819J	ug/L	1250	500	250		10/18/16 05:58	91-20-3	
Toluene	41800	ug/L	1250	400	250		10/18/16 05:58	108-88-3	
Xylene (Total)	17000	ug/L	2500	675	250		10/18/16 05:58	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		250		10/18/16 05:58	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		250		10/18/16 05:58	17060-07-0	
Toluene-d8 (S)	102	%	70-130		250		10/18/16 05:58	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW6      Lab ID: 92315902004      Collected: 10/12/16 13:15      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:48	10/15/16 03:35	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	127	%	60-140		1	10/14/16 13:48	10/15/16 03:35	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	<b>34800</b>	ug/L	2000	1540	20		10/18/16 06:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		10/18/16 06:15	994-05-8	
Benzene	<b>1660</b>	ug/L	100	34.0	20		10/18/16 06:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		10/18/16 06:15	624-95-3	
tert-Butyl Alcohol	<b>2870</b>	ug/L	2000	1150	20		10/18/16 06:15	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		10/18/16 06:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		10/18/16 06:15	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		10/18/16 06:15	108-20-3	
Ethanol	ND	ug/L	4000	2620	20		10/18/16 06:15	64-17-5	
Ethylbenzene	<b>497</b>	ug/L	100	32.0	20		10/18/16 06:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		10/18/16 06:15	637-92-3	
Methyl-tert-butyl ether	<b>770</b>	ug/L	100	34.0	20		10/18/16 06:15	1634-04-4	
Naphthalene	<b>43.5J</b>	ug/L	100	40.0	20		10/18/16 06:15	91-20-3	
Toluene	<b>595</b>	ug/L	100	32.0	20		10/18/16 06:15	108-88-3	
Xylene (Total)	<b>842</b>	ug/L	200	54.0	20		10/18/16 06:15	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		20		10/18/16 06:15	460-00-4	D3
1,2-Dichloroethane-d4 (S)	106	%	70-130		20		10/18/16 06:15	17060-07-0	
Toluene-d8 (S)	103	%	70-130		20		10/18/16 06:15	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW7      Lab ID: 92315902005      Collected: 10/12/16 13:21      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:48	10/15/16 03:54	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	10/14/16 13:48	10/15/16 03:54	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/18/16 06:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/18/16 06:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/18/16 06:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/18/16 06:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/18/16 06:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/18/16 06:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/18/16 06:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/18/16 06:48	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/18/16 06:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/18/16 06:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/18/16 06:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/18/16 06:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/18/16 06:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/18/16 06:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/18/16 06:48	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		10/18/16 06:48	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		10/18/16 06:48	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		10/18/16 06:48	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW10      Lab ID: 92315902006      Collected: 10/12/16 14:36      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 04:14	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	10/14/16 13:49	10/15/16 04:14	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/18/16 07:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/18/16 07:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/18/16 07:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/18/16 07:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/18/16 07:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/18/16 07:05	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/18/16 07:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/18/16 07:05	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/18/16 07:05	64-17-5	M1
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/18/16 07:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/18/16 07:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/18/16 07:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/18/16 07:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/18/16 07:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/18/16 07:05	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		10/18/16 07:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		10/18/16 07:05	17060-07-0	
Toluene-d8 (S)	111	%	70-130		1		10/18/16 07:05	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW9      Lab ID: 92315902007      Collected: 10/12/16 14:05      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 04:34	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	10/14/16 13:49	10/15/16 04:34	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 01:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 01:49	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 01:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 01:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 01:49	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 01:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 01:49	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 01:49	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 01:49	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 01:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 01:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 01:49	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 01:49	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 01:49	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 01:49	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		10/15/16 01:49	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		10/15/16 01:49	17060-07-0	
Toluene-d8 (S)	115	%	70-130		1		10/15/16 01:49	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW8      Lab ID: 92315902008      Collected: 10/12/16 15:05      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 05:11	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	83	%	60-140		1	10/14/16 13:49	10/15/16 05:11	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 02:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 02:06	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 02:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 02:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 02:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 02:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 02:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 02:06	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 02:06	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 02:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 02:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 02:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 02:06	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 02:06	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 02:06	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		10/15/16 02:06	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		10/15/16 02:06	17060-07-0	
Toluene-d8 (S)	118	%	70-130		1		10/15/16 02:06	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW12      Lab ID: 92315902009      Collected: 10/12/16 09:25      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 05:31	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	77	%	60-140		1	10/14/16 13:49	10/15/16 05:31	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	979	ug/L	100	76.8	1		10/18/16 07:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/18/16 07:22	994-05-8	
Benzene	29.1	ug/L	5.0	1.7	1		10/18/16 07:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/18/16 07:22	624-95-3	
tert-Butyl Alcohol	87.4J	ug/L	100	57.7	1		10/18/16 07:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/18/16 07:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/18/16 07:22	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/18/16 07:22	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/18/16 07:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/18/16 07:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/18/16 07:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/18/16 07:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/18/16 07:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/18/16 07:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/18/16 07:22	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		10/18/16 07:22	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		10/18/16 07:22	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		10/18/16 07:22	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW19      Lab ID: 92315902010      Collected: 10/12/16 10:25      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 05:50	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	10/14/16 13:49	10/15/16 05:50	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	<b>7780</b>	ug/L	5000	3840	50		10/18/16 07:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		10/18/16 07:38	994-05-8	
Benzene	<b>910</b>	ug/L	250	85.0	50		10/18/16 07:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		10/18/16 07:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		10/18/16 07:38	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		10/18/16 07:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		10/18/16 07:38	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		10/18/16 07:38	108-20-3	
Ethanol	ND	ug/L	10000	6550	50		10/18/16 07:38	64-17-5	
Ethylbenzene	<b>1460</b>	ug/L	250	80.0	50		10/18/16 07:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		10/18/16 07:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		10/18/16 07:38	1634-04-4	
Naphthalene	<b>360</b>	ug/L	250	100	50		10/18/16 07:38	91-20-3	
Toluene	<b>6950</b>	ug/L	250	80.0	50		10/18/16 07:38	108-88-3	
Xylene (Total)	<b>9810</b>	ug/L	500	135	50		10/18/16 07:38	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		50		10/18/16 07:38	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		50		10/18/16 07:38	17060-07-0	
Toluene-d8 (S)	102	%	70-130		50		10/18/16 07:38	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-MW26      Lab ID: 92315902011      Collected: 10/12/16 08:35      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/14/16 13:49	10/15/16 06:09	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	10/14/16 13:49	10/15/16 06:09	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	1100	ug/L	250	192	2.5		10/18/16 07:55	75-85-4	
tert-Amylmethyl ether	30.6	ug/L	25.0	8.5	2.5		10/18/16 07:55	994-05-8	
Benzene	238	ug/L	12.5	4.2	2.5		10/18/16 07:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		10/18/16 07:55	624-95-3	
tert-Butyl Alcohol	249J	ug/L	250	144	2.5		10/18/16 07:55	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		10/18/16 07:55	762-75-4	
1,2-Dichloroethane	7.6J	ug/L	12.5	4.5	2.5		10/18/16 07:55	107-06-2	
Diisopropyl ether	10.0J	ug/L	12.5	4.2	2.5		10/18/16 07:55	108-20-3	
Ethanol	ND	ug/L	500	328	2.5		10/18/16 07:55	64-17-5	
Ethylbenzene	ND	ug/L	12.5	4.0	2.5		10/18/16 07:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		10/18/16 07:55	637-92-3	
Methyl-tert-butyl ether	37.2	ug/L	12.5	4.2	2.5		10/18/16 07:55	1634-04-4	
Naphthalene	ND	ug/L	12.5	5.0	2.5		10/18/16 07:55	91-20-3	
Toluene	ND	ug/L	12.5	4.0	2.5		10/18/16 07:55	108-88-3	
Xylene (Total)	ND	ug/L	25.0	6.8	2.5		10/18/16 07:55	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		2.5		10/18/16 07:55	460-00-4	D3
1,2-Dichloroethane-d4 (S)	100	%	70-130		2.5		10/18/16 07:55	17060-07-0	
Toluene-d8 (S)	107	%	70-130		2.5		10/18/16 07:55	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: 12175-DIUP1      Lab ID: 92315902012      Collected: 10/12/16 00:00      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/14/16 13:49	10/15/16 06:28	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	119	%	60-140		1	10/14/16 13:49	10/15/16 06:28	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	1170	ug/L	250	192	2.5		10/18/16 08:12	75-85-4	
tert-Amylmethyl ether	30.7	ug/L	25.0	8.5	2.5		10/18/16 08:12	994-05-8	
Benzene	244	ug/L	12.5	4.2	2.5		10/18/16 08:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		10/18/16 08:12	624-95-3	
tert-Butyl Alcohol	261	ug/L	250	144	2.5		10/18/16 08:12	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		10/18/16 08:12	762-75-4	
1,2-Dichloroethane	8.5J	ug/L	12.5	4.5	2.5		10/18/16 08:12	107-06-2	
Diisopropyl ether	10.5J	ug/L	12.5	4.2	2.5		10/18/16 08:12	108-20-3	
Ethanol	ND	ug/L	500	328	2.5		10/18/16 08:12	64-17-5	
Ethylbenzene	ND	ug/L	12.5	4.0	2.5		10/18/16 08:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		10/18/16 08:12	637-92-3	
Methyl-tert-butyl ether	36.2	ug/L	12.5	4.2	2.5		10/18/16 08:12	1634-04-4	
Naphthalene	ND	ug/L	12.5	5.0	2.5		10/18/16 08:12	91-20-3	
Toluene	ND	ug/L	12.5	4.0	2.5		10/18/16 08:12	108-88-3	
Xylene (Total)	ND	ug/L	25.0	6.8	2.5		10/18/16 08:12	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		2.5		10/18/16 08:12	460-00-4	D3
1,2-Dichloroethane-d4 (S)	104	%	70-130		2.5		10/18/16 08:12	17060-07-0	
Toluene-d8 (S)	106	%	70-130		2.5		10/18/16 08:12	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3  
Pace Project No.: 92315902

Sample: TRIP BLANK      Lab ID: 92315902013      Collected: 10/12/16 00:00      Received: 10/13/16 10:57      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260									
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		10/15/16 15:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		10/15/16 15:13	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		10/15/16 15:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		10/15/16 15:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		10/15/16 15:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		10/15/16 15:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		10/15/16 15:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:13	108-20-3	
Ethanol	ND	ug/L	200	131	1		10/15/16 15:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		10/15/16 15:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		10/15/16 15:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		10/15/16 15:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		10/15/16 15:13	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		10/15/16 15:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/15/16 15:13	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		10/15/16 15:13	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		10/15/16 15:13	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		10/15/16 15:13	2037-26-5	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333270 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315902001, 92315902007, 92315902008

METHOD BLANK: 1847027 Matrix: Water  
Associated Lab Samples: 92315902001, 92315902007, 92315902008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/15/16 00:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/15/16 00:09	
Benzene	ug/L	ND	5.0	1.7	10/15/16 00:09	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/15/16 00:09	
Ethanol	ug/L	ND	200	131	10/15/16 00:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/15/16 00:09	
Ethylbenzene	ug/L	ND	5.0	1.6	10/15/16 00:09	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/15/16 00:09	
Naphthalene	ug/L	ND	5.0	2.0	10/15/16 00:09	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/15/16 00:09	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/15/16 00:09	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/15/16 00:09	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/15/16 00:09	
Toluene	ug/L	ND	5.0	1.6	10/15/16 00:09	
Xylene (Total)	ug/L	ND	10.0	2.7	10/15/16 00:09	
1,2-Dichloroethane-d4 (S)	%	101	70-130		10/15/16 00:09	
4-Bromofluorobenzene (S)	%	99	70-130		10/15/16 00:09	
Toluene-d8 (S)	%	111	70-130		10/15/16 00:09	

LABORATORY CONTROL SAMPLE: 1847028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.6	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	53.6	107	70-130	
Diisopropyl ether	ug/L	50	56.9	114	70-130	
Ethanol	ug/L	2000	1980	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	49.7	99	70-130	
Methyl-tert-butyl ether	ug/L	50	59.3	119	70-130	
Naphthalene	ug/L	50	50.0	100	70-130	
tert-Amyl Alcohol	ug/L	1000	921	92	70-130	
tert-Amylmethyl ether	ug/L	100	107	107	70-130	
tert-Butyl Alcohol	ug/L	500	458	92	70-130	
tert-Butyl Formate	ug/L	400	427	107	70-130	
Toluene	ug/L	50	47.8	96	70-130	
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			95	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

MATRIX SPIKE SAMPLE: 1847265		92315903009	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	14.6	73	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	285	71	70-130	
Benzene	ug/L	ND	20	15.7	78	70-130	
Diisopropyl ether	ug/L	ND	20	15.3	76	70-130	
Ethanol	ug/L	ND	800	590	74	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	28.6	71	70-130	
Ethylbenzene	ug/L	ND	20	14.9	75	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	14.9	74	70-130	
Naphthalene	ug/L	9.9	20	24.7	74	70-130	
tert-Amyl Alcohol	ug/L	ND	400	284	71	70-130	
tert-Amylmethyl ether	ug/L	ND	40	27.2	68	70-130	M1
tert-Butyl Alcohol	ug/L	ND	200	155	77	70-130	
tert-Butyl Formate	ug/L	ND	160	85.7	54	70-130	P5
Toluene	ug/L	ND	20	15.2	76	70-130	
1,2-Dichloroethane-d4 (S)	%				104	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1847029

Parameter	Units	92315903010	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	103	2		
4-Bromofluorobenzene (S)	%	99	101	2		
Toluene-d8 (S)	%	112	111	1		

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333271 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315902002

METHOD BLANK: 1847069 Matrix: Water  
Associated Lab Samples: 92315902002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/15/16 00:25	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/15/16 00:25	
Benzene	ug/L	ND	5.0	1.7	10/15/16 00:25	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/15/16 00:25	
Ethanol	ug/L	ND	200	131	10/15/16 00:25	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/15/16 00:25	
Ethylbenzene	ug/L	ND	5.0	1.6	10/15/16 00:25	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/15/16 00:25	
Naphthalene	ug/L	ND	5.0	2.0	10/15/16 00:25	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/15/16 00:25	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/15/16 00:25	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/15/16 00:25	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/15/16 00:25	
Toluene	ug/L	ND	5.0	1.6	10/15/16 00:25	
Xylene (Total)	ug/L	ND	10.0	2.7	10/15/16 00:25	
1,2-Dichloroethane-d4 (S)	%	103	70-130		10/15/16 00:25	
4-Bromofluorobenzene (S)	%	101	70-130		10/15/16 00:25	
Toluene-d8 (S)	%	112	70-130		10/15/16 00:25	

LABORATORY CONTROL SAMPLE: 1847070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.7	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	952	95	70-130	
Benzene	ug/L	50	54.9	110	70-130	
Diisopropyl ether	ug/L	50	60.9	122	70-130	
Ethanol	ug/L	2000	1960	98	70-130	
Ethyl-tert-butyl ether	ug/L	100	111	111	70-130	
Ethylbenzene	ug/L	50	49.8	100	70-130	
Methyl-tert-butyl ether	ug/L	50	62.1	124	70-130	
Naphthalene	ug/L	50	52.0	104	70-130	
tert-Amyl Alcohol	ug/L	1000	867	87	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	456	91	70-130	
tert-Butyl Formate	ug/L	400	442	110	70-130	
Toluene	ug/L	50	48.1	96	70-130	
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			95	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

Parameter	Units	1847266		1847267		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92315902002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
1,2-Dichloroethane	ug/L	ND	500	500	548	551	110	110	70-130	0	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	10000	10000	10800	10800	108	108	70-130	0	30	
Benzene	ug/L	415	500	500	1040	1040	124	125	70-130	0	30	
Diisopropyl ether	ug/L	ND	500	500	590	637	117	127	70-130	8	30	
Ethanol	ug/L	ND	20000	20000	21200	20400	106	102	70-130	4	30	
Ethyl-tert-butyl ether	ug/L	ND	1000	1000	1110	1150	111	115	70-130	4	30	
Ethylbenzene	ug/L	1630	500	500	2350	2240	143	120	70-130	5	30	M1
Methyl-tert-butyl ether	ug/L	464	500	500	1220	1240	152	156	70-130	2	30	M1
Naphthalene	ug/L	526	500	500	1100	1140	115	123	70-130	3	30	
tert-Amyl Alcohol	ug/L	20000	10000	10000	34900	36100	150	161	70-130	3	30	M1
tert-Amylmethyl ether	ug/L	ND	1000	1000	1050	1150	104	114	70-130	9	30	
tert-Butyl Alcohol	ug/L	2750	5000	5000	7500	7570	95	96	70-130	1	30	
tert-Butyl Formate	ug/L	ND	4000	4000	4690	4730	117	118	70-130	1	30	
Toluene	ug/L	3210	500	500	3640	3650	87	88	70-130	0	30	
1,2-Dichloroethane-d4 (S)	%						108	104	70-130			
4-Bromofluorobenzene (S)	%						104	97	70-130			
Toluene-d8 (S)	%						96	98	70-130			

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333331 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315902013

METHOD BLANK: 1847268 Matrix: Water  
Associated Lab Samples: 92315902013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/15/16 14:39	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/15/16 14:39	
Benzene	ug/L	ND	5.0	1.7	10/15/16 14:39	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/15/16 14:39	
Ethanol	ug/L	ND	200	131	10/15/16 14:39	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/15/16 14:39	
Ethylbenzene	ug/L	ND	5.0	1.6	10/15/16 14:39	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/15/16 14:39	
Naphthalene	ug/L	ND	5.0	2.0	10/15/16 14:39	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/15/16 14:39	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/15/16 14:39	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/15/16 14:39	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/15/16 14:39	
Toluene	ug/L	ND	5.0	1.6	10/15/16 14:39	
Xylene (Total)	ug/L	ND	10.0	2.7	10/15/16 14:39	
1,2-Dichloroethane-d4 (S)	%	97	70-130		10/15/16 14:39	
4-Bromofluorobenzene (S)	%	103	70-130		10/15/16 14:39	
Toluene-d8 (S)	%	109	70-130		10/15/16 14:39	

LABORATORY CONTROL SAMPLE: 1847269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.7	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	969	97	70-130	
Benzene	ug/L	50	54.8	110	70-130	
Diisopropyl ether	ug/L	50	60.2	120	70-130	
Ethanol	ug/L	2000	2080	104	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	50.0	100	70-130	
Methyl-tert-butyl ether	ug/L	50	62.6	125	70-130	
Naphthalene	ug/L	50	52.8	106	70-130	
tert-Amyl Alcohol	ug/L	1000	919	92	70-130	
tert-Amylmethyl ether	ug/L	100	111	111	70-130	
tert-Butyl Alcohol	ug/L	500	477	95	70-130	
tert-Butyl Formate	ug/L	400	458	114	70-130	
Toluene	ug/L	50	48.9	98	70-130	
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			96	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

MATRIX SPIKE SAMPLE: 1847271		92316040003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	13.7	68	70-130	M1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	299	75	70-130	
Benzene	ug/L	ND	20	15.8	73	70-130	
Diisopropyl ether	ug/L	ND	20	15.4	70	70-130	
Ethanol	ug/L	ND	800	1110	139	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	25.8	64	70-130	M1
Ethylbenzene	ug/L	ND	20	14.2	71	70-130	
Methyl-tert-butyl ether	ug/L	23.2	20	43.5	101	70-130	
Naphthalene	ug/L	ND	20	12.9	65	70-130	M1
tert-Amyl Alcohol	ug/L	ND	400	304	76	70-130	
tert-Amylmethyl ether	ug/L	ND	40	26.1	63	70-130	M1
tert-Butyl Alcohol	ug/L	ND	200	160	80	70-130	
tert-Butyl Formate	ug/L	ND	160	89.3	56	70-130	P5
Toluene	ug/L	ND	20	14.5	71	70-130	
1,2-Dichloroethane-d4 (S)	%				104	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 1847270

Parameter	Units	92316040001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	102	3		
4-Bromofluorobenzene (S)	%	102	101	1		
Toluene-d8 (S)	%	110	111	1		

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333463 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92315902003, 92315902004, 92315902005, 92315902006, 92315902009, 92315902010, 92315902011, 92315902012

METHOD BLANK: 1848019 Matrix: Water  
Associated Lab Samples: 92315902003, 92315902004, 92315902005, 92315902006, 92315902009, 92315902010, 92315902011, 92315902012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	10/18/16 05:08	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	10/18/16 05:08	
Benzene	ug/L	ND	5.0	1.7	10/18/16 05:08	
Diisopropyl ether	ug/L	ND	5.0	1.7	10/18/16 05:08	
Ethanol	ug/L	ND	200	131	10/18/16 05:08	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	10/18/16 05:08	
Ethylbenzene	ug/L	ND	5.0	1.6	10/18/16 05:08	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	10/18/16 05:08	
Naphthalene	ug/L	ND	5.0	2.0	10/18/16 05:08	
tert-Amyl Alcohol	ug/L	ND	100	76.8	10/18/16 05:08	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	10/18/16 05:08	
tert-Butyl Alcohol	ug/L	ND	100	57.7	10/18/16 05:08	
tert-Butyl Formate	ug/L	ND	50.0	7.3	10/18/16 05:08	
Toluene	ug/L	ND	5.0	1.6	10/18/16 05:08	
Xylene (Total)	ug/L	ND	10.0	2.7	10/18/16 05:08	
1,2-Dichloroethane-d4 (S)	%	100	70-130		10/18/16 05:08	
4-Bromofluorobenzene (S)	%	100	70-130		10/18/16 05:08	
Toluene-d8 (S)	%	111	70-130		10/18/16 05:08	

LABORATORY CONTROL SAMPLE: 1848020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.7	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	53.5	107	70-130	
Diisopropyl ether	ug/L	50	60.5	121	70-130	
Ethanol	ug/L	2000	2300	115	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	48.0	96	70-130	
Methyl-tert-butyl ether	ug/L	50	61.9	124	70-130	
Naphthalene	ug/L	50	50.5	101	70-130	
tert-Amyl Alcohol	ug/L	1000	976	98	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	517	103	70-130	
tert-Butyl Formate	ug/L	400	444	111	70-130	
Toluene	ug/L	50	47.0	94	70-130	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	

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

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

LABORATORY CONTROL SAMPLE: 1848020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 1848022

Parameter	Units	92315902006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.3	106	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	369	92	70-130	
Benzene	ug/L	ND	20	22.6	113	70-130	
Diisopropyl ether	ug/L	ND	20	22.0	110	70-130	
Ethanol	ug/L	ND	800	2710	339	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	41.2	103	70-130	
Ethylbenzene	ug/L	ND	20	21.9	109	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.3	106	70-130	
Naphthalene	ug/L	ND	20	19.6	98	70-130	
tert-Amyl Alcohol	ug/L	ND	400	389	97	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.8	102	70-130	
tert-Butyl Alcohol	ug/L	ND	200	257	129	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1, P5
Toluene	ug/L	ND	20	21.8	109	70-130	
1,2-Dichloroethane-d4 (S)	%				105	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1848021

Parameter	Units	92315902005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	98	101	2		
4-Bromofluorobenzene (S)	%	102	100	2		

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

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

SAMPLE DUPLICATE: 1848021

Parameter	Units	92315902005 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	109	111	2		

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

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333183 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92315902001, 92315902002, 92315902004, 92315902005, 92315902006, 92315902007, 92315902008, 92315902009, 92315902010, 92315902011, 92315902012

METHOD BLANK: 1846261 Matrix: Water  
Associated Lab Samples: 92315902001, 92315902002, 92315902004, 92315902005, 92315902006, 92315902007, 92315902008, 92315902009, 92315902010, 92315902011, 92315902012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	10/14/16 23:44	
1-Chloro-2-bromopropane (S)	%	100	60-140		10/14/16 23:44	

LABORATORY CONTROL SAMPLE & LCSD: 1846262

Parameter	Units	1846263		LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result						
1,2-Dibromoethane (EDB)	ug/L	.25	0.31	126	128	60-140	2	20	
1-Chloro-2-bromopropane (S)	%			103	107	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1846264 1846265

Parameter	Units	92315902001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
1,2-Dibromoethane (EDB)	ug/L	ND	.49	.49	0.45	0.50	90	102	60-140	12	20	
1-Chloro-2-bromopropane (S)	%						84	89	60-140			

SAMPLE DUPLICATE: 1846266

Parameter	Units	92315902007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	103	107	2		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3  
Pace Project No.: 92315902

QC Batch: 333749	Analysis Method: EPA 8011
QC Batch Method: EPA 8011	Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92315902003	

METHOD BLANK: 1849591 Matrix: Water  
Associated Lab Samples: 92315902003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	10/19/16 17:20	
1-Chloro-2-bromopropane (S)	%	99	60-140		10/19/16 17:20	

LABORATORY CONTROL SAMPLE & LCSD: 1849592

Parameter	Units	1849593								Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	
1,2-Dibromoethane (EDB)	ug/L	.25	0.28	0.28	110	114	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				100	97	60-140			

SAMPLE DUPLICATE: 1849596

Parameter	Units	92315895022 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	5.8	6.3	9	20	
1-Chloro-2-bromopropane (S)	%	0	0			S4

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: EFC #3  
Pace Project No.: 92315902

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC #3  
Pace Project No.: 92315902

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92315902001	12175-MW3	EPA 8011	333183	EPA 8011	333239
92315902002	12175-MW4	EPA 8011	333183	EPA 8011	333239
92315902003	12175-MW5	EPA 8011	333749	EPA 8011	333753
92315902004	12175-MW6	EPA 8011	333183	EPA 8011	333239
92315902005	12175-MW7	EPA 8011	333183	EPA 8011	333239
92315902006	12175-MW10	EPA 8011	333183	EPA 8011	333239
92315902007	12175-MW9	EPA 8011	333183	EPA 8011	333239
92315902008	12175-MW8	EPA 8011	333183	EPA 8011	333239
92315902009	12175-MW12	EPA 8011	333183	EPA 8011	333239
92315902010	12175-MW19	EPA 8011	333183	EPA 8011	333239
92315902011	12175-MW26	EPA 8011	333183	EPA 8011	333239
92315902012	12175-DIUP1	EPA 8011	333183	EPA 8011	333239
92315902001	12175-MW3	EPA 8260	333270		
92315902002	12175-MW4	EPA 8260	333271		
92315902003	12175-MW5	EPA 8260	333463		
92315902004	12175-MW6	EPA 8260	333463		
92315902005	12175-MW7	EPA 8260	333463		
92315902006	12175-MW10	EPA 8260	333463		
92315902007	12175-MW9	EPA 8260	333270		
92315902008	12175-MW8	EPA 8260	333270		
92315902009	12175-MW12	EPA 8260	333463		
92315902010	12175-MW19	EPA 8260	333463		
92315902011	12175-MW26	EPA 8260	333463		
92315902012	12175-DIUP1	EPA 8260	333463		
92315902013	TRIP BLANK	EPA 8260	333331		

### REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: Sept. 21, 2016 Page 1 of 2

Document No.: F-CAR-CS-033-Rev.00

Issuing Authority: Pace Quality Office

Page 2 of 2 for Internal Use ONLY

Sample Condition Upon Receipt

Client Name: ECS

Project

WO#: 92315902



Courier: [ ] Commercial [ ] Fed Ex [ ] Pace [ ] UPS [ ] USPS [ ] Other: [ ] Client

Custody Seal Present? [ ] Yes [x] No Seals Intact? [ ] Yes [x] No

Date/Initials Person Examining Contents: JMB-13/16

Packing Material: [ ] Bubble Wrap [x] Bubble Bags [ ] None [ ] Other:

Thermometer: [ ] IR Gun ID: T1505 Type of Ice: [x] Wet [ ] Blue [ ] None [x] Samples on ice, cooling process has begun

Correction Factor: Cooler Temp Corrected (°C): 1.2 Biological Tissue Frozen? [ ] Yes [x] No [ ] N/A

Temp should be above freezing to 6°C

USDA Regulated Soil ( [x] N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? [ ] Yes [x] No

Table with 2 columns: Question and Comments/Discrepancy. Contains 13 rows of inspection items with checkboxes and handwritten notes.

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? [ ] Yes [x] No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_
Comments/Sample Discrepancy: \_\_\_\_\_

Project Manager SCURF Review: [Signature] Date: 10/13

Project Manager SRF Review: [Signature] Date: 10/13

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

Laboratory receiving samples:

Asheville [ ] Eden [ ] Greenwood [ ] Huntersville [ ] Raleigh [ ] Mechanicsville [ ]





# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
<b>Required Client Information:</b> Company: Environmental Compliance Services Address: 13504 South Point Blvd Charlotte, NC 28273 Email: nfrance@eecsconsult.com Phone: (704)583-2711 Fax:		<b>Required Project Information:</b> Report To: Noelle France Copy To: Purchase Order #: Project Name: EFC #3 Project #: Requested Due Date:		<b>Invoice Information:</b> Attention: Company Name: Address: Pace Quote: Pace Project Manager: taylor.ezell@pacelabs.com Pace Profile #: 2915-3	
<b>Regulatory Agency:</b> State / Location: SC		<b>Requested Analysis Filtered (Y/N)</b>			

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9, /, -) Sample IDs must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DVT WT WW P SL OL WP AR OT TS	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analyses Test	Y/N	Residual Chlorine (Y/N)
				START DATE	END DATE						
1	12175-MW3			10-12-14	1553		10		SCDHEC VOC & EDB		
2	- MW1				1115				Trip BLANK		
3	- MW5				1220				DI Water		
4	- MW10				1315						
5	- MW7				1321						
6	- MW210				1430						
7	- MW9				1405						
8	- MW8				1505						
9	- MW12				925						
10	- MW19				1025						
11	- MW210				935						
12	- DUP1										

<b>ADDITIONAL COMMENTS</b> Report of values		<b>RELINQUISHED BY / AFFILIATION</b> EHS Name: EHS Office Pace Project Manager: James Johnson Date: 10-13-14 Time: 1500		<b>ACCEPTED BY / AFFILIATION</b> EHS Name: EHS Office Pace Project Manager: James Johnson Date: 10-12-14 Time: 1815		<b>SAMPLER NAME AND SIGNATURE</b> PRINT Name of SAMPLER: E Green, A. Williams SIGNATURE of SAMPLER: E Green, A. Williams DATE Signed: 10-12-14	
--	--	--	--	--	--	---	--

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information:  
 Company: Environmental Compliance Services  
 Address: 13504 South Point Blvd  
 Charlotte, NC 28273  
 Email: nfrancee@accsconsult.com  
 Phone: (704) 583-2711  
 Fax: \_\_\_\_\_

**Section B**

Required Project Information:  
 Report To: Noelle France  
 Copy To: \_\_\_\_\_  
 Purchase Order #: \_\_\_\_\_  
 Project Name: EFC #3  
 Project #:

**Section C**

Invoice Information:  
 Attention: \_\_\_\_\_  
 Company Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Pace Quote: \_\_\_\_\_  
 Pace Project Manager: taylor.ezell@paceelabs.com  
 Pace Profile #: 2915-3

ITEM #	SAMPLE ID (A-Z, 0-9 / , -) One Character per box. Sample IDs must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Regulatory Agency	State / Location
				START DATE	END DATE			H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other					
1	TRIP BLANK						2												
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: E. Greener, A. Williams, S. V.  
 SIGNATURE of SAMPLER: E. Greener, A. Williams, S. V.  
 DATE Signed: 10-12-16

TEMP in C \_\_\_\_\_  
 Received on Ice (Y/N) \_\_\_\_\_  
 Custody Sealed Cooler (Y/N) \_\_\_\_\_  
 Samples Intact (Y/N) \_\_\_\_\_

**APPENDIX B**  
**QUALITY ASSURANCE AND QUALITY CONTROL EVALUATION**  
**LABORATORY ACCURACY - PACE ANALYTICAL SERVICES**

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromothane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol	Diisopropyl ether
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	240	128	1,400	150
12175-FB1	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	<76.8	<3.4	<57.7	<1.7
12175-FB2	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	<76.8	<3.4	<57.7	<1.7
TRIP BLANK	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	N/A	<1.8	<76.8	<3.4	<57.7	<1.7

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromothane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol	Diisopropyl ether
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	240	128	1,400	150
12175-MW26	10/12/2016	238	<4.0	<4.0	<6.8	37.2	<5.0	<0.019	7.6	1100	30.6	249	10.0
12175-DIUP1	10/12/2016	244	<4.0	<4.0	<6.8	36.2	<5.0	<0.020	8.5	1170	30.7	261	10.5
Relative Percent Difference		2.49%	NA	NA	NA	2.72%	NA	NA	11.18%	6.17%	0.33%	4.71%	4.88%
Average Relative Percent Difference		4.58%											

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromothane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol	Diisopropyl ether
12175-MW24	10/12/2016	4320	13600	2170	11300	<1.70	493	0.35	<180	18700	<340	<5770	<1.70
12175-DUPLICATE 2	10/12/2016	4690	14600	2280	11700	<1.70	501	0.35	<180	19800	<340	<5770	<1.70
Relative Percent Difference		8.21%	7.09%	4.94%	3.48%	NA	1.61%	0.00%	NA	5.71%	NA	NA	NA
Average Relative Percent Difference		4.44%											

FB - Field Blank  
 Results in micrograms per liter ug/L  
 J qualifiers left out for calculation purposes

**APPENDIX G**  
Disposal Manifest

---



# HAZ-MAT

ENVIRONMENTAL SERVICES  
P.O. BOX 37392 • CHARLOTTE, N.C. 28237  
(704) 332-5600  
FAX (704) 375-7183

Manifest No. 76084  
P.O. No. \_\_\_\_\_  
Job No. \_\_\_\_\_

## NON-HAZARDOUS SPECIAL WASTE

### Section I. GENERATOR (Generator complete all of Section I)

<b>GENERATOR LOCATION</b>	<b>WORK CONTRACTED BY</b> Bill To (If different from information at left)										
NAME _____	NAME _____										
ORIGINATING ADDRESS _____	ADDRESS _____										
MAILING ADDRESS _____	CITY _____ STATE _____ ZIP _____										
CITY _____ STATE _____ ZIP _____	PHONE NO. _____										
PHONE NO. _____	CONTACT NAME _____										
CONTACT NAME _____											
DES. OF WASTE: _____	<table border="1"> <tr> <td>02</td> <td>02</td> <td>4</td> <td>1000</td> <td>1</td> </tr> <tr> <td>No.</td> <td>Type</td> <td>Units</td> <td colspan="2">Quantity</td> </tr> </table>	02	02	4	1000	1	No.	Type	Units	Quantity	
02	02	4	1000	1							
No.	Type	Units	Quantity								

### Section II. INVOICE INFORMATION **GALLONS DRUMS**

DESCRIPTION	QUANTITY	LINE TOTAL
1. PETROLEUM CONTACT WATER		
2. OFF-SPEC LIGHT OIL, DIESEL OR GAS		
3. NON-HAZARDOUS LIQUIDS		
4. SEDIMENT OR SOLIDS		
5. 55-GALLON DRUM REMOVED - SOLID OR EMPTY		
6. 55-GALLON DRUM REMOVED - LIQUID		
7.		
8.		
9.		
10. ARRIVAL TIME: _____ DEPARTURE TIME: _____		

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations. Generator/Customer shall reimburse HAZ-MAT its reasonable expenses and charges for handling, analyzing, loading, preparing, transporting, storing or caring for nonconforming or off spec waste, including costs of decontamination and cleaning of equipment. Generator must notify HAZ-MAT of any changes to the waste stream prior to shipment.

Generator Authorized Agent Name _____	Signature _____	Shipment Date <u>10/2/16</u>
---------------------------------------	-----------------	------------------------------

### Section III. TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

<b>HAZ-MAT</b> ENVIRONMENTAL SERVICES P.O. BOX 37392 • CHARLOTTE, N.C. 28237		<b>TRANSPORTER II</b>	
a. Driver Name/Title _____	e. Name _____	f. Address _____	
b. Phone No. _____ c. Truck No. _____	g. Driver Name/Title _____	h. Phone No. _____ i. Truck No. _____	
Hazardous Waste Transporter Permits EPA NCD048461370	j. Transporter II Permit Nos. _____		
d. Driver Signature _____	Shipment Date <u>10/2/16</u>		

### Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL

Site Name: <u>Haz-Mat Environmental Services</u>	a. Phone No. <u>704-332-5600</u>
Physical Address: <u>210 Dalton Avenue</u> <u>Charlotte, N.C. 28206</u>	b. Mailing Address: <u>P.O. Box 37392</u> <u>Charlotte, N.C. 28237</u>

e: Discrepancy Indication Space  
This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.

SIGNATURE OF FACILITY AGENT <u>Mike Adkins</u>	DATE	MONTH <u>10</u>	DAY <u>2</u>	YEAR <u>16</u>
--	------	-----------------	--------------	----------------

**APPENDIX K**

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Data Verification Checklist



## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		





JUL 19 2017

MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE LLC  
P O BOX 388  
EDGEFIELD SC 29824-0388

Re: **Aggressive Fluid Vapor Recovery Directive**  
Edgefield Fuel & Convenience 3, 311 Main Street., Edgefield, SC 29824  
UST Permit # 12175; CA# 54995  
Release reported December 31, 2008  
Groundwater Sampling Report received June 23, 2017  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) recognizes your commitment to continue work at this site using ATC Group Services, LLC. as your contractor. The next appropriate scope of work at the site is to continue aggressive fluid and vapor recovery (AFVR) to remove residual free-phase product and reduce concentrations of chemicals of concern (CoC). The AFVR event must be conducted in accordance with the current revision of the Annual Contractor Quality Assurance Plan (ACQAP). A copy of the current revision of the QAPP is available at <https://www.scdhec.gov/environment/lw/ust/ReleaseAssessmentClean-up/QualityAssurance/>.

**Cost Agreement #54995** has been approved in the amount shown on the enclosed cost agreement form for a 96-hour AFVR event on RW-2. During the AFVR event, stingers shall be lowered at six inch intervals starting at the water table interface to the estimated historical low water table elevation for each well within the first 8 hours of the event. Thereafter, stingers should be adjusted to maximize FP and/or vapor recovery while maintaining dewatering of the smear zone. Well Installation activities may proceed immediately upon receipt of this letter and AFVR may proceed immediately after the well installation. Both actions must be performed by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor. All applicable South Carolina certification requirements apply to preparation of an AFVR report.

**An AFVR report and invoice must be submitted to the Division within 90 days from the date of this letter.** Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the DHEC is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the DHEC for the cost to be paid. The DHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with

established criteria. Further, the DHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

The DHEC grants pre-approval for transportation of up to 20,000 gallons of free-phase product and petroleum-contaminated groundwater from the referenced facility to a permitted treatment facility for disposal. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference **UST Permit #12175**. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-7705 or by e-mail at [johnsoal@dhec.sc.gov](mailto:johnsoal@dhec.sc.gov).

Sincerely,



Austin Johnson, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

enc: Approved cost agreement form

cc: ATC Group Services, LLC., 7606 Whitehall Executive Drive, Suite 800, Charlotte, NC  
29484  
Technical File (w/ enc)

# Approved Cost Agreement 54995

Facility: 12175 EDGEFIELD FUEL & CONVENIENCE 3

JOHNSOAL

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
19 RPT/PROJECT MNGT & COORDINATIO		PRT REPORT PREPARATION	0.1200	\$22,742.250	2,729.07
23 EFR		A4 96 HOUR EVENT	1.0000	\$12,567.500	12,567.50
		C4 OFF GAS TREATMENT 96 HOUR	1.0000	\$780.000	780.00
		D SITE RECONNAISSANCE	1.0000	\$203.250	203.25
		F1 EFFLUENT DISPOSAL	20,000.0000	\$0.440	8,800.00
		G AFVR EQUIPMENT MOB	1.0000	\$391.500	391.50
<b>Total Amount</b>					<b>25,471.32</b>

# Document Receipt Information

Hard Copy

CD

Email

Date Received 9-12-17

Permit Number 12175

Project Manager Austin Johnson

Name of Contractor ATC

UST Certification Number \_\_\_\_\_

Docket Number 48 Tech

Scanned \_\_\_\_\_

AFVR





**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

**AGGRESSIVE FLUID VAPOR RECOVERY REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**

**UST PERMIT NO. 12175  
ATC PROJECT NO. EDGE3001**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

ATC Group Services LLC  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

September 7, 2017

Noelle France  
Project Manager

Michael D. Shaw  
SC Licensed Professional



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- Appendix H: Local Zoning Regulations (Not Required)
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- Appendix J: Access Agreements (Not Required)
- Appendix K: Data Verification Checklist
- Appendix L: Aggressive Fluid Vapor Recovery Event Data  
Including: Before & After Data; Field Data Sheet; Air Flow Calculations; Pre-Treatment Emission Calculations; Post-Treatment Emission Calculations

## 1.0 INTRODUCTION

This report, prepared by ATC Group Services LLC (ATC), presents the results of the corrective action activities conducted at the Edgefield Fuel & Convenience 3 (EFC3) site on August 8, 2017 and between August 21 through 25, 2017. These activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1 and Cost Agreement Number 54995 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated July 19, 2017.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-5425

### 1.2 UST OWNER/OPERATOR

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-1900

### 1.3 PROPERTY OWNER INFORMATION

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 367-1900

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** ATC Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** Not reported

### UST Permit 12175

UST	Size	Product	Date Installed	Status	Date Closed
1	3,000	Premium Unleaded Gasoline	Unknown	Extended-Out of Use	Not applicable
2	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable
3	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable

The site operates as EFC3 site, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed as being installed at the site and it is noted that the premium unleaded gasoline UST was not in use during these corrective action activities.

### 1.6 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.

## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The EFC3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. **Figure 1** illustrates the site location with topographic details. The site is bordered to the north by an access road and parking lot for the west abutting First Citizen's Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority obtain their water supply from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One storm drainage feature was previously identified approximately 1,000 feet southeast of the site. This storm drainage feature flows in a westerly direction and bends to the southwest and discharges into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and an unnamed tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general southeasterly direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general southwesterly direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located approximately 525 feet above mean sea level (AMSL) with an approximate total site topographic relief of three feet. The surface cover at the site consists primarily of asphalt paving, and some smaller portions completed with concrete and grass. The active site UST area is completed with a concrete surface covering. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC), stone, and clayey to silty sand to depths of approximately 2 feet below ground surface (BGS). Native soils (residuum), below the fill material, are characterized as tan- brown -red silty sand and silty clay to depths of 6 feet BGS. Soils encountered in the boreholes below 6 feet BGS are characterized as yellow-orange-tan- gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt, and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet BGS during Tier I assessment activities (conducted in March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (conducted in April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet BGS were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses performed on soil analysis of soil sample SB-2, the onsite shallow soils are characterized as clayey silty sands.

Historical depths to groundwater measured in shallow monitoring wells at the site are reported to have ranged from 18.09 feet BGS (12175-MW5 in May 2010) to 25.61 feet BGS (12175-MW2 in October 2010 with 3.65 feet of free phase product), with an overall average depth of 22.24 feet BGS in on-site monitoring wells over time. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, were calculated to have ranged between 0.11 feet per day (ft/day) to 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.



### **3.0 ASSESSMENT INFORMATION**

#### **3.1 SOIL ASSESSMENT**

Soil assessment was not required for the scope of work outlined in the July 19, 2017 directive.

#### **3.2 GROUNDWATER FIELD SCREENING**

Groundwater field screening was not required for the scope of work outlined in the July 19, 2017 directive.

#### **3.3 MONITORING WELL INFORMATION**

Monitoring well installation was not required for the scope of work outlined in the July 19, 2017 directive.

#### **3.4 GROUNDWATER ASSESSMENT**

##### 3.4.1 Product/Water Level Measurements

Monitoring wells 12175-MW1, 12175-MW2, 12175-MW25, 12175-RW1, and 12175-RW2 were gauged for depths to free phase product and depth to groundwater during the site reconnaissance activities on August 8, 2017. Free phase product was detected in site wells 12175-MW1 (thickness of 4.52 feet), 12175-MW2 (2.02 feet), 12175-MW25 (4.01 feet) and 21275-RW2 (4.06 feet).

##### 3.4.2 Water Sampling and Analyses

Groundwater samples were not required for the scope of work outlined in the AFVR directive dated July 19, 2017.

##### 3.4.3 Groundwater Analytical Data

Groundwater analysis was not required for the scope of work outlined in the AFVR directive dated July 19, 2017.

##### 3.4.4 Aquifer Characterization

Aquifer characteristics determinations were not required for the scope of work outlined in the AFVR directive dated July 19, 2017.

## 4.0 CORRECTIVE ACTION

The SCDHEC directive included the performance of a 96-hour aggressive fluid vapor recovery (AFVR) events. The AFVR event was conducted to extract free phase product from recovery well 12175-RW2.

### 4.1 CORRECTIVE ACTION ACTIVITIES

#### 4.1.1 AFVR Event – August 21 through August 25, 2017

This AFVR event was initiated on August 21, 2017 and completed on August 25, 2017. The AFVR event was completed by ATC with activity monitoring provided by ATC personnel Brian Peay and Henry Wells. Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction well 12175-RW2 and in observation monitoring wells 12175-MW18 and 12175-MW26. Free phase product was detected in targeted extraction recovery well 12175-RW2 (at a thickness of 4.37 feet) prior to initiating the AFVR event on August 21, 2017.

This AFVR event consisted of utilizing a vacuum system capable extracting vapors and fluids from 12175-RW2 for approximately 96 hours and utilized a thermal oxidizer for off-gas treatment. The thermal oxidizing system, was inoperable from 14:30 to 19:30 on August 21, 2017. The trailer mounted AFVR equipment consisted of one Dekker VMX0303K oil-sealed vacuum system capable of providing an extraction rate of 275 cubic feet per minute (CFM) at 25 inches mercury (inHg) vacuum. The vacuum blower is connected to a manifold, air/water separator, and magnehelic gauges for system monitoring. A water discharge line is connected from the air/water separator, flow meter, and transfer pump that pumps the water to a holding tank temporarily stored onsite. A ThermTech VAC-50 thermal oxidation system, capable of treating 25% of the Lower Explosive Limit (LEL) at a flow rate of 500 CFM, was used to reduce the off-gas emission concentrations from the AFVR blower to the atmosphere.

The drop tubes were initially lowered to the depth of fluid encountered in well 12175-RW2. The stinger pipes were lowered periodically throughout the duration of the extraction process in order to maximize the extraction potential over the duration of the activities. Observation wells were used to monitor the depth to groundwater and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours, 1-hour intervals for hours 9-24, and 2-hour intervals for the remainder of the event.

The vacuum readings were reported to have averaged 24.49 inHg over the course of the event. The air velocity rates were reported to have averaged 480.93 feet per minute (ft/min) from the discharge stack over the course of the event. Periodic organic vapor concentrations from the 12175-RW2 vapor effluent were measured at the discharge stack using a MiniRae® 3000 photoionization detector (PID). This PID is capable of providing concentrations of up to 10,000 ppm maximum concentration range of 10,000 ppm was exceeded during this event and, when exceeded, a concentration of 10,000 ppm was used in the emission calculations. The recorded measurements averaged a concentration of 7,446 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 115.57 degrees Fahrenheit (°F).

Free phase product was not detected in targeted extraction well 12175-RW2 nor in observation monitoring wells 12175-MW18 and 12175-MW26 during post-AFVR measurements on August

25, 2017. A summary of free phase product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of pre-treated vapor-phase petroleum hydrocarbon constituents removed was 12.25 pounds (2.04 equivalent gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents emitted to the atmosphere was 2.48 pounds (0.41 equivalent gallons).

Based on emission calculations, the thermal oxidizer was successful in removing approximately 80% of the off-gas emissions while in operation. Emission calculations were determined using the manufacturer's conversion factor to convert the PID readings into vapor-phase benzene concentrations.

Based on the manifest provided by Zebra Environmental and Industrial Services Inc. (Zebra), approximately 2,292 gallons of total fluids were removed from target well 12175-RW2 during the AFVR event. Based on the weight tickets provided by Zebra, approximately 2,774 gallons of fluid were removed during the AFVR event. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

#### **4.2 INVESTIGATIVE DERIVED WASTE**

Petroleum contact water (PCW) generated during these activities was temporarily stored in a 5000 - gallon tanker staged on-site. Liquids were transported to Zebra Environmental and Industrial Services, Inc (Zebra) located in High Point, North Carolina, a licensed disposal facility, for proper disposal. Copies of the disposal manifests for both AFVR events are included in **Appendix G**.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 SUMMARY

- Monitoring wells 12175-MW1, 12175-MW2, 12175-MW25, 12175-RW1, and 12175-RW2 were gauged for depths to free phase product and depth to groundwater during the site reconnaissance activities on August 8, 2017. Free phase product was detected in site wells 12175-MW1 (thickness of 4.52 feet), 12175-MW2 (2.02 feet), 12175-MW25 (4.01 feet) and 21275-RW2 (4.06 feet).
- An AFVR event was performed between August 21 through 25, 2017, targeting extraction well 12175-RW2. Prior to the start of the event, the depths to free phase product and groundwater were measured and free phase product was detected in targeted extraction recovery well 12175-RW2 at a thickness of 4.37 feet. Free phase product was not detected in AFVR observation wells 12175-MW18 and 12175-MW26 during the event, nor in 12175-RW2 at the conclusion of the vent.
- During the August 2017 AFVR event, the total estimated amount of pre-treated vapor-phase petroleum hydrocarbon constituents removed was 12.25 pounds (2.04 equivalent gallons). The total estimated amount of post-treated vapor-phase petroleum hydrocarbon constituents emitted to the atmosphere was 2.48 pounds (0.41 equivalent gallons).

### 5.2 CONCLUSIONS

- Based on emission calculations, the thermal oxidizer was successful in removing approximately 80% of the off-gas emissions while in operation.

### 5.3 RECOMMENDATIONS

Based on the free phase petroleum thicknesses measured during the August 8, 2017 site reconnaissance in 12175-MW1 (thickness of 4.52 feet), 12175-MW2 (2.02 feet), 12175-MW25 (4.01 feet), and 21275-RW2 (4.06 feet), ATC recommends performing additional AFVR and gauging events at this site targeting these wells.

## 6.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ECS. Although the accuracy of these data cannot be verified, for the purposes of this report, ECS assumes that they are correct.

### 6.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## **TABLES**

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**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-MW1	4/6/10 - 4/7/10	8	4,419	194.3	626	1.33	0	1.33	314
12175-MW1	7/12/11 - 7/13/11	12	4,456	232.3	2,454	4.88	0	4.88	1,503
12175-MW2	8/2/11 - 8/3/11	12	4,069	244.6	923	1.65	0	1.65	580
12175-MW19	8/11/11 - 8/12/11	12	4,274	216.4	2,804	5.30	0	5.30	740
12175-MW1	5/10/12 - 5/11/12	8	3,579	186.7	3,280	5.18	0	5.18	674
12175-MW2	5/31/12 - 6/1/12	8	3,481	188.1	1,325	1.97	0	1.97	330
12175-MW5	6/13/12 - 6/14/12	8	2,899	204.4	2,010	2.47	0	2.47	155
12175-MW19	6/28/12 - 6/29/12	8	4,901	230.1	2,790	5.50	0	5.50	167
12175-MW2	2/9/13 - 2/10/13	24	3,762	173.1	7,963	40.29	Sheen	40.29	1,675
12175-MW19									
12175-MW25									
12175-MW1	2/10/13 - 2/11/13	20.67	3,473	176.3	5,649	22.12	Sheen	22.12	1,525
12175-MW4									
12175-MW5									
12175-RW1	6/5/13 - 6/6/13	12	4,332	195.7	1,536	4.46	Sheen	4.46	920
12175-RW2	6/20/13 - 6/21/13	12	4,532	173.5	7,807	19.70	0	19.70	314
12175-RW3	7/15/13 - 7/16/13	12	3,350	179.4	465	1.11	0	1.11	747



**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-RW1	11/4/13-11/5/13	8	5,278	184.5	863	1.98	0	1.98	911
12175-RW2	11/18/13-11/19/13	8	4,424	174.8	3,790	7.46	0	7.46	209
12175-MW17	12/9/13-12/10/13	8	4,772	180.8	198	0.41	0	0.41	450
12175-RW2	5/27/2014	3	520	133.4	99,667	15.69	Sheen	15.69	601
12175-RW2	6/2/14 - 6/6/14	96	347	119.5	90,015	47.85	Sheen	47.85	4,569
12175-RW1	6/16/14-6/20/14	96	357	118	40,064	29.53	Sheen	29.53	8,634
12175-MW1	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW4	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW5	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW19	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW25	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW3	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2*	8/21/17-8/25/17	96	480.93	115.57	4,776	2.04	0	2.04	2,774
		1113.67	--	--	--	397.33	0	397.33	58,151

Total Volatized in gallons = Air emissions in pounds/(6.25 lbs./gal.)

Total Free Product as Fluid is obtained from disposal manifest, flow meter, and/or correspondence with subcontractors from each AFVR event.

Total Free Product Recovered = Total Free Product Volatized + Total Free Product as Fluid.

Average Effluent Concentration (before off-gas treatment) calculated using 100,000 ppm for measurements exceeding maximum range of 100,000 ppm of organic vapor instrument.

\* gallons based on weight tickets provided by disposal contractor

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	4/6/10 (pre-AFVR)	17.61	22.24	4.63	79.74
				4/7/10 (immediately post-AFVR)	--	21.42	--	77.09
				4/7/10 (20 minutes post-AFVR)	20.37	20.42	0.05	78.13
12175-MW3	34	15	100.44	4/6/10 (pre-AFVR)	--	20.74	--	79.70
				4/7/10 (immediately post-AFVR)	--	20.78	--	79.66
				4/7/10 (20 minutes post-AFVR)	--	20.78	--	79.66
12175-MW4	29	10	98.61	4/6/10 (pre-AFVR)	--	19.14	--	79.47
				4/7/10 (immediately post-AFVR)	--	19.22	--	79.39
				4/7/10 (20 minutes post-AFVR)	--	19.23	--	79.38
12175-MW5	29	10	98.05	4/6/10 (pre-AFVR)	--	18.24	--	79.81
				4/7/10 (immediately post-AFVR)	--	18.95	--	79.10
				4/7/10 (20 minutes post-AFVR)	--	18.82	--	79.23
12175-MW6	29	10	99.82	4/6/10 (pre-AFVR)	--	20.14	--	79.68
				4/7/10 (immediately post-AFVR)	--	20.28	--	79.54
				4/7/10 (20 minutes post-AFVR)	--	20.29	--	79.53
12175-MW1	35	15	98.51	7/12/11 (pre-AFVR)	19.61	24.75	5.14	77.62
				7/13/11 (immediately post-AFVR)	--	25.35	--	73.16
				7/13/11 (20 minutes post-AFVR)	22.92	23.03	0.11	73.56
12175-MW5	29	10	98.05	7/12/11 (pre-AFVR)	19.3	23.6	4.30	77.68
				7/13/11 (immediately post-AFVR)	23.16	23.25	0.09	74.87
				7/13/11 (20 minutes post-AFVR)	22.31	22.51	0.20	75.69
12175-MW3	34	15	100.44	7/12/11 (pre-AFVR)	--	22.84	--	77.60
				7/13/11 (immediately post-AFVR)	--	22.89	--	77.55
				7/13/11 (20 minutes post-AFVR)	--	22.84	--	77.60
12175-MW4	29	10	98.61	7/12/11 (pre-AFVR)	--	21.21	--	77.40
				7/13/11 (immediately post-AFVR)	--	21.31	--	77.30
				7/13/11 (20 minutes post-AFVR)	--	21.32	--	77.29
12175-MW6	29	10	99.82	7/12/11 (pre-AFVR)	--	22.20	--	77.62
				7/13/11 (immediately post-AFVR)	--	22.50	--	77.32
				7/13/11 (20 minutes post-AFVR)	--	22.51	--	77.31
12175-MW2	34	15	100.42	8/2/11 (pre-AFVR)	22.45	26.65	4.20	76.92
				8/3/11 (immediately post-AFVR)	--	25.67	--	74.75
				8/3/11 (20 minutes post-AFVR)	24.03	24.13	0.10	76.37
12175-MW17	28	10	101.09	8/2/11 (pre-AFVR)	--	24.07	--	77.02
				8/3/11 (immediately post-AFVR)	--	24.19	--	76.90
				8/3/11 (20 minutes post-AFVR)	--	24.18	--	76.91
12175-MW18	28	10	101.51	8/2/11 (pre-AFVR)	--	24.51	--	77.00
				8/3/11 (immediately post-AFVR)	--	24.56	--	76.95
				8/3/11 (20 minutes post-AFVR)	--	24.56	--	76.95
12175-MW19	28	10	100.01	8/2/11 (pre-AFVR)	21.98	26.81	4.83	76.82
				8/3/11 (immediately post-AFVR)	22.05	26.90	4.85	76.75
				8/3/11 (20 minutes post-AFVR)	22.05	26.89	4.84	76.75
12175-MW19	28	10	100.01	8/11/11 (pre-AFVR)	22.13	27.05	4.92	76.65
				8/12/11 (immediately post-AFVR)	--	27.42	--	72.59
				8/12/11 (20 minutes post-AFVR)	24.42	24.51	0.09	75.57
12175-MW1	35	15	98.51	8/11/11 (pre-AFVR)	20.25	25.86	5.61	76.86
				8/12/11 (immediately post-AFVR)	20.37	25.97	5.60	76.74
				8/12/11 (20 minutes post-AFVR)	20.41	26.02	5.61	76.70
12175-MW2	34	15	100.42	8/11/11 (pre-AFVR)	23.05	25.47	2.42	76.77
				8/12/11 (immediately post-AFVR)	23.12	25.97	2.85	76.59
				8/12/11 (20 minutes post-AFVR)	23.13	25.58	2.45	76.68
12175-MW4	29	10	98.61	8/11/11 (pre-AFVR)	--	21.90	--	76.71
				8/12/11 (immediately post-AFVR)	--	22.32	--	76.29
				8/12/11 (20 minutes post-AFVR)	--	22.32	--	76.29
12175-MW1	35	15	98.51	5/10/12 (pre-AFVR)	21.91	27.13	5.22	75.30
				5/11/12 (immediately post-AFVR)	24.97	25.06	0.09	73.52
				5/11/12 (20 minutes post-AFVR)	23.90	24.24	0.34	74.53
12175-MW2	34	15	100.42	5/10/12 (pre-AFVR)	24.23	28.02	3.79	75.24
				5/11/12 (immediately post-AFVR)	24.31	28.14	3.83	75.15
				5/11/12 (20 minutes post-AFVR)	24.31	28.14	3.83	75.15
12175-MW3	34	15	100.44	5/10/12 (pre-AFVR)	--	25.04	--	75.40
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.33
				5/11/12 (20 minutes post-AFVR)	--	25.12	--	75.32
12175-MW4	29	10	98.61	5/10/12 (pre-AFVR)	22.41	26.85	4.44	75.09
				5/11/12 (immediately post-AFVR)	22.50	26.98	4.48	74.99
				5/11/12 (20 minutes post-AFVR)	22.50	27.00	4.50	74.99
12175-MW5	29	10	98.05	5/10/12 (pre-AFVR)	21.50	26.15	4.65	75.39
				5/11/12 (immediately post-AFVR)	21.98	25.93	3.95	75.08
				5/11/12 (20 minutes post-AFVR)	22.02	26.01	3.99	75.03
12175-MW6	29	10	99.82	5/10/12 (pre-AFVR)	--	24.44	--	75.38
				5/11/12 (immediately post-AFVR)	--	24.61	--	75.21
				5/11/12 (20 minutes post-AFVR)	--	24.62	--	75.20
12175-MW19	28	10	100.01	5/10/12 (pre-AFVR)	23.66	27.73	4.07	75.33
				5/11/12 (immediately post-AFVR)	23.76	27.74	3.98	75.26
				5/11/12 (20 minutes post-AFVR)	23.77	27.75	3.98	75.25
12175-MW24	30	10	100.23	5/10/12 (pre-AFVR)	--	24.97	--	75.26
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.12
				5/11/12 (20 minutes post-AFVR)	--	25.11	--	75.12
12175-MW25	30	10	99.95	5/10/12 (pre-AFVR)	23.50	28.34	4.84	75.24
				5/11/12 (immediately post-AFVR)	23.61	28.55	4.94	75.11
				5/11/12 (20 minutes post-AFVR)	23.60	28.53	4.93	75.12
12175-MW26	30	10	99.89	5/10/12 (pre-AFVR)	--	25.84	--	74.05
				5/11/12 (immediately post-AFVR)	--	25.88	--	74.01
				5/11/12 (20 minutes post-AFVR)	--	25.87	--	74.02

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW2	34	15	100.42	5/31/12 (pre-AFVR)	24.39	28.16	3.77	75.09
				6/1/12 (immediately post-AFVR)	25.14	25.31	0.17	75.24
				6/1/12 (20 minutes post-AFVR)	25.30	25.61	0.31	75.04
12175-MW1	35	15	98.51	5/31/12 (pre-AFVR)	22.06	27.26	5.20	75.15
				6/1/12 (immediately post-AFVR)	22.13	27.33	5.20	75.08
				6/1/12 (20 minutes post-AFVR)	22.13	27.33	5.20	75.08
12175-MW5	29	10	98.05	5/31/12 (pre-AFVR)	21.68	26.32	4.64	75.21
				6/1/12 (immediately post-AFVR)	21.75	26.27	4.52	75.17
				6/1/12 (20 minutes post-AFVR)	21.75	26.27	4.52	75.17
12175-MW19	28	10	100.01	5/31/12 (pre-AFVR)	23.80	27.74	3.94	75.23
				6/1/12 (immediately post-AFVR)	23.87	27.75	3.88	75.17
				6/1/12 (20 minutes post-AFVR)	23.87	27.74	3.87	75.17
12175-MW24	30	10	100.23	5/31/12 (pre-AFVR)	--	25.13	--	75.10
				6/1/12 (immediately post-AFVR)	--	25.18	--	75.05
				6/1/12 (20 minutes post-AFVR)	--	25.20	--	75.03
12175-MW25	30	10	99.95	5/31/12 (pre-AFVR)	23.60	28.84	5.24	75.04
				6/1/12 (immediately post-AFVR)	23.65	28.73	5.08	75.03
				6/1/12 (20 minutes post-AFVR)	23.65	28.74	5.09	75.03
12175-MW26	30	10	99.89	5/31/12 (pre-AFVR)	--	25.97	--	73.92
				6/1/12 (immediately post-AFVR)	--	25.96	--	73.93
				6/1/12 (20 minutes post-AFVR)	--	25.96	--	73.93
12175-MW3	29	10	98.05	6/13/12 (pre-AFVR)	21.72	26.43	4.71	75.15
				6/14/12 (immediately post-AFVR)	--	26.35	--	71.70
				6/14/12 (20 minutes post-AFVR)	24.32	24.67	0.35	73.64
12175-MW1	35	15	98.51	6/13/12 (pre-AFVR)	22.13	27.56	5.43	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	22.13	27.58	5.45	75.02
12175-MW2	34	15	100.42	6/13/12 (pre-AFVR)	25.21	25.82	0.61	75.06
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	25.21	25.82	0.61	75.06
12175-MW3	34	15	100.44	6/13/12 (pre-AFVR)	--	25.28	--	75.16
				6/14/12 (immediately post-AFVR)	--	25.30	--	75.14
				6/14/12 (20 minutes post-AFVR)	--	25.30	--	75.14
12175-MW4	29	10	98.61	6/13/12 (pre-AFVR)	22.59	27.09	4.50	74.90
				6/14/12 (immediately post-AFVR)	22.61	27.11	4.50	74.88
				6/14/12 (20 minutes post-AFVR)	22.61	27.11	4.50	74.88
12175-MW6	29	10	99.82	6/13/12 (pre-AFVR)	--	24.67	--	75.15
				6/14/12 (immediately post-AFVR)	--	24.75	--	75.07
				6/14/12 (20 minutes post-AFVR)	--	24.73	--	75.09
12175-MW19	28	10	100.01	6/13/12 (pre-AFVR)	23.86	27.74	3.88	75.18
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.88	27.79	3.91	75.15
12175-MW24	30	10	100.23	6/13/12 (pre-AFVR)	--	25.18	--	75.05
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	25.22	--	75.01
12175-MW25	30	10	99.95	6/13/12 (pre-AFVR)	23.67	28.71	5.04	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.68	28.71	5.03	75.01
12175-MW26	30	10	99.89	6/13/12 (pre-AFVR)	--	26.00	--	73.89
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW19	28	10	100.01	6/28/12 (pre-AFVR)	23.87	27.75	3.88	75.17
				6/29/12 (immediately post-AFVR)	--	27.21	--	72.80
				6/29/12 (20 minutes post-AFVR)	25.38	25.70	0.32	74.55
12175-MW1	35	15	98.51	6/28/12 (pre-AFVR)	22.16	27.38	5.22	75.05
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	22.17	27.38	5.21	75.04
12175-MW2	34	15	100.42	6/28/12 (pre-AFVR)	25.19	25.94	0.75	75.04
				6/29/12 (immediately post-AFVR)	25.24	25.99	0.75	74.99
				6/29/12 (20 minutes post-AFVR)	25.22	25.97	0.75	75.01
12175-MW5	29	10	98.05	6/28/12 (pre-AFVR)	21.95	25.94	3.99	75.10
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	21.95	25.94	3.99	75.10
12175-MW24	30	10	100.23	6/28/12 (pre-AFVR)	--	25.19	--	75.04
				6/29/12 (immediately post-AFVR)	--	25.23	--	75.00
				6/29/12 (20 minutes post-AFVR)	--	25.27	--	74.96
12175-MW25	30	10	99.95	6/28/12 (pre-AFVR)	23.68	28.70	5.02	75.02
				6/29/12 (immediately post-AFVR)	23.74	28.76	5.02	74.96
				6/29/12 (20 minutes post-AFVR)	23.77	28.79	5.02	74.93
12175-MW26	30	10	99.89	6/28/12 (pre-AFVR)	--	25.98	--	73.91
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW1	35	15	98.51	7/30/2012 (gauging event)	22.44	27.95	5.51	74.69
12175-MW2	34	15	100.42	7/30/2012 (gauging event)	25.47	26.25	0.78	74.76
12175-MW5	29	10	98.05	7/30/2012 (gauging event)	22.17	26.71	4.54	74.75
12175-MW19	28	10	100.01	7/30/2012 (gauging event)	24.24	27.94	3.70	74.85
12175-MW24	30	10	100.23	7/30/2012 (gauging event)	--	25.50	--	74.73
12175-MW25	30	10	99.95	7/30/2012 (gauging event)	23.96	29.04	5.08	74.72
12175-MW26	30	10	99.89	7/30/2012 (gauging event)	--	26.28	--	73.61
12175-MW2	34	15	100.42	2/9/13 (pre-AFVR)	26.27	27.30	1.03	73.89
				2/10/13 (immediately post-AFVR)	--	27.20	--	73.22
				2/10/13 (20 minutes post-AFVR)	--	27.25	--	73.17
12175-MW19	28	10	100.01	2/9/13 (pre-AFVR)	25.19	27.92	2.73	74.14
				2/10/13 (immediately post-AFVR)	--	27.05	--	72.96
				2/10/13 (20 minutes post-AFVR)	26.70	26.80	0.10	73.29

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW25	30	10	99.95	2/9/13 (pre-AFVR)	24.92	29.61	4.69	73.86
				2/10/13 (immediately post-AFVR)	--	27.83	--	72.12
				2/10/13 (20 minutes post-AFVR)	--	26.41	--	73.54
12175-MW4	29	10	98.61	2/9/13 (pre-AFVR)	23.90	28.85	4.95	73.47
				2/10/13 (immediately post-AFVR)	24.06	28.23	4.17	73.51
				2/10/13 (20 minutes post-AFVR)	24.06	28.21	4.15	73.51
12175-MW24	30	10	100.23	2/9/13 (pre-AFVR)	--	26.35	--	73.88
				2/10/13 (immediately post-AFVR)	--	26.54	--	73.69
				2/10/13 (20 minutes post-AFVR)	--	26.57	--	73.66
12175-MW26	30	10	99.89	2/9/13 (pre-AFVR)	--	27.06	--	72.83
				2/10/13 (immediately post-AFVR)	--	27.11	--	72.78
				2/10/13 (20 minutes post-AFVR)	--	27.12	--	72.77
12175-MW1	35	15	98.51	2/10/13 (pre-AFVR)	23.47	28.71	5.24	73.73
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	24.63	25.23	0.60	73.73
12175-MW4	29	10	98.61	2/10/13 (pre-AFVR)	24.06	28.23	4.17	73.51
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	25.11	25.17	0.06	73.49
12175-MW5	29	10	98.05	2/10/13 (pre-AFVR)	23.06	27.80	4.74	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	23.88	23.89	0.01	74.17
12175-MW3	34	15	100.44	2/10/13 (pre-AFVR)	--	26.56	--	73.88
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.56	--	73.88
12175-MW6	29	10	99.82	2/10/13 (pre-AFVR)	--	26.01	--	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.03	--	73.79
12175-MW15	27	10	98.47	2/10/13 (pre-AFVR)	--	25.24	--	73.23
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	25.23	--	73.24
12175-MW1	35	15	98.51	3/12/2013 (gauging event)	22.42	27.00	4.58	74.95
12175-MW2	34	15	100.42	3/12/2013 (gauging event)	25.53	25.56	0.03	74.88
12175-MW4	29	10	98.61	3/12/2013 (gauging event)	23.82	24.12	0.30	74.72
12175-MW5	29	10	98.05	3/12/2013 (gauging event)	22.65	24.35	1.70	74.98
12175-MW19	28	10	100.01	3/12/2013 (gauging event)	24.53	27.95	3.42	74.63
12175-MW24	30	10	100.23	3/12/2013 (gauging event)	--	25.37	--	74.86
12175-MW25	30	10	99.95	3/12/2013 (gauging event)	24.18	28.02	3.84	74.81
12175-MW26	30	10	99.89	3/12/2013 (gauging event)	--	26.01	--	73.88
12175-RW1	30	10	98.05	6/5/13 (pre-AFVR)	21.34	22.02	0.68	76.54
				6/6/13 (immediately post-AFVR)	--	23.07	--	74.98
				6/6/13 (20 minutes post-AFVR)	22.93	22.98	0.05	75.11
12175-MW3	34	15	100.44	6/5/13 (pre-AFVR)	--	23.90	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.95	--	76.49
				6/6/13 (20 minutes post-AFVR)	--	23.95	--	76.49
12175-MW4	29	10	98.61	6/5/13 (pre-AFVR)	22.02	23.50	1.48	76.22
				6/6/13 (immediately post-AFVR)	22.09	23.65	1.56	76.13
				6/6/13 (20 minutes post-AFVR)	22.10	23.62	1.52	76.13
12175-MW6	29	10	99.82	6/5/13 (pre-AFVR)	--	23.28	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.47	--	76.35
				6/6/13 (20 minutes post-AFVR)	--	23.48	--	76.34
12175-RW2	30	10	100.05	6/20/13 (pre-AFVR)	22.64	25.92	3.28	76.59
				6/21/13 (immediately post-AFVR)	--	26.90	--	73.15
				6/21/13 (20 minutes post-AFVR)	25.44	25.57	0.13	74.58
12175-MW19	28	10	100.01	6/20/13 (pre-AFVR)	22.85	25.89	3.04	76.40
				6/21/13 (immediately post-AFVR)	23.04	26.02	2.98	76.23
				6/21/13 (20 minutes post-AFVR)	23.15	26.13	2.98	76.12
12175-MW24	30	10	100.23	6/20/13 (pre-AFVR)	--	23.60	--	76.63
				6/21/13 (immediately post-AFVR)	--	23.68	--	76.55
				6/21/13 (20 minutes post-AFVR)	--	23.72	--	76.51
12175-MW25	30	10	99.95	6/20/13 (pre-AFVR)	22.55	25.80	3.25	76.59
				6/21/13 (immediately post-AFVR)	23.86	23.89	0.03	76.08
				6/21/13 (20 minutes post-AFVR)	23.78	23.82	0.04	76.16
12175-RW3	30	10	100.16	7/15/13 (pre-AFVR)	--	22.91	--	77.25
				7/16/13 (immediately post-AFVR)	--	24.52	--	75.64
				7/16/13 (20 minutes post-AFVR)	--	24.28	--	75.88
12175-MW18	28	10	101.51	7/15/13 (pre-AFVR)	--	24.12	--	77.39
				7/16/13 (immediately post-AFVR)	--	24.16	--	77.35
				7/16/13 (20 minutes post-AFVR)	--	24.15	--	77.36
12175-MW24	30	10	100.23	7/15/13 (pre-AFVR)	--	23.01	--	77.22
				7/16/13 (immediately post-AFVR)	--	23.27	--	76.96
				7/16/13 (20 minutes post-AFVR)	--	23.27	--	76.96
12175-MW25	30	10	99.95	7/15/13 (pre-AFVR)	22.14	24.64	2.50	77.19
				7/16/13 (immediately post-AFVR)	22.23	25.02	2.79	77.02
				7/16/13 (20 minutes post-AFVR)	22.23	24.97	2.74	77.04
12175-RW1	30	10	98.05	11/4/13 (pre-AFVR)	20.05	21.15	1.10	77.73
				11/5/13 (immediately post-AFVR)	--	24.02	--	74.03
				11/5/13 (20 minutes post-AFVR)	--	22.71	--	75.34
12175-MW3	34	15	100.44	11/4/13 (pre-AFVR)	--	22.56	--	77.88
				11/5/13 (immediately post-AFVR)	--	22.64	--	77.80
				11/5/13 (20 minutes post-AFVR)	--	22.66	--	77.78
12175-MW4	29	10	98.61	11/4/13 (pre-AFVR)	20.85	22.04	1.19	77.46
				11/5/13 (immediately post-AFVR)	20.94	22.15	1.21	77.37
				11/5/13 (20 minutes post-AFVR)	20.93	22.14	1.21	77.38
12175-MW6	29	10	99.82	11/4/13 (pre-AFVR)	--	21.93	--	77.89
				11/5/13 (immediately post-AFVR)	--	22.16	--	77.66
				11/5/13 (20 minutes post-AFVR)	--	22.15	--	77.67

TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFV EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	11/18/13 (pre-AFVR)	21.68	25.22	3.54	77.49
				11/19/13 (immediately post-AFVR)	--	25.82	--	74.23
				11/19/13 (20 minutes post-AFVR)	24.57	24.72	0.15	75.44
12175-MW19	28	10	100.01	11/18/13 (pre-AFVR)	22.22	24.23	2.01	77.29
				11/19/13 (immediately post-AFVR)	22.11	24.20	2.09	77.38
				11/19/13 (20 minutes post-AFVR)	22.56	24.72	2.16	76.91
12175-MW24	30	10	100.23	11/18/13 (pre-AFVR)	--	22.71	--	77.52
				11/19/13 (immediately post-AFVR)	--	22.86	--	77.37
				11/19/13 (20 minutes post-AFVR)	--	22.88	--	77.35
12175-MW25	30	10	99.95	11/18/13 (pre-AFVR)	21.44	25.05	3.61	77.61
				11/19/13 (immediately post-AFVR)	22.36	23.38	1.02	77.34
				11/19/13 (20 minutes post-AFVR)	22.70	23.41	0.71	77.07
12175-MW17	28	10	101.09	12/9/13 (pre-AFVR)	23.18	25.17	1.99	77.41
				12/10/13 (immediately post-AFVR)	--	25.69	--	75.40
				12/10/13 (20 minutes post-AFVR)	--	24.13	--	76.96
12175-MW11	31	10	101.65	12/9/13 (pre-AFVR)	--	24.25	--	77.40
				12/10/13 (immediately post-AFVR)	--	24.30	--	77.35
				12/10/13 (20 minutes post-AFVR)	--	24.32	--	77.33
12175-MW23	31	10	102.29	12/9/13 (pre-AFVR)	--	24.97	--	77.32
				12/10/13 (immediately post-AFVR)	--	24.97	--	77.32
				12/10/13 (20 minutes post-AFVR)	--	24.97	--	77.32
12175-RW2	30	10	100.05	12/9/13 (pre-AFVR)	--	22.65	--	77.40
				12/10/13 (immediately post-AFVR)	--	22.68	--	77.37
				12/10/13 (20 minutes post-AFVR)	--	22.67	--	77.38
12175-RW2	30	10	100.05	5/27/14 (pre-AFVR)	19.33	21.70	2.37	80.13
12175-MW2	34	15	100.42	5/27/14 (pre-AFVR)	20.12	20.69	0.57	80.16
12175-MW6	29	10	99.82	5/27/14 (pre-AFVR)	--	19.41	--	80.41
12175-MW24	30	10	100.23	5/27/14 (pre-AFVR)	--	20.14	--	80.09
12175-RW2	30	10	100.05	6/2/14 (pre-AFVR)	19.71	20.32	0.61	80.19
				6/6/14 (immediately post-AFVR)	--	24.30	--	75.75
				6/6/14 (20 minutes post-AFVR)	--	22.91	--	77.14
12175-MW2	34	15	100.42	6/2/14 (pre-AFVR)	20.10	20.61	0.51	80.19
				6/6/14 (immediately post-AFVR)	20.29	20.93	0.64	79.97
				6/6/14 (20 minutes post-AFVR)	20.29	20.94	0.65	79.97
12175-MW6	29	10	99.82	6/2/14 (pre-AFVR)	--	19.37	--	80.45
				6/6/14 (immediately post-AFVR)	--	19.67	--	80.15
				6/6/14 (20 minutes post-AFVR)	--	19.67	--	80.15
12175-MW24	30	10	100.23	6/2/14 (pre-AFVR)	--	20.07	--	80.16
				6/6/14 (immediately post-AFVR)	--	20.28	--	79.95
				6/6/14 (20 minutes post-AFVR)	--	20.20	--	80.03
12175-MW26	30	10	99.89	6/2/14 (pre-AFVR)	NM	NM	NM	NM
				6/6/14 (immediately post-AFVR)	--	20.76	--	79.13
				6/6/14 (20 minutes post-AFVR)	--	20.78	--	79.11
12175-RW1	30	10	98.05	6/16/14 (pre-AFVR)	17.65	17.67	0.02	80.40
				6/20/14 (immediately post-AFVR)	--	22.29	--	75.76
				6/20/14 (20 minutes post-AFVR)	--	21.00	--	77.05
12175-MW3	34	15	100.44	6/16/14 (pre-AFVR)	--	20.10	--	80.34
				6/20/14 (immediately post-AFVR)	--	20.24	--	80.20
				6/20/14 (20 minutes post-AFVR)	--	20.24	--	80.20
12175-MW6	29	10	99.82	6/16/14 (pre-AFVR)	--	19.48	--	80.34
				6/20/14 (immediately post-AFVR)	--	19.79	--	80.03
				6/20/14 (20 minutes post-AFVR)	--	19.79	--	80.03
12175-MW15	27	10	98.47	6/16/14 (pre-AFVR)	--	18.19	--	80.28
				6/20/14 (immediately post-AFVR)	--	18.16	--	80.31
				6/20/14 (20 minutes post-AFVR)	--	18.15	--	80.32
12175-MW1	35	15	98.51	1/4/16 (Pre-AFVR)	17.25	20.80	3.55	75.05
				1/8/16 (immediately post-AFVR)	--	24.75	--	73.76
				1/8/16 (20 minutes post-AFVR)	--	21.56	--	76.95
12175-MW4	29	10	98.61	1/4/16 (Pre-AFVR)	18.25	18.55	0.30	79.84
				1/8/16 (immediately post-AFVR)	--	25.14	--	73.47
				1/8/16 (20 minutes post-AFVR)	--	20.66	--	77.95
12175-MW5	29	10	98.05	1/4/16 (Pre-AFVR)	17.40	17.70	0.30	80.13
				1/8/16 (immediately post-AFVR)	--	22.90	--	75.15
				1/8/16 (20 minutes post-AFVR)	--	21.61	--	76.44
12175-RW1	30	10	98.05	1/4/16 (Pre-AFVR)	--	17.51	--	80.54
				1/8/16 (immediately post-AFVR)	--	21.15	--	76.90
				1/8/16 (20 minutes post-AFVR)	--	21.50	--	76.55
12175-MW18	28	10	101.51	1/4/16 (Pre-AFVR)	--	19.91	--	81.60
				1/8/16 (immediately post-AFVR)	--	21.40	--	80.11
				1/8/16 (20 minutes post-AFVR)	--	21.39	--	80.12
12175-MW15	27	10	98.47	1/4/16 (Pre-AFVR)	--	21.30	--	77.17
				1/8/16 (immediately post-AFVR)	--	17.55	--	80.92
				1/8/16 (20 minutes post-AFVR)	--	17.55	--	80.92
12175-MW3	34	15	100.44	1/4/16 (Pre-AFVR)	--	17.45	--	82.99
				1/8/16 (immediately post-AFVR)	--	20.20	--	80.24
				1/8/16 (20 minutes post-AFVR)	--	20.20	--	80.24
12175-MW2	34	15	100.42	1/11/16 (Pre-AFVR)	20.22	20.89	0.67	79.03
				1/15/16 (immediately post-AFVR)	--	20.04	--	80.38
				1/15/16 (20 minutes post-AFVR)	--	20.60	--	79.82
12175-MW19	28	10	100.01	1/11/16 (Pre-AFVR)	19.96	20.41	0.45	79.26
				1/15/16 (immediately post-AFVR)	--	22.51	--	77.50
				1/15/16 (20 minutes post-AFVR)	--	20.92	--	79.09
12175-MW25	30	10	99.95	1/11/16 (Pre-AFVR)	19.18	22.11	2.93	75.64
				1/15/16 (immediately post-AFVR)	--	22.00	--	77.95
				1/15/16 (20 minutes post-AFVR)	--	20.74	--	79.21
12175-RW2	30	10	100.05	1/11/16 (Pre-AFVR)	19.10	22.35	3.25	74.75
				1/15/16 (immediately post-AFVR)	--	21.65	--	78.40
				1/15/16 (20 minutes post-AFVR)	21.90	22.20	0.30	77.63
12175-RW3	30	10	100.16	1/11/16 (Pre-AFVR)	--	20.08	--	80.08
				1/15/16 (immediately post-AFVR)	--	19.57	--	80.59
				1/15/16 (20 minutes post-AFVR)	--	20.19	--	79.97
12175-MW18	28	10	101.51	1/11/16 (Pre-AFVR)	--	21.40	--	80.11
				1/15/16 (immediately post-AFVR)	--	21.42	--	80.09
				1/15/16 (20 minutes post-AFVR)	--	21.41	--	80.10
12175-MW3	34	15	100.44	1/11/16 (Pre-AFVR)	--	20.05	--	80.39
				1/15/16 (immediately post-AFVR)	--	20.05	--	80.39
				1/15/16 (20 minutes post-AFVR)	--	20.04	--	80.40
12175-RW2	30	10	100.05	8/21/17 (Pre-AFVR)	20.34	24.71	4.37	78.62
				8/25/17 (immediately post-AFVR)	--	26.38	--	73.67
				8/25/17 (20 minutes post-AFVR)	--	24.35	--	75.70
12175-MW18	28	10	101.51	8/21/17 (Pre-AFVR)	--	23.10	--	78.41
				8/25/17 (immediately post-AFVR)	--	23.27	--	78.24
				8/25/17 (20 minutes post-AFVR)	--	23.27	--	78.24
12175-MW26	30	10	99.89	8/21/17 (Pre-AFVR)	--	22.24	--	77.65
				8/25/17 (immediately post-AFVR)	--	22.45	--	77.44
				8/25/17 (20 minutes post-AFVR)	--	22.45	--	77.44

- Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.
- Groundwater elevation adjusted for the presence of free product, where present, with an assumed density of 0.75 g/cm<sup>3</sup>.
- Well depths and screened intervals based on well construction records referencing ground surface.
- Depths to fluid measured referencing top of casing as measuring point.
- NM represents not measured.
- represents free phase product was not detected.

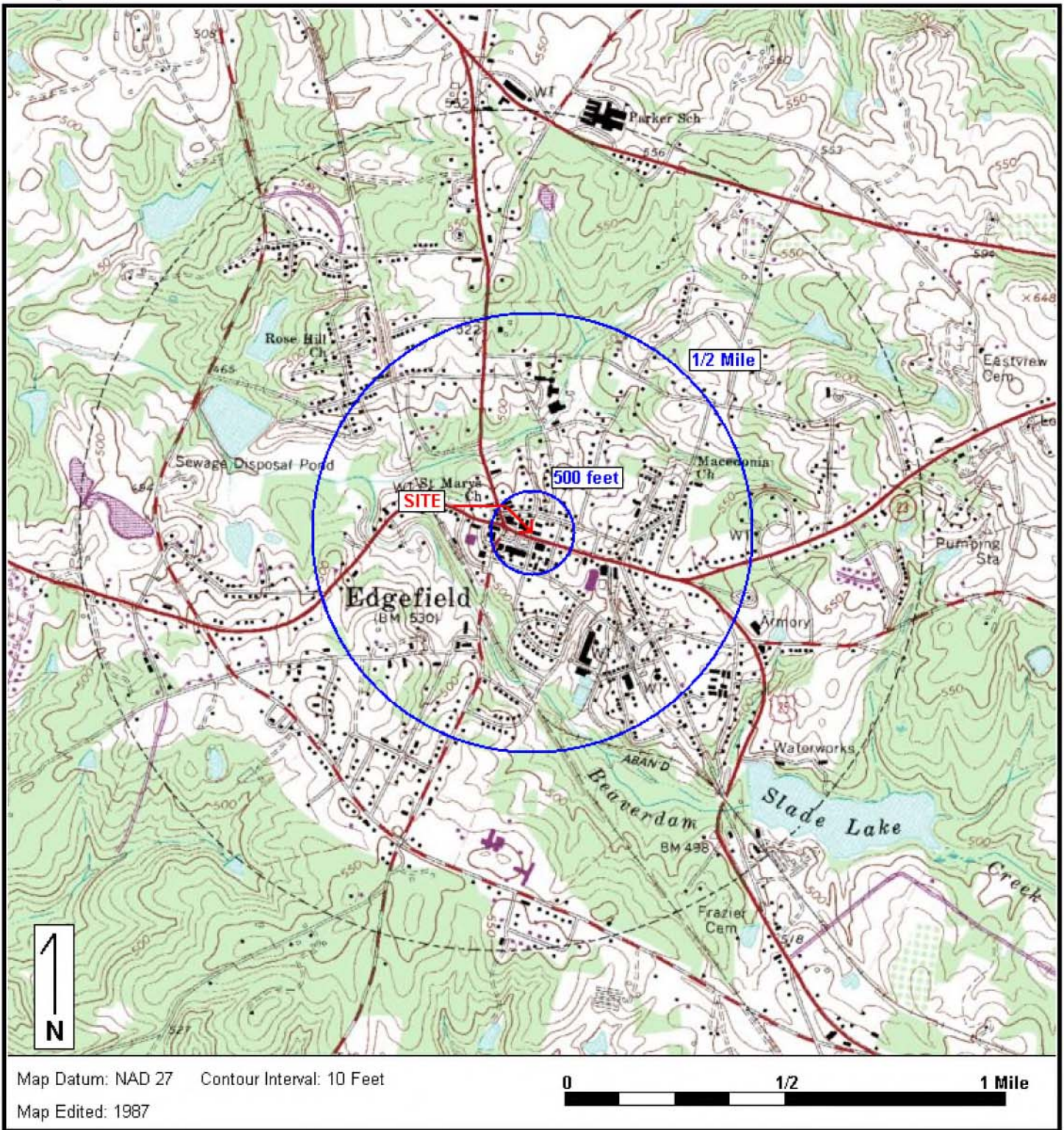
## **FIGURES**

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Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

Figure 1: SITE LOCUS

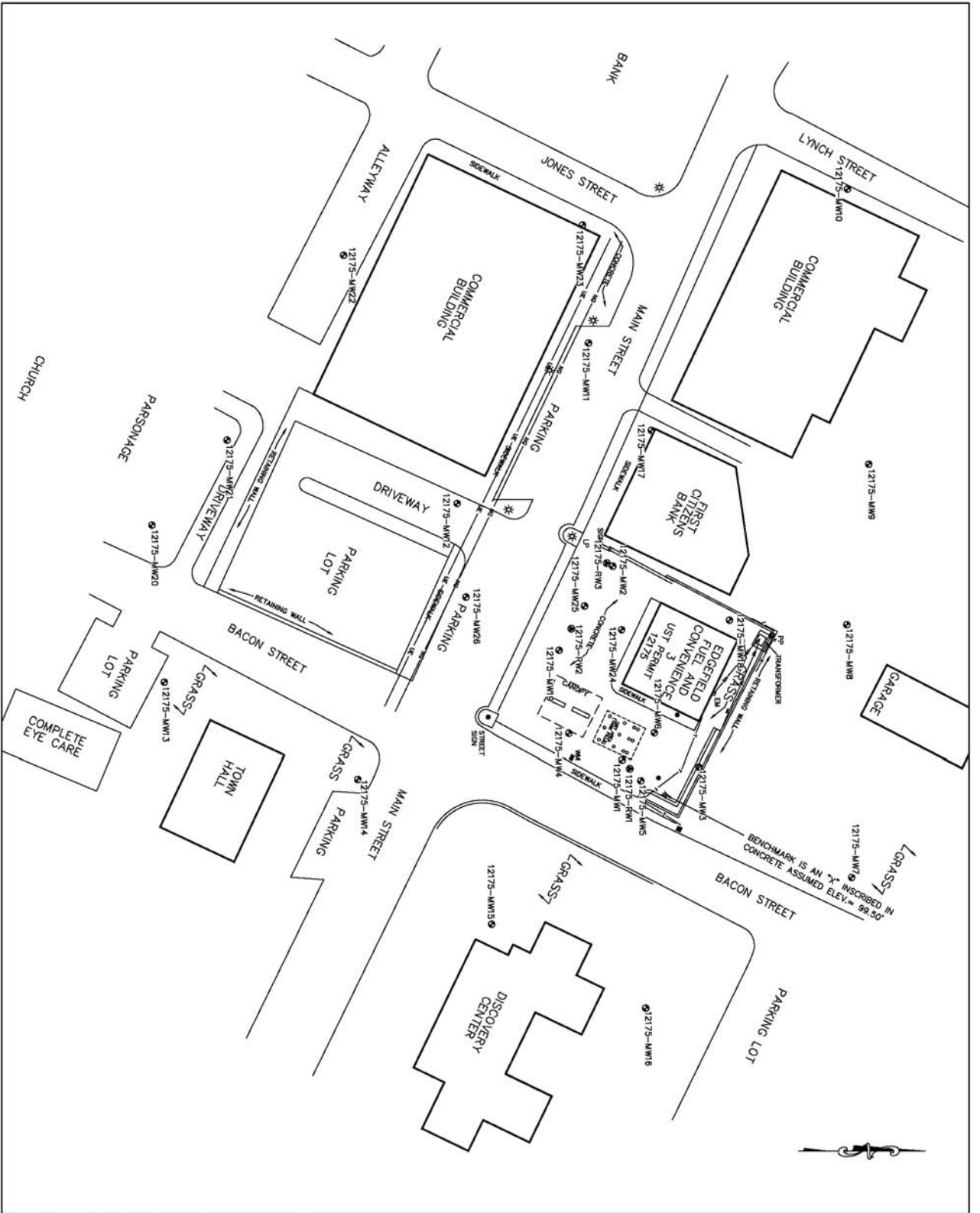


Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins





**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- ⊗ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ☀ Light Pole
- ☀ Light Pole
- ⊕ Shallow (Water Table) Monitoring Well
- ⊕ Recovery Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATC**  
 7000 Wilkeshall Executive Center, Suite 800  
 Charlotte, NC 28217  
 Phone: (704) 585-5711 Fax: (704) 585-2144

**PROJECT:**  
**Edgely Fuel & Convenience 3**  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:** Site Plan

CLIENT:	Edgely Fuel & Convenience, LLC
DRAWN BY:	RH
CHECKED BY:	AV
APPROVED BY:	DM
DATE:	1/27/15
FIGURE NO.:	2

**APPENDIX G**

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Disposal Manifest and Weight Tickets

# MATERIAL MANIFEST

EDGE3001



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.
Page 1 of 1
Zebra Job No. 71822

## GENERATOR INFORMATION

Name ATC Group	US EPA ID No.
Street Address 311 Main St Edgefield SC	Mailing Address
	Phone No. 803-209-5322
	Contact Brion

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	Non-HAZ liquid	—	—	—	—	TT	2292	Gal
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a. Petroleum Contact Water			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name Henry Wells (agent of EFC, LLC)	Signature 	Mo. / Day / Yr. 8/25/17
---	---------------	----------------------------

## TRANSPORTER INFORMATION

Transporter Zebra Environmental - Industrial Serv.	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address 901 E. Springfield Road High Point, NC 27263	Signature 	Shipment Date 8-25-17
Transporter or EPA ID No. —	Unit No. RT-10 T-6	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone 336-841-5276	Signature 	Delivery Date 8-25-17

## FACILITY INFORMATION

Facility Zebra Environmental + Industrial Serv.	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address 901 East. Springfield Road High Point, NC 27263	Signature 	Receipt Date 8/25/17
Facility or EPA ID No. —	Discrepancies / Routing Codes / Handling Methods	
Phone 336-841-5276	a. 2.739 gallons by weight	
Contact David Teader	b.	
	c.	

23498151

TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\* The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE:

8-21-2017

STEER AXLE

10260 1b

DRIVE AXLE

11520 1b

TRAILER AXLE

7160 1b

\* GROSS WEIGHT

28940 1b

FORT MILL SC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facia evidence of the accuracy of the weight shown as prescribed by law.

DUPLICATE COPY

713

SCALE:

LOCATION:

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEBRA

TRACTOR #

RP

TRAILER #

T6

WEIGH NUMBER

8148

FEE

\$11.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

DAVID WAMPLER

FULL WEIGH  
TICKET #  
(IF REWEIGH)

DRIVER IN TRUCK LINE LESS CHECKED HERE.



20044340  
TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**  
The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE:

8-25-2017

STEER AXLE

10840 1b

DRIVE AXLE

22540 1b

TRAILER AXLE

18420 1b

\* GROSS WEIGHT

51800 1b

SCALE:

1647

LOCATION:

20044340

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

1709

LOVES

I 85 EXIT 71

SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facia evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

~~FREIGHT ALL KINDS~~

COMPANY ZERRA

TRACTOR # RC10 TRAILER # T6

WEIGH NUMBER  
4340

FEE

\$11.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

*[Signature]*  
DERRIC BREWER

FULL WEIGH  
TICKET #  
(IF REWEIGH)

CUSTOMER COPY

© CAT Scale® Reg 3059 07/16

WEIGHMYTRUCK.COM

WEIGH USING

YOUR

PHONE!

**APPENDIX K**

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Data Verification Checklist

## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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



Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			✓
34	Has the current and historical laboratory data been provided in tabular format?			✓
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			✓
40	Has the site potentiometric map been provided? (Figure 5)			✓
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			✓
45	Is the laboratory performing the analyses properly certified?			✓
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		



## **APPENDIX L**

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Aggressive Fluid Vapor Recovery Event Data  
Including Before & After Data; Field  
Data Sheets; Air Flow Calculations;  
Pre-Treatment Emission Calculations;  
Post-Treatment Emission Calculations

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>EFC#3</u>	UST Permit No:	<u>012175</u>
Project No:	<u>EDGE300</u>	ECS Field Rep. 1:	<u>H Wells</u>
Start Date:	<u>8/21/2017</u>	ECS Field Rep. 2:	<u>B. Peay</u>
End Date:	<u>8/25/2017</u>		

AFVR Measurements Prior to and After Event

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>	
Water Tank Storage Capacity:	<u>9,600</u>	gallons
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches
Is Tank Empty & Clean (Y/N)	<u>Y</u>	

**Measurements Before AFVR Event**                      **8/21/2017**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>0</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

**Measurements After AFVR Event**                      **8/25/2017**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>2,292</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
12175-RW2	20.34	24.71	NP	26.38	NP	24.35
12175-MW18	NP	23.10	NP	23.27	NP	23.27
12175-MW26	NP	22.24	NP	22.45	NP	22.45

NP denotes no measurable free product.

NM denotes not measured.

Project EFC#3  
 Project EDGE300  
 Date: 8/21-8/25 2017

**APPENDIX L  
 AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
 AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 012175  
 ECS Field Rep. 1: H Wells  
 ECS Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event															
		Date & Time	Stack Outlet			TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells				Non-AFVR Wells			#REFI	
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-RW2		12175-MW18		12175-MW26				
							Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	
		8/21/17 14:00	← Start time														
1 hr	30	8/21/17 14:30	355	123.3	99.9	10,000	NA**	26.0	5.0	20.84			23.10	0.0	22.24	0.0	
	30	8/21/17 15:00	364	150.0	99.9	10,000	NA	26.0	7.0	20.84			23.10	0.0	22.24	0.0	
2 hr	30	8/21/17 15:30	470	150.0	99.9	10,000	NA	26.0	8.0	21.34			23.10	0.0	22.24	0.0	
	30	8/21/17 16:00	448	150.0	99.9	10,000	NA	26.0	8.0	21.84			23.10	0.0	22.25	0.0	
3 hr	30	8/21/17 16:30	448	150.0	99.9	10,000	NA	26.0	8.0	22.24			23.10	0.0	22.25	0.0	
	30	8/21/17 17:00	451	150.0	99.9	10,000	NA	26.0	8.0	22.84			23.10	0.0	22.25	0.0	
4 hr	30	8/21/17 17:30	457	140.0	99.9	10,000	NA	26.0	8.0	23.34			23.10	0.0	22.25	0.0	
	30	8/21/17 18:00	464	135.0	99.9	10,000	NA	26.0	8.0	23.84			23.11	0.0	22.25	0.0	
5 hr	30	8/21/17 18:30	451	135.0	99.9	10,000	NA	26.0	7.5	24.34			23.11	0.0	22.25	0.0	
	30	8/21/17 19:00	457	135.0	99.9	10,000	NA	26.0	7.5	24.40			23.11	0.0	22.25	0.0	
6 hr	30	8/21/17 19:30	452	130.0	99.9	10,000	NA	26.0	7.5	24.40			23.11	0.0	22.25	0.0	
	30	8/21/17 20:00	440	130.0	99.9	10,000	19.8	25.0	8.0	24.40			23.12	0.0	22.25	0.0	
7 hr	30	8/21/17 20:30	432	125.0	99.9	10,000	21.3	25.0	8.0	24.40			23.12	0.0	22.25	0.0	
	30	8/21/17 21:00	433	110.8	99.9	10,000	8.2	25.0	8.0	24.40			23.12	0.0	22.25	0.0	
8 hr	30	8/21/17 21:30	435	102.5	99.9	10,000	0.0	25.0	8.0	24.40			23.12	0.0	22.25	0.0	
	30	8/21/17 22:00	441	103.7	99.9	10,000	10.3	25.0	8.0	24.40			23.13	0.0	22.25	0.0	
9 hr	60	8/21/17 23:00	405	101.5	99.9	10,000	0.0	25.0	8.0	24.40			23.13	0.0	22.25	0.0	
10 hr	60	8/22/17 0:00	360	102.2	99.9	10,000	2.5	25.0	8.0	24.40			23.13	0.0	22.25	0.0	
11 hr	60	8/22/17 1:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
12 hr	60	8/22/17 2:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
13 hr	60	8/22/17 3:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
14 hr	60	8/22/17 4:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
15 hr	60	8/22/17 5:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
16 hr	60	8/22/17 6:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
17 hr	60	8/22/17 7:00	307	97.0	99.9	10,000	5.0	25.5	8.0	24.40			23.13	0.0	22.25	0.0	
18 hr	60	8/22/17 8:00	253	91.8	99.9	10,000	7.5	26.0	8.0	24.40			23.15	0.0	22.30	0.0	
19 hr	60	8/22/17 9:00	315	93.0	99.9	10,000	9.2	26.0	8.0	24.40			23.15	0.0	22.30	0.0	
20 hr	60	8/22/17 10:00	354	101.3	99.9	10,000	4.9	26.0	8.0	24.40			23.15	0.0	22.30	0.0	
21 hr	60	8/22/17 11:00	289	103.7	99.9	10,000	18.3	26.0	8.5	24.40			23.15	0.0	22.30	0.0	
22 hr	60	8/22/17 12:00	274	109.5	99.9	10,000	10.5	26.0	8.0	24.40			23.15	0.0	22.30	0.0	
23 hr	60	8/22/17 13:00	289	114.4	99.9	10,000	10.4	26.0	8.5	24.40			23.15	0.0	22.30	0.0	
24 hr	60	8/22/17 14:00	309	110.8	99.9	10,000	12.2	26.0	8.5	24.40			23.12	0.0	22.28	0.0	
26 hr	120	8/22/17 16:00	285	121.3	99.9	10,000	11.4	26.0	9.0	24.40			23.11	0.0	22.25	0.0	
28 hr	120	8/22/17 18:00	293	124.5	99.9	10,000	1.3	25.0	8.5	24.40			22.13	0.0	22.26	0.0	
30 hr	120	8/22/17 20:00	288	119.7	99.9	10,000	9.7	25.0	8.5	24.40			22.14	0.0	22.25	0.0	
32 hr	120	8/22/17 22:00	297	110.1	99.9	10,000	11.4	25.0	8.5	24.40			22.14	0.0	22.25	0.0	
34 hr	120	8/23/17 0:00	277	101.3	99.9	10,000	6.5	25.0	8.5	24.40			22.15	0.0	22.26	0.0	
36 hr	120	8/23/17 2:00	286	96.9	99.9	10,000	6.95	25.5	8.75	24.40			22.15	0.0	22.26	0.0	

Project EFC#3  
 Project EDGE300  
 Date: 8/21-8/25 2017

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 012175  
 ECS Field Rep. 1: H Wells  
 ECS Field Rep. 2: B. Peay

Elapsed Time (hours)	Reading Interval (mins)	Measurements During 96-hr AFVR Event															
		Date & Time	Stack Outlet			TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells				Non-AFVR Wells				
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-RW2		12175-MW18		12175-MW26		#REFI		
							Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	
		8/21/17 14:00	← Start time					20.34					23.10		22.24		
38 hr	120	8/23/17 4:00	286	96.9	99.9	10,000	6.95	25.5	8.75	24.40			22.15	0.0	22.26	0.0	
40 hr	120	8/23/17 6:00	286	96.9	99.9	10,000	6.95	25.5	8.75	24.40			22.15	0.0	22.26	0.0	
42 hr	120	8/23/17 8:00	295	92.4	99.9	10,000	7.4	26.0	9.0	24.40			23.16	0.0	22.30	0.0	
44 hr	120	8/23/17 10:00	238	102.9	99.9	10,000	1.4	26.0	9.0	24.40			23.16	0.0	22.30	0.0	
46 hr	120	8/23/17 12:00	206	113.7	99.9	10,000	7.6	26.0	9.0	24.40			23.16	0.0	22.30	0.0	
48 hr	120	8/23/17 14:00	242	121.5	99.9	10,000	13	26.0	8.00	24.40			23.16	0.0	22.30	0.0	
50 hr	120	8/23/17 16:00	315	125.0	99.9	10,000	2.2	26.0	8.00	24.40			23.15	0.0	22.27	0.0	
52 hr	120	8/23/17 18:00	1,201	124.4	99.9	10,000	1.8	19.00	6.00	24.40			23.16	0.0	22.28	0.0	
54 hr	120	8/23/17 20:00	978	102.4	99.9	2,938	0.0	19.00	6.00	24.40			23.15	0.0	22.29	0.0	
56 hr	120	8/23/17 22:00	1,012	103.4	99.9	2,507	0.0	19.00	6.00	24.40			23.15	0.0	22.30	0.0	
58 hr	120	8/24/17 0:00	1,010	101.9	99.9	2,038	0.0	19.00	6.00	24.40			23.15	0.0	22.30	0.0	
60 hr	120	8/24/17 2:00	1,114	113.5	99.9	2,363	3.7	19.00	6.00	24.40			23.15	0.0	22.30	0.0	
62 hr	120	8/24/17 4:00	1,114	113.5	99.9	2,363	3.7	19.00	6.00	24.40			23.15	0.0	22.30	0.0	
64 hr	120	8/24/17 6:00	1,114	113.5	99.9	2,363	3.7	19.00	6.00	24.40			23.15	0.0	22.30	0.0	
66 hr	120	8/24/17 8:00	1,217	125.0	99.9	2,688	7.4	19.00	6.00	24.40			23.20	0.0	22.35	0.0	
68 hr	120	8/24/17 10:00	1,224	130.0	99.9	1,945	10.4	19.00	6.00	24.40			23.20	0.0	22.35	0.0	
70 hr	120	8/24/17 12:00	1,253	140.0	99.9	1,842	11.2	19.00	6.00	24.40			23.21	0.0	22.37	0.0	
72 hr	120	8/24/17 14:00	1,212	155.0	99.9	1,839	10.4	19.00	6.00	24.40			23.20	0.0	22.36	0.0	
74 hr	120	8/24/17 16:00	1,236	150.0	99.9	1,908	7.9	19.00	6.00	24.40			23.19	0.0	22.35	0.0	
76 hr	120	8/24/17 18:00	597	150.0	99.9	1,702	2.8	26.00	9.0	23.90			23.18	0.0	22.36	0.0	
78 hr	120	8/24/17 20:00	320	140.0	99.9	1,572	10.2	26.00	9.0	23.90			23.19	0.0	22.35	0.0	
80 hr	120	8/24/17 22:00	298	117.2	99.9	1,524	0.0	26.00	9.0	23.90			23.19	0.0	22.37	0.0	
82 hr	120	8/25/17 0:00	283	97.2	99.9	1,408	3.4	25.00	9.0	24.40			23.20	0.0	22.27	0.0	
84 hr	120	8/25/17 2:00	300	99.9	99.9	1,683	4.6	25.5	9.5	24.40			23.20	0.0	22.27	0.0	
86 hr	120	8/25/17 4:00	300	99.9	99.9	1,683	4.6	25.5	9.5	24.40			23.20	0.0	22.27	0.0	
88 hr	120	8/25/17 6:00	300	99.9	99.9	1,683	4.6	25.5	9.5	24.40			23.20	0.0	22.27	0.0	
90 hr	120	8/25/17 8:00	317	102.6	99.9	1,957	5.8	26.00	10.00	24.40			23.27	0.0	22.44	0.0	
92 hr	120	8/25/17 10:00	268	109.2	99.9	2,546	13.2	26.00	10.00	24.40			23.27	0.0	22.45	0.0	
94 hr	120	8/25/17 12:00	222	109.5	99.9	2,821	14.4	26.00	10.00	24.40			23.27	0.0	22.45	0.0	
96 hr	120	8/25/17 14:00	225	110.5	99.9	2,954	12.5	26.00	10.00	24.40			23.27	0.0	22.45	0.0	

**NOTES**  
 \*\* = Off-gas treatment system not in operation at this time interval; pre-treatment value applied in post-treatment emission calculation during this time interval.

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-RW2  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	14:00								
08/21/17	14:30	26.00	355	3	123.3	99.9	0.08982883820	0.1258	14
08/21/17	15:00	26.00	364	3	150.0	99.9	0.21073937635	0.2524	12
08/21/17	15:30	26.00	470	3	150.0	99.9	0.21073937635	0.2524	16
08/21/17	16:00	26.00	448	3	150.0	99.9	0.21073937635	0.2524	15
08/21/17	16:30	26.00	448	3	150.0	99.9	0.21073937635	0.2524	15
08/21/17	17:00	26.00	451	3	150.0	99.9	0.21073937635	0.2524	15
08/21/17	17:30	26.00	457	3	140.0	99.9	0.15224281721	0.1961	17
08/21/17	18:00	26.00	464	3	135.0	99.9	0.12984120145	0.1722	17
08/21/17	18:30	26.00	451	3	135.0	99.9	0.12984120145	0.1722	17
08/21/17	19:00	26.00	457	3	135.0	99.9	0.12984120145	0.1722	17
08/21/17	19:30	26.00	452	3	130.0	99.9	0.11087928543	0.1509	18
08/21/17	20:00	25.00	440	3	130.0	99.9	0.11087928543	0.1509	17
08/21/17	20:30	25.00	432	3	125.0	99.9	0.09475315211	0.1318	17
08/21/17	21:00	25.00	433	3	110.8	99.9	0.06061439631	0.0885	19
08/21/17	21:30	25.00	435	3	102.5	99.9	0.04654677100	0.0694	20
08/21/17	22:00	25.00	441	3	103.7	99.9	0.04836873240	0.0719	20
08/21/17	23:00	25.00	405	3	101.5	99.9	0.04507811702	0.0674	18
08/22/17	0:00	25.00	360	3	102.2	99.9	0.04610150795	0.0688	16
08/22/17	1:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	2:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	3:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	4:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	5:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	6:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	7:00	25.50	307	3	97.0	99.9	0.03899135645	0.0588	14
08/22/17	8:00	26.00	253	3	91.8	99.9	0.03291495097	0.0501	12
08/22/17	9:00	26.00	315	3	93.0	99.9	0.03423357826	0.0520	15
08/22/17	10:00	26.00	354	3	101.3	99.9	0.04478967130	0.0670	16
08/22/17	11:00	26.00	289	3	103.7	99.9	0.04836873240	0.0719	13
08/22/17	12:00	26.00	274	3	109.5	99.9	0.05817062845	0.0853	12
08/22/17	13:00	26.00	289	3	114.4	99.9	0.06790962322	0.0981	12
08/22/17	14:00	26.00	309	3	110.8	99.9	0.06061439631	0.0885	13
08/22/17	16:00	26.00	285	3	121.3	99.9	0.08436245337	0.1191	12
08/22/17	18:00	25.00	293	3	124.5	99.9	0.09327731012	0.1300	12
08/22/17	20:00	25.00	288	3	119.7	99.9	0.08022862137	0.1139	12
08/22/17	22:00	25.00	297	3	110.1	99.9	0.05928652348	0.0867	13
08/23/17	0:00	25.00	277	3	101.3	99.9	0.04478967130	0.0670	12
08/23/17	2:00	25.50	286	3	96.9	99.9	0.03886526777	0.0586	13
08/23/17	4:00	25.50	286	3	96.9	99.9	0.03886526777	0.0586	13
08/23/17	6:00	25.50	286	3	96.9	99.9	0.03886526777	0.0586	13
08/23/17	8:00	26.00	295	3	92.4	99.9	0.03356827403	0.0510	14
08/23/17	10:00	26.00	238	3	102.9	99.9	0.04714676675	0.0702	11
08/23/17	12:00	26.00	206	3	113.7	99.9	0.06642757132	0.0962	9



**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-RW2  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>sw</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
08/23/17	14:00	26.00	242	3	121.5	99.9	0.08489382673	0.1197	10
08/23/17	16:00	26.00	315	3	125.0	99.9	0.09475315211	0.1318	13
08/23/17	18:00	19.00	1,201	3	124.4	99.9	0.09298492896	0.1297	48
08/23/17	20:00	19.00	978	3	102.4	99.9	0.04639790144	0.0692	44
08/23/17	22:00	19.00	1,012	3	103.4	99.9	0.04790703017	0.0713	45
08/24/17	0:00	19.00	1,010	3	101.9	99.9	0.04566026130	0.0682	45
08/24/17	2:00	19.00	1,114	3	113.5	99.9	0.06600992682	0.0956	48
08/24/17	4:00	19.00	1,114	3	113.5	99.9	0.06600992682	0.0956	48
08/24/17	6:00	19.00	1,114	3	113.5	99.9	0.06600992682	0.0956	48
08/24/17	8:00	19.00	1,217	3	125.0	99.9	0.09475315211	0.1318	49
08/24/17	10:00	19.00	1,224	3	130.0	99.9	0.11087928543	0.1509	48
08/24/17	12:00	19.00	1,253	3	140.0	99.9	0.15224281721	0.1961	46
08/24/17	14:00	19.00	1,212	3	155.0	99.9	0.24925294547	0.2854	38
08/24/17	16:00	19.00	1,236	3	150.0	99.9	0.21073937635	0.2524	41
08/24/17	18:00	26.00	597	3	150.0	99.9	0.21073937635	0.2524	20
08/24/17	20:00	26.00	320	3	140.0	99.9	0.15224281721	0.1961	12
08/24/17	22:00	26.00	298	3	117.2	99.9	0.07416668020	0.1062	13
08/25/17	0:00	25.00	283	3	97.2	99.9	0.03924467926	0.0592	13
08/25/17	2:00	25.50	300	3	99.9	99.9	0.04281859762	0.0642	14
08/25/17	4:00	25.50	300	3	99.9	99.9	0.04281859762	0.0642	14
08/25/17	6:00	25.50	300	3	99.9	99.9	0.04281859762	0.0642	14
08/25/17	8:00	26.00	317	3	102.6	99.9	0.04669609093	0.0696	14
08/25/17	10:00	26.00	268	3	109.2	99.9	0.05762026404	0.0845	12
08/25/17	12:00	26.00	222	3	109.5	99.9	0.05817062845	0.0853	10
08/25/17	14:00	26.00	225	3	110.5	99.9	0.06004184351	0.0878	10
<b>Average</b>		<b>24.49</b>	<b>480.93</b>	<b>3.07</b>	<b>115.57</b>	<b>99.90</b>	<b>0.0846</b>	<b>0.11</b>	<b>19.67</b>

**NOTES**

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)  
 Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)  
 Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)  
 Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)  
 Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)  
 Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping  
 B<sub>sw</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.  
 B<sub>ws</sub> = water vapor % by volume

**EQUATIONS**

$$B_{ws} = (B_{sw}/18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{sw}/18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528^\circ R / (\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	14	10,000	10,000	11,439	0.47	5,376	2,683	0.00017	0.14	0.17	0.09
60	12	10,000	10,000	13,377	0.47	6,287	3,137	0.00020	0.14	0.17	0.08
90	16	10,000	10,000	13,377	0.47	6,287	3,137	0.00020	0.18	0.22	0.11
120	15	10,000	10,000	13,377	0.47	6,287	3,137	0.00020	0.17	0.21	0.10
150	15	10,000	10,000	13,377	0.47	6,287	3,137	0.00020	0.17	0.21	0.10
180	15	10,000	10,000	13,377	0.47	6,287	3,137	0.00020	0.18	0.21	0.10
210	17	10,000	10,000	12,439	0.47	5,846	2,917	0.00018	0.18	0.21	0.11
240	17	10,000	10,000	12,080	0.47	5,678	2,833	0.00018	0.19	0.22	0.11
270	17	10,000	10,000	12,080	0.47	5,678	2,833	0.00018	0.18	0.21	0.11
300	17	10,000	10,000	12,080	0.47	5,678	2,833	0.00018	0.18	0.22	0.11
330	18	10,000	10,000	11,777	0.47	5,535	2,762	0.00017	0.18	0.22	0.11
360	17	10,000	10,000	11,777	0.47	5,535	2,762	0.00017	0.18	0.21	0.11
390	17	10,000	10,000	11,518	0.47	5,414	2,701	0.00017	0.18	0.21	0.10
420	19	10,000	10,000	10,971	0.47	5,156	2,573	0.00016	0.18	0.21	0.11
450	20	10,000	10,000	10,746	0.47	5,051	2,520	0.00016	0.18	0.22	0.11
480	20	10,000	10,000	10,775	0.47	5,064	2,527	0.00016	0.19	0.22	0.11
540	18	10,000	10,000	10,722	0.47	5,039	2,514	0.00016	0.17	0.20	0.20
600	16	10,000	10,000	10,739	0.47	5,047	2,518	0.00016	0.15	0.18	0.18
660	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
720	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
780	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
840	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
900	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
960	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
1020	14	10,000	10,000	10,625	0.47	4,994	2,492	0.00016	0.13	0.16	0.16
1080	12	10,000	10,000	10,527	0.47	4,948	2,469	0.00015	0.11	0.13	0.13
1140	15	10,000	10,000	10,548	0.47	4,958	2,474	0.00015	0.14	0.16	0.16
1200	16	10,000	10,000	10,718	0.47	5,037	2,513	0.00016	0.15	0.18	0.18
1260	13	10,000	10,000	10,775	0.47	5,064	2,527	0.00016	0.12	0.14	0.14
1320	12	10,000	10,000	10,932	0.47	5,138	2,564	0.00016	0.11	0.14	0.14
1380	12	10,000	10,000	11,088	0.47	5,211	2,600	0.00016	0.12	0.14	0.14
1440	13	10,000	10,000	10,971	0.47	5,156	2,573	0.00016	0.13	0.15	0.15
1560	12	10,000	10,000	11,352	0.47	5,335	2,662	0.00017	0.12	0.14	0.28
1680	12	10,000	10,000	11,495	0.47	5,402	2,696	0.00017	0.12	0.14	0.28
1800	12	10,000	10,000	11,285	0.47	5,304	2,647	0.00017	0.12	0.14	0.28
1920	13	10,000	10,000	10,950	0.47	5,146	2,568	0.00016	0.12	0.15	0.29
2040	12	10,000	10,000	10,718	0.47	5,037	2,513	0.00016	0.12	0.14	0.28
2160	13	10,000	10,000	10,623	0.47	4,993	2,491	0.00016	0.12	0.14	0.29
2280	13	10,000	10,000	10,623	0.47	4,993	2,491	0.00016	0.12	0.14	0.29
2400	13	10,000	10,000	10,623	0.47	4,993	2,491	0.00016	0.12	0.14	0.29
2520	14	10,000	10,000	10,538	0.47	4,953	2,471	0.00015	0.13	0.15	0.30
2640	11	10,000	10,000	10,755	0.47	5,055	2,522	0.00016	0.10	0.12	0.24
2760	9	10,000	10,000	11,064	0.47	5,200	2,595	0.00016	0.09	0.10	0.20
2880	10	10,000	10,000	11,360	0.47	5,339	2,664	0.00017	0.10	0.12	0.23
3000	13	10,000	10,000	11,518	0.47	5,414	2,701	0.00017	0.13	0.15	0.30
3120	48	10,000	10,000	11,490	0.47	5,400	2,695	0.00017	0.49	0.58	1.16
3240	44	2,938	2,938	3,156	0.47	1,484	740	0.00005	0.12	0.14	0.29

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c,m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	45	2,507	2,507	2,699	0.47	1,269	633	0.00004	0.11	0.13	0.25
3480	45	2,038	2,038	2,187	0.47	1,028	513	0.00003	0.09	0.10	0.21
3600	48	2,363	2,363	2,613	0.47	1,228	613	0.00004	0.11	0.13	0.26
3720	48	2,363	2,363	2,613	0.47	1,228	613	0.00004	0.11	0.13	0.26
3840	48	2,363	2,363	2,613	0.47	1,228	613	0.00004	0.11	0.13	0.26
3960	49	2,688	2,688	3,096	0.47	1,455	726	0.00005	0.13	0.16	0.32
4080	48	1,945	1,945	2,291	0.47	1,077	537	0.00003	0.10	0.11	0.23
4200	46	1,842	1,842	2,291	0.47	1,077	537	0.00003	0.09	0.11	0.22
4320	38	1,839	1,839	2,573	0.47	1,210	603	0.00004	0.09	0.10	0.20
4440	41	1,908	1,908	2,552	0.47	1,200	599	0.00004	0.09	0.11	0.22
4560	20	1,702	1,702	2,277	0.47	1,070	534	0.00003	0.04	0.05	0.09
4680	12	1,572	1,572	1,955	0.47	919	459	0.00003	0.02	0.02	0.05
4800	13	1,524	1,524	1,705	0.47	801	400	0.00002	0.02	0.02	0.04
4920	13	1,408	1,408	1,497	0.47	703	351	0.00002	0.02	0.02	0.04
5040	14	1,683	1,683	1,798	0.47	845	422	0.00003	0.02	0.03	0.05
5160	14	1,683	1,683	1,798	0.47	845	422	0.00003	0.02	0.03	0.05
5280	14	1,683	1,683	1,798	0.47	845	422	0.00003	0.02	0.03	0.05
5400	14	1,957	1,957	2,103	0.47	989	493	0.00003	0.03	0.03	0.06
5520	12	2,546	2,546	2,781	0.47	1,307	652	0.00004	0.03	0.03	0.07
5640	10	2,821	2,821	3,084	0.47	1,449	723	0.00005	0.03	0.03	0.06
5760	10	2,954	2,954	3,238	0.47	1,522	759	0.00005	0.03	0.03	0.07
<b>Average</b>	<b>20</b>	<b>7446</b>	<b>7446</b>	<b>8428</b>	<b>0.47</b>	<b>3961</b>	<b>1976</b>	<b>0.00012</b>	<b>0.12</b>	<b>0.15</b>	<b>0.18</b>

Total Pretreatment emissions in pounds: **12.25**

Total Pretreatment emissions in gallons: **2.04**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)

100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)

PPM<sub>wet</sub> = "wet" concentration

PPM<sub>dry</sub> = "dry" concentration

CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.

K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)

PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP

C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon

M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon

K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP

C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP

PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon

PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline

PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

$$PPM_{wet} = PPM_{measured}$$

$$PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$$

$$PPM_c = (PPM_d)(K)$$

$$C_{c,m} = (PPM_c)(M_c / K_3)$$

$$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

$$PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$$

$$PMR_g = (PMR_c)(M_g/M_{cg})$$

$$PMR = (PMR_g)(\#minutes/60)$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE:

8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	14	10,000	10,000	11,439	1.02	11,668	5,822	0.00036	0.31	0.37	0.19
60	12	10,000	10,000	13,377	1.02	13,644	6,808	0.00043	0.31	0.37	0.18
90	16	10,000	10,000	13,377	1.02	13,644	6,808	0.00043	0.40	0.47	0.24
120	15	10,000	10,000	13,377	1.02	13,644	6,808	0.00043	0.38	0.45	0.22
150	15	10,000	10,000	13,377	1.02	13,644	6,808	0.00043	0.38	0.45	0.22
180	15	10,000	10,000	13,377	1.02	13,644	6,808	0.00043	0.38	0.45	0.23
210	17	10,000	10,000	12,439	1.02	12,688	6,331	0.00040	0.39	0.47	0.23
240	17	10,000	10,000	12,080	1.02	12,322	6,148	0.00038	0.40	0.48	0.24
270	17	10,000	10,000	12,080	1.02	12,322	6,148	0.00038	0.39	0.46	0.23
300	17	10,000	10,000	12,080	1.02	12,322	6,148	0.00038	0.40	0.47	0.24
330	18	10,000	10,000	11,777	1.02	12,012	5,994	0.00037	0.40	0.47	0.23
360	17	20	20	23	1.02	24	12	0.00000	0.00	0.00	0.00
390	17	21	21	25	1.02	25	12	0.00000	0.00	0.00	0.00
420	19	8	8	9	1.02	9	5	0.00000	0.00	0.00	0.00
450	20	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
480	20	10	10	11	1.02	11	6	0.00000	0.00	0.00	0.00
540	18	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
600	16	3	3	3	1.02	3	1	0.00000	0.00	0.00	0.00
660	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
720	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
780	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
840	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
900	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
960	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
1020	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
1080	12	8	8	8	1.02	8	4	0.00000	0.00	0.00	0.00
1140	15	9	9	10	1.02	10	5	0.00000	0.00	0.00	0.00
1200	16	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
1260	13	18	18	20	1.02	20	10	0.00000	0.00	0.00	0.00
1320	12	11	11	11	1.02	12	6	0.00000	0.00	0.00	0.00
1380	12	10	10	12	1.02	12	6	0.00000	0.00	0.00	0.00
1440	13	12	12	13	1.02	14	7	0.00000	0.00	0.00	0.00
1560	12	11	11	13	1.02	13	7	0.00000	0.00	0.00	0.00
1680	12	1	1	1	1.02	2	1	0.00000	0.00	0.00	0.00
1800	12	10	10	11	1.02	11	6	0.00000	0.00	0.00	0.00
1920	13	11	11	12	1.02	13	6	0.00000	0.00	0.00	0.00
2040	12	7	7	7	1.02	7	4	0.00000	0.00	0.00	0.00
2160	13	7	7	7	1.02	8	4	0.00000	0.00	0.00	0.00
2280	13	7	7	7	1.02	8	4	0.00000	0.00	0.00	0.00
2400	13	7	7	7	1.02	8	4	0.00000	0.00	0.00	0.00
2520	14	7	7	8	1.02	8	4	0.00000	0.00	0.00	0.00
2640	11	1	1	2	1.02	2	1	0.00000	0.00	0.00	0.00
2760	9	8	8	8	1.02	9	4	0.00000	0.00	0.00	0.00
2880	10	13	13	14	1.02	14	7	0.00000	0.00	0.00	0.00
3000	13	2	2	3	1.02	3	1	0.00000	0.00	0.00	0.00
3120	48	2	2	2	1.02	2	1	0.00000	0.00	0.00	0.00
3240	44	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**POST-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	RF	PPM <sub>conc</sub> (ppm)	C <sub>c,m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	45	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
3480	45	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
3600	48	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
3720	48	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
3840	48	4	4	4	1.02	4	2	0.00000	0.00	0.00	0.00
3960	49	7	7	9	1.02	9	4	0.00000	0.00	0.00	0.00
4080	48	10	10	12	1.02	12	6	0.00000	0.00	0.00	0.00
4200	46	11	11	14	1.02	14	7	0.00000	0.00	0.00	0.00
4320	38	10	10	15	1.02	15	7	0.00000	0.00	0.00	0.00
4440	41	8	8	11	1.02	11	5	0.00000	0.00	0.00	0.00
4560	20	3	3	4	1.02	4	2	0.00000	0.00	0.00	0.00
4680	12	10	10	13	1.02	13	6	0.00000	0.00	0.00	0.00
4800	13	0	0	0	1.02	0	0	0.00000	0.00	0.00	0.00
4920	13	3	3	4	1.02	4	2	0.00000	0.00	0.00	0.00
5040	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
5160	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
5280	14	5	5	5	1.02	5	3	0.00000	0.00	0.00	0.00
5400	14	6	6	6	1.02	6	3	0.00000	0.00	0.00	0.00
5520	12	13	13	14	1.02	15	7	0.00000	0.00	0.00	0.00
5640	10	14	14	16	1.02	16	8	0.00000	0.00	0.00	0.00
5760	10	13	13	14	1.02	14	7	0.00000	0.00	0.00	0.00
<b>Average</b>	<b>20</b>	<b>1624</b>	<b>1624</b>	<b>2047</b>	<b>1</b>	<b>2088</b>	<b>1042</b>	<b>0.00007</b>	<b>0.06</b>	<b>0.07</b>	<b>0.04</b>

**Total Post-Treatment emissions in pounds: 2.48**  
**Total Post-Treatment emissions in gallons: 0.41**

**NOTES**

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)  
 100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)  
 PPM<sub>wet</sub> = "wet" concentration  
 PPM<sub>dry</sub> = "dry" concentration  
 RF (Response Factor) = Multiplying factor for converting ppm meter readings of hexane-calibrated instruments to ppm concentrations of other gases: 1.02 for benzene; 1.03 for toluene; 1.64 for o-xylene. Multiplying factor obtained from Instruction Manual for TLV Sniffer® by Bacharach, Inc., Instruction 23-9613, rev.2, January 1990.  
 K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)  
 PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP  
 C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon  
 M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon  
 K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP  
 C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP  
 PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon  
 PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline  
 PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

PPM <sub>wet</sub> = PPM <sub>measured</sub>	$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$
PPM <sub>dry</sub> = (PPM <sub>wet</sub> )/(1-B <sub>ws</sub> )	PMR <sub>c</sub> = (C <sub>c</sub> )(Q <sub>std</sub> )(60 min/hr)
PPM <sub>c</sub> = (PPM <sub>d</sub> )(K)	PMR <sub>g</sub> = (PMR <sub>c</sub> )(M <sub>g</sub> /M <sub>cg</sub> )
C <sub>c,m</sub> = (PPM <sub>c</sub> )(M <sub>c</sub> / K <sub>3</sub> )	PMR = (PMR <sub>g</sub> )(#minutes/60)



Healthy People. Healthy Communities.

**MR JOEL JOLLY**  
**EDGEFIELD FUEL & CONVENIENCE LLC**  
**107 1/2 COURTHOUSE ROAD**  
**EDGEFIELD SC 29824-0388**

OCT 24 2017



**Re: Aggressive Fluid Vapor Recovery Directive**  
Edgefield Fuel & Convenience 3, 311 Main Street., Edgefield, SC 29824  
UST Permit # 12175; CA# 55753  
Release reported December 31, 2008  
AFVR Report received September 12, 2017  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) recognizes your commitment to continue work at this site using ATC Group Services, LLC. as your contractor. The next appropriate scope of work at the site is to continue aggressive fluid and vapor recovery (AFVR) to remove residual free-phase product and reduce concentrations of chemicals of concern (CoC). The AFVR event must be conducted in accordance with the current revision of the Annual Contractor Quality Assurance Plan (ACQAP). A copy of the current revision of the QAPP is available at <https://www.scdhec.gov/environment/lw/ust/ReleaseAssessmentClean-up/QualityAssurance/>.

**Cost Agreement #55753** has been approved in the amount shown on the enclosed cost agreement form for two 96-hour AFVR events. During the first AFVR event wells MW-2, MW-25 and RW-2 should be used as the extraction wells. Stingers shall be lowered at six inch intervals starting at the water table interface to the estimated historical low water table elevation for each well within the first 8 hours of the event. Thereafter, stingers should be adjusted to maximize FP and/or vapor recovery while maintaining dewatering of the smear zone. During the second AFVR event wells MW-1 and RW-12 should be used as the extraction wells. Stingers shall be lowered at six inch intervals starting at the water table interface to the estimated historical low water table elevation for each well within the first 8 hours of the event. AFVR activities may proceed immediately upon receipt of this letter. Both actions must be performed by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor. All applicable South Carolina certification requirements apply to preparation of an AFVR report.

**An AFVR report and invoice must be submitted to the Division within 90 days from the date of this letter.** Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The DHEC grants pre-approval for transportation of up to 20,000 gallons of free-phase product and petroleum-contaminated groundwater from the referenced facility to a permitted treatment facility for disposal. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference **UST Permit #12175**. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-7705 or by e-mail at [johnsoal@dhec.sc.gov](mailto:johnsoal@dhec.sc.gov).

Sincerely,



Austin Johnson, Hydrogeologist  
Corrective Action Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

enc: Approved cost agreement form

cc: ATC Group Services, LLC., 7606 Whitehall Executive Drive, Suite 800, Charlotte, NC  
29484  
Technical File (w/ enc)



**Approved Cost Agreement      55753**

Facility: 12175    EDGEFIELD FUEL & CONVENIENCE 3

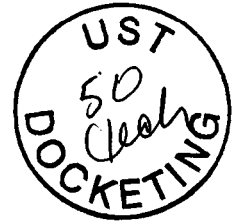
JOHNSOAL

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
19 RPT/PROJECT MNGT & COORDINATIO					
		PRT REPORT PREPARATION	0.1200	\$45,281.250	5,433.75
23 EFR					
		A4 96 HOUR EVENT	2.0000	\$12,567.500	25,135.00
		C4 OFF GAS TREATMENT 96 HOUR	2.0000	\$780.000	1,560.00
		D SITE RECONNAISSANCE	1.0000	\$203.250	203.25
		F1 EFFLUENT DISPOSAL	40,000.0000	\$0.440	17,600.00
		G AFVR EQUIPMENT MOB	2.0000	\$391.500	783.00
		<b>Total Amount</b>			<b>50,715.00</b>



**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**



**AGGRESSIVE FLUID VAPOR RECOVERY REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**



**UST PERMIT NO. 12175  
ATC PROJECT NO. EDGE3001**

**COPY**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

ATC Group Services LLC  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

January 25, 2018

Noelle France  
Project Manager

Michael D. Shaw  
SC Licensed Professional Geologist

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## 1.0 INTRODUCTION

This report, prepared by ATC Group Services LLC (ATC), presents the results of the corrective action activities conducted at the Edgefield Fuel & Convenience 3 (EFC3) site on January 3, 2018 and between January 8 and January 19, 2018. These activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1 and Cost Agreement Number 55753 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated October 24, 2017.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-5425

### 1.2 UST OWNER/OPERATOR

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-1900

### 1.3 PROPERTY OWNER INFORMATION

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 367-1900

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** ATC Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** Not reported

### UST Permit 12175

UST	Size	Product	Date Installed	Status	Date Closed
1	3,000	Premium Unleaded Gasoline	Unknown	Extended-Out of Use	Not applicable
2	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable
3	3,000	Regular Unleaded Gasoline	Unknown	In Use	Not applicable

The site operates as EFC3 site, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed as being installed at the site and it is noted that the premium unleaded gasoline UST was not in use during these corrective action activities.

### 1.6 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.

## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The EFC3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. **Figure 1** illustrates the site location with topographic details. The site is bordered to the north by an access road and parking lot for the west abutting First Citizen's Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority obtain their water supply from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One storm drainage feature was previously identified approximately 1,000 feet southeast of the site. This storm drainage feature flows in a westerly direction and bends to the southwest and discharges into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and an unnamed tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general southeasterly direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general southwesterly direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located approximately 525 feet above mean sea level (AMSL) with an approximate total site topographic relief of three feet. The surface cover at the site consists primarily of asphalt paving, and some smaller portions completed with concrete and grass. The active site UST area is completed with a concrete surface covering. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC), stone, and clayey to silty sand to depths of approximately 2 feet below ground surface (BGS). Native soils (residuum), below the fill material, are characterized as tan- brown -red silty sand and silty clay to depths of 6 feet BGS. Soils encountered in the boreholes below 6 feet BGS are characterized as yellow-orange-tan- gray silty sand to the termination depths of the boreholes.



The percentages of sand, silt, and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet BGS during Tier I assessment activities (conducted in March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (conducted in April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet BGS were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses performed on soil analysis of soil sample SB-2, the onsite shallow soils are characterized as clayey silty sands.

Historical depths to groundwater measured in shallow monitoring wells at the site are reported to have ranged from 18.09 feet BGS (12175-MW5 in May 2010) to 25.61 feet BGS (12175-MW2 in October 2010 with 3.65 feet of free phase product), with an overall average depth of 22.24 feet BGS in on-site monitoring wells over time. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, were calculated to have ranged between 0.11 feet per day (ft/day) to 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

### **3.0 ASSESSMENT INFORMATION**

#### **3.1 SOIL ASSESSMENT**

Soil assessment was not required for the scope of work outlined in the October 24, 2017 directive.

#### **3.2 GROUNDWATER FIELD SCREENING**

Groundwater field screening was not required for the scope of work outlined in the October 24, 2017 directive.

#### **3.3 MONITORING WELL INFORMATION**

Monitoring well installation was not required for the scope of work outlined in the October 24, 2017 directive.

#### **3.4 GROUNDWATER ASSESSMENT**

##### **3.4.1 Product/Water Level Measurements**

Monitoring wells 12175-MW1, 12175-MW2, 12175-MW25, 12175-RW1, and 12175-RW2 were gauged for depths to free phase product and depth to groundwater during the site reconnaissance activities on January 3, 2018. Free phase product was detected in site wells 12175-MW1 (thickness of 3.00 feet), 12175-MW2 (2.48 feet), 12175-MW25 (4.47 feet), 12175-RW1 (2.26 feet) and 12175-RW2 (4.40 feet).

##### **3.4.2 Water Sampling and Analyses**

Groundwater samples were not required for the scope of work outlined in the AFVR directive dated October 24, 2017.

##### **3.4.3 Groundwater Analytical Data**

Groundwater analysis was not required for the scope of work outlined in the AFVR directive dated October 24, 2017.

##### **3.4.4 Aquifer Characterization**

Aquifer characteristics determinations were not required for the scope of work outlined in the AFVR directive dated October 24, 2017.

## 4.0 CORRECTIVE ACTION

The SCDHEC directive included the performance of a 96-hour aggressive fluid vapor recovery (AFVR) events. The AFVR event was conducted to extract free phase product from recovery well 12175-RW2.

### 4.1 CORRECTIVE ACTION ACTIVITIES

#### 4.1.1 AFVR Event – January 8 through January 12, 2018

This AFVR event was initiated on January 8, 2018 and completed on January 12, 2018. The AFVR event was completed by ATC with activity monitoring provided by ATC personnel Brian Peay and Henry Wells. Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction wells 12175-MW2, 12175-MW25, 12175-RW2. Free phase product was detected in targeted extraction recovery wells 12175-MW2 (2.45 feet), 12175-MW25 (4.57 Feet) and 12175-RW2 (4.45 feet) prior to initiating the AFVR event on January 8, 2018.

Per discussions with Mr. Austin Johnson of SCDHEC, the AFVR event was completed without the use of the thermal oxidation system. A 14-foot extension was added to the exhaust vent of the vacuum system to remove petroleum fumes from the breathing zone of the general public.

This AFVR event consisted of utilizing a vacuum system capable extracting vapors and fluids from 12175-MW2, 12175-MW25, and 12175-RW2 for approximately 96 hours. The thermal oxidizing system, was not used during this event. The trailer mounted AFVR equipment consisted of one Dekker VMX0303K oil-sealed vacuum system capable of providing an extraction rate of 275 cubic feet per minute (CFM) at 25 inches mercury (inHg) vacuum. The vacuum blower is connected to a manifold, air/water separator, and magnehelic gauges for system monitoring. A water discharge line is connected from the air/water separator, flow meter, and transfer pump that pumps the water to a holding tank temporarily stored onsite.

The drop tubes were initially lowered to the depth of fluid encountered in wells 12175-MW2, 12175-MW25, 12175-RW2. The stinger pipes were lowered periodically throughout the duration of the extraction process in order to maximize the extraction potential over the duration of the activities. Observation wells were used to monitor the depth to groundwater and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours, 1-hour intervals for hours 9-24, and 2-hour intervals for the remainder of the event.

The vacuum readings were reported to have averaged 21.35 inHg over the course of the event. The air velocity rates were reported to have averaged 409.75 feet per minute (ft/min) from the discharge stack over the course of the event. Organic vapor concentrations from the vapor effluent were measured at the discharge stack using a MiniRae® 3000 photoionization detector (PID). This PID is capable of providing concentrations of up to 10,000 ppm maximum concentration range of 10,000 ppm was exceeded during this event and, when exceeded, a concentration of 10,000 ppm was used in the emission calculations. The recorded measurements averaged a concentration of 2,844 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 92.52 degrees Fahrenheit (°F).

Free phase product was detected in targeted extraction well 12175-RW2, at a thickness of 0.20 feet, during post-AFVR measurements on January 12, 2018. A summary of free phase product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of vapor-phase petroleum hydrocarbon constituents removed was 5.68 pounds (0.95 equivalent gallons).

Based on the manifests and weight tickets provided by Zebra Environmental and Industrial Services Inc. (Zebra), approximately 8,422 gallons of total fluids were removed from target wells, 12175-MW2, 12175-MW25 and 12175-RW2 during the AFVR event completed between January 8 and January 12, 2018. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

#### 4.1.2 AFVR Event – January 15 through January 19, 2018

This AFVR event was initiated on January 15, and completed on January 19, 2018. The AFVR event was completed by ATC with activity monitoring provided by ATC personnel Brian Peay and Henry Wells. Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction wells 12175-MW1 and 12175-RW1 and in observation monitoring wells 12175-MW18 and 12175-MW24. Free phase product was detected in targeted extraction recovery well 12175-MW1 (at a thickness of 4.95 feet) and 12175-RW1 (at a thickness of 2.14 feet) prior to initiating the AFVR event on January 15, 2018.

This AFVR event consisted of utilizing a vacuum system capable extracting vapors and fluids from 12175-MW1 and 12175-RW2 for approximately 96 hours. The trailer mounted AFVR equipment consisted of one Dekker VMX0303K oil-sealed vacuum system capable of providing an extraction rate of 275 cubic feet per minute (CFM) at 25 inches mercury (inHg) vacuum. The vacuum blower is connected to a manifold, air/water separator, and magnehelic gauges for system monitoring. A water discharge line is connected from the air/water separator, flow meter, and transfer pump that pumps the water to a holding tank temporarily stored onsite.

The drop tubes were initially lowered to the depth of fluid encountered in well 122175-MW1 and 12175-RW1. The stinger pipes were lowered periodically throughout the duration of the extraction process in order to maximize the extraction potential over the duration of the activities. Observation wells were used to monitor the depth to groundwater and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours, 1-hour intervals for hours 9-24, and 2-hour intervals for the remainder of the event.

The vacuum readings were reported to have averaged 18.88 inHg over the course of the event. The air velocity rates were reported to have averaged 404.28 feet per minute (ft/min) from the discharge stack over the course of the event. Periodic organic vapor concentrations from the 12175-MW1 and 12175-RW1 vapor effluent were measured at the discharge stack using a MiniRae® 3000 photoionization detector (PID). This PID is capable of providing concentrations of up to 10,000 ppm maximum concentration range of 10,000 ppm was exceeded during this event and, when exceeded, a concentration of 10,000 ppm was used in the emission calculations. The recorded measurements averaged a concentration of 2,037 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 80.63 degrees Fahrenheit (°F).

Free phase product was detected in targeted extraction well 12175-MW1 (1.50 feet) and 12175-RW1 (0.19 feet) during post-AFVR measurements on January 19, 2018. A summary of free phase product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of vapor-phase petroleum hydrocarbon constituents removed was 3.43 pounds (0.57 equivalent gallons).

Based on the manifests and weight tickets provided by Zebra Environmental and Industrial Services Inc. (Zebra), approximately 4,182 gallons of total fluids were removed from the target wells during the AFVR event. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

#### **4.2 INVESTIGATIVE DERIVED WASTE**

Petroleum contact water (PCW) generated during these activities was temporarily stored in a 5000 - gallon tanker staged on-site. Based on the manifests and weight tickets provided by Zebra Environmental and Industrial Services, Inc. (Zebra) PCW a total of 12,604 gallons were generated during the two AFVR events. Liquids were transported to the Zebra facility located in High Point, North Carolina, a licensed disposal facility, for proper disposal. Copies of the disposal manifests for both AFVR events are included in **Appendix G**.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 SUMMARY

#### AFVR event January 8 – January 12, 2018.

Free phase product was detected in targeted extraction recovery wells 12175-MW2 (2.45 feet), 12175-MW25 (4.57 Feet) and 12175-RW2 (4.45 feet) prior to initiating the AFVR event on January 8, 2018.

The vacuum readings were reported to have averaged 21.35 inHg over the course of the event. The air velocity rates were reported to have averaged 409.75 feet per minute (ft/min) from the discharge stack over the course of the event. The recorded PID measurements averaged a concentration of 2,844 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 92.52 degrees Fahrenheit (°F).

The total estimated amount of vapor-phase petroleum hydrocarbon constituents removed was 5.68 pounds (0.95 equivalent gallons).

Free phase product was detected in targeted extraction well 12175-RW2, at a thickness of 0.20 feet, during post-AFVR measurements on January 12, 2018.

#### AFVR event January 15 – January 19, 2018.

Prior to the start of the event, the depths to free phase product and groundwater were measured in targeted extraction wells 12175-MW1 and 12175-RW1. Free phase product was detected in targeted extraction recovery well 12175-MW1 (at a thickness of 4.95 feet) and 12175-RW1 (at a thickness of 2.14 feet) on January 15, 2018.

The vacuum readings were reported to have averaged 18.88 inHg over the course of the event. The air velocity rates were reported to have averaged 404.28 feet per minute (ft/min) from the discharge stack over the course of the event.

The recorded PID measurements averaged a concentration of 2,037 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 80.63 degrees Fahrenheit (°F).

Free phase product was detected in targeted extraction well 12175-MW1 (1.50 feet) and 12175-RW1 (0.19 feet) during post-AFVR measurements on January 19, 2018.

The total estimated amount of vapor-phase petroleum hydrocarbon constituents removed was 3.43 pounds (0.57 equivalent gallons).

### 5.2 CONCLUSIONS

Based on the presence of free phase petroleum product in target wells 12175-RW2, 12175-MW1 and 12175-RW1 measured 20 minutes subsequent to the end of each AFVR event, free phase petroleum has not been completely removed from the subsurface at this site.

### **5.3 RECOMMENDATIONS**

Based on the free phase petroleum thicknesses measured in wells 12175-RW2, 12175-MW1 and 12175-RW1 subsequent to the January 2018 AFVR events ATC recommends performing additional AFVR and gauging events at this site.



## **6.0 LIMITATIONS**

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ECS. Although the accuracy of these data cannot be verified, for the purposes of this report, ECS assumes that they are correct.

### **6.1 DATA VERIFICATION**

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## **TABLES**

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**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-MW1	4/6/10 - 4/7/10	8	4,419	194.3	626	1.33	0	1.33	314
12175-MW1 12175-MW5	7/12/11 - 7/13/11	12	4,456	232.3	2,454	4.88	0	4.88	1,503
12175-MW2	8/2/11 - 8/3/11	12	4,069	244.6	923	1.65	0	1.65	580
12175-MW19	8/11/11 - 8/12/11	12	4,274	216.4	2,804	5.30	0	5.30	740
12175-MW1	5/10/12 - 5/11/12	8	3,579	186.7	3,280	5.18	0	5.18	674
12175-MW2	5/31/12 - 6/1/12	8	3,481	188.1	1,325	1.97	0	1.97	330
12175-MW5	6/13/12 - 6/14/12	8	2,899	204.4	2,010	2.47	0	2.47	155
12175-MW19	6/28/12 - 6/29/12	8	4,901	230.1	2,790	5.50	0	5.50	167
12175-MW2 12175-MW19 12175-MW25	2/9/13 - 2/10/13	24	3,762	173.1	7,963	40.29	Sheen	40.29	1,675
12175-MW1 12175-MW4 12175-MW5	2/10/13 - 2/11/13	20.67	3,473	176.3	5,649	22.12	Sheen	22.12	1,525
12175-RW1	6/5/13 - 6/6/13	12	4,332	195.7	1,536	4.46	Sheen	4.46	920
12175-RW2	6/20/13 - 6/21/13	12	4,532	173.5	7,807	19.70	0	19.70	314
12175-RW3	7/15/13 - 7/16/13	12	3,350	179.4	465	1.11	0	1.11	747

**TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-RW1	11/4/13-11/5/13	8	5,278	184.5	863	1.98	0	1.98	911
12175-RW2	11/18/13-11/19/13	8	4,424	174.8	3,790	7.46	0	7.46	209
12175-MW17	12/9/13-12/10/13	8	4,772	180.8	198	0.41	0	0.41	450
12175-RW2	5/27/2014	3	520	133.4	99,667	15.69	Sheen	15.69	601
12175-RW2	6/2/14 - 6/6/14	96	347	119.5	90,015	47.85	Sheen	47.85	4,569
12175-RW1	6/16/14-6/20/14	96	357	118	40,064	29.53	Sheen	29.53	8,634
12175-MW1	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW4	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW5	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW19	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW25	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW3	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2*	8/21/17-8/25/17	96	480.93	115.57	4,776	2.04	0	2.04	2,774
12175-MW2	1/8/18-1/12/18	96	409.71	92.52	2,844	0.95	0	0.95	8,422
12175-MW25	1/8/18-1/12/18	96	409.71	92.52	2,844		0		
12175-RW2	1/8/18-1/12/18	96	409.71	92.52	2,844		0		
12175-MW1	1/15/18-1/19/19	96	404.28	80.63	2,037	0.57	0	0.57	4,182
12175-RW1	1/15/18-1/19/19	96	404.28	80.63			0		
		1113.67	--	--	--	398.85	0	398.85	70,755

Total Volatized in gallons = Air emissions in pounds/(6.25 lbs./gal.)

Total Free Product as Fluid is obtained from disposal manifest, flow meter, and/or correspondence with subcontractors from each AFVR event.

Total Free Product Recovered = Total Free Product Volatized + Total Free Product as Fluid.

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	4/6/10 (pre-AFVR)	17.61	22.24	4.63	79.74
				4/7/10 (immediately post-AFVR)	--	21.42	--	77.09
				4/7/10 (20 minutes post-AFVR)	20.37	20.42	0.05	78.13
12175-MW3	34	15	100.44	4/6/10 (pre-AFVR)	--	20.74	--	79.70
				4/7/10 (immediately post-AFVR)	--	20.78	--	79.66
				4/7/10 (20 minutes post-AFVR)	--	20.78	--	79.66
12175-MW4	29	10	98.61	4/6/10 (pre-AFVR)	--	19.14	--	79.47
				4/7/10 (immediately post-AFVR)	--	19.22	--	79.39
				4/7/10 (20 minutes post-AFVR)	--	19.23	--	79.38
12175-MW5	29	10	98.05	4/6/10 (pre-AFVR)	--	18.24	--	79.81
				4/7/10 (immediately post-AFVR)	--	18.95	--	79.10
				4/7/10 (20 minutes post-AFVR)	--	18.82	--	79.23
12175-MW6	29	10	99.82	4/6/10 (pre-AFVR)	--	20.14	--	79.68
				4/7/10 (immediately post-AFVR)	--	20.28	--	79.54
				4/7/10 (20 minutes post-AFVR)	--	20.29	--	79.53
12175-MW1	35	15	98.51	7/12/11 (pre-AFVR)	19.61	24.75	5.14	77.62
				7/13/11 (immediately post-AFVR)	--	25.35	--	73.16
				7/13/11 (20 minutes post-AFVR)	22.92	23.03	0.11	75.56
12175-MW5	29	10	98.05	7/12/11 (pre-AFVR)	19.3	23.6	4.30	77.68
				7/13/11 (immediately post-AFVR)	23.16	23.25	0.09	74.87
				7/13/11 (20 minutes post-AFVR)	22.31	22.51	0.20	75.69
12175-MW3	34	15	100.44	7/12/11 (pre-AFVR)	--	22.84	--	77.60
				7/13/11 (immediately post-AFVR)	--	22.89	--	77.55
				7/13/11 (20 minutes post-AFVR)	--	22.84	--	77.60
12175-MW4	29	10	98.61	7/12/11 (pre-AFVR)	--	21.21	--	77.40
				7/13/11 (immediately post-AFVR)	--	21.31	--	77.30
				7/13/11 (20 minutes post-AFVR)	--	21.32	--	77.29
12175-MW6	29	10	99.82	7/12/11 (pre-AFVR)	--	22.20	--	77.62
				7/13/11 (immediately post-AFVR)	--	22.50	--	77.32
				7/13/11 (20 minutes post-AFVR)	--	22.51	--	77.31
12175-MW2	34	15	100.42	8/2/11 (pre-AFVR)	22.45	26.65	4.20	76.92
				8/3/11 (immediately post-AFVR)	--	25.67	--	74.75
				8/3/11 (20 minutes post-AFVR)	24.03	24.13	0.10	76.37
12175-MW17	28	10	101.09	8/2/11 (pre-AFVR)	--	24.07	--	77.02
				8/3/11 (immediately post-AFVR)	--	24.19	--	76.90
				8/3/11 (20 minutes post-AFVR)	--	24.18	--	76.91
12175-MW18	28	10	101.51	8/2/11 (pre-AFVR)	--	24.51	--	77.00
				8/3/11 (immediately post-AFVR)	--	24.56	--	76.95
				8/3/11 (20 minutes post-AFVR)	--	24.56	--	76.95
12175-MW19	28	10	100.01	8/2/11 (pre-AFVR)	21.98	26.81	4.83	76.82
				8/3/11 (immediately post-AFVR)	22.05	26.90	4.85	76.75
				8/3/11 (20 minutes post-AFVR)	22.05	26.89	4.84	76.75

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW19	28	10	100.01	8/11/11 (pre-AFVR)	22.13	27.05	4.92	76.65
				8/12/11 (immediately post-AFVR)	--	27.42	--	72.59
				8/12/11 (20 minutes post-AFVR)	24.42	24.51	0.09	75.57
12175-MW1	35	15	98.51	8/11/11 (pre-AFVR)	20.25	25.86	5.61	76.86
				8/12/11 (immediately post-AFVR)	20.37	25.97	5.60	76.74
				8/12/11 (20 minutes post-AFVR)	20.41	26.02	5.61	76.70
12175-MW2	34	15	100.42	8/11/11 (pre-AFVR)	23.05	25.47	2.42	76.77
				8/12/11 (immediately post-AFVR)	23.12	25.97	2.85	76.59
				8/12/11 (20 minutes post-AFVR)	23.13	25.58	2.45	76.68
12175-MW4	29	10	98.61	8/11/11 (pre-AFVR)	--	21.90	--	76.71
				8/12/11 (immediately post-AFVR)	--	22.32	--	76.29
				8/12/11 (20 minutes post-AFVR)	--	22.32	--	76.29
12175-MW1	35	15	98.51	5/10/12 (pre-AFVR)	21.91	27.13	5.22	75.30
				5/11/12 (immediately post-AFVR)	24.97	25.06	0.09	73.52
				5/11/12 (20 minutes post-AFVR)	23.90	24.24	0.34	74.53
12175-MW2	34	15	100.42	5/10/12 (pre-AFVR)	24.23	28.02	3.79	75.24
				5/11/12 (immediately post-AFVR)	24.31	28.14	3.83	75.15
				5/11/12 (20 minutes post-AFVR)	24.31	28.14	3.83	75.15
12175-MW3	34	15	100.44	5/10/12 (pre-AFVR)	--	25.04	--	75.40
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.33
				5/11/12 (20 minutes post-AFVR)	--	25.12	--	75.32
12175-MW4	29	10	98.61	5/10/12 (pre-AFVR)	22.41	26.85	4.44	75.09
				5/11/12 (immediately post-AFVR)	22.50	26.98	4.48	74.99
				5/11/12 (20 minutes post-AFVR)	22.50	27.00	4.50	74.99
12175-MW5	29	10	98.05	5/10/12 (pre-AFVR)	21.50	26.15	4.65	75.39
				5/11/12 (immediately post-AFVR)	21.98	25.93	3.95	75.08
				5/11/12 (20 minutes post-AFVR)	22.02	26.01	3.99	75.03
12175-MW6	29	10	99.82	5/10/12 (pre-AFVR)	--	24.44	--	75.38
				5/11/12 (immediately post-AFVR)	--	24.61	--	75.21
				5/11/12 (20 minutes post-AFVR)	--	24.62	--	75.20
12175-MW19	28	10	100.01	5/10/12 (pre-AFVR)	23.66	27.73	4.07	75.33
				5/11/12 (immediately post-AFVR)	23.76	27.74	3.98	75.26
				5/11/12 (20 minutes post-AFVR)	23.77	27.75	3.98	75.25
12175-MW24	30	10	100.23	5/10/12 (pre-AFVR)	--	24.97	--	75.26
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.12
				5/11/12 (20 minutes post-AFVR)	--	25.11	--	75.12
12175-MW25	30	10	99.95	5/10/12 (pre-AFVR)	23.50	28.34	4.84	75.24
				5/11/12 (immediately post-AFVR)	23.61	28.55	4.94	75.11
				5/11/12 (20 minutes post-AFVR)	23.60	28.53	4.93	75.12
12175-MW26	30	10	99.89	5/10/12 (pre-AFVR)	--	25.84	--	74.05
				5/11/12 (immediately post-AFVR)	--	25.88	--	74.01
				5/11/12 (20 minutes post-AFVR)	--	25.87	--	74.02

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW2	34	15	100.42	5/31/12 (pre-AFVR)	24.39	28.16	3.77	75.09
				6/1/12 (immediately post-AFVR)	25.14	25.31	0.17	75.24
				6/1/12 (20 minutes post-AFVR)	25.30	25.61	0.31	75.04
12175-MW1	35	15	98.51	5/31/12 (pre-AFVR)	22.06	27.26	5.20	75.15
				6/1/12 (immediately post-AFVR)	22.13	27.33	5.20	75.08
				6/1/12 (20 minutes post-AFVR)	22.13	27.33	5.20	75.08
12175-MW5	29	10	98.05	5/31/12 (pre-AFVR)	21.68	26.32	4.64	75.21
				6/1/12 (immediately post-AFVR)	21.75	26.27	4.52	75.17
				6/1/12 (20 minutes post-AFVR)	21.75	26.27	4.52	75.17
12175-MW19	28	10	100.01	5/31/12 (pre-AFVR)	23.80	27.74	3.94	75.23
				6/1/12 (immediately post-AFVR)	23.87	27.75	3.88	75.17
				6/1/12 (20 minutes post-AFVR)	23.87	27.74	3.87	75.17
12175-MW24	30	10	100.23	5/31/12 (pre-AFVR)	--	25.13	--	75.10
				6/1/12 (immediately post-AFVR)	--	25.18	--	75.05
				6/1/12 (20 minutes post-AFVR)	--	25.20	--	75.03
12175-MW25	30	10	99.95	5/31/12 (pre-AFVR)	23.60	28.84	5.24	75.04
				6/1/12 (immediately post-AFVR)	23.65	28.73	5.08	75.03
				6/1/12 (20 minutes post-AFVR)	23.65	28.74	5.09	75.03
12175-MW26	30	10	99.89	5/31/12 (pre-AFVR)	--	25.97	--	73.92
				6/1/12 (immediately post-AFVR)	--	25.96	--	73.93
				6/1/12 (20 minutes post-AFVR)	--	25.96	--	73.93
12175-MW5	29	10	98.05	6/13/12 (pre-AFVR)	21.72	26.43	4.71	75.15
				6/14/12 (immediately post-AFVR)	--	26.35	--	71.70
				6/14/12 (20 minutes post-AFVR)	24.32	24.67	0.35	73.64
12175-MW1	35	15	98.51	6/13/12 (pre-AFVR)	22.13	27.56	5.43	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	22.13	27.58	5.45	75.02
12175-MW2	34	15	100.42	6/13/12 (pre-AFVR)	25.21	25.82	0.61	75.06
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	25.21	25.82	0.61	75.06
12175-MW3	34	15	100.44	6/13/12 (pre-AFVR)	--	25.28	--	75.16
				6/14/12 (immediately post-AFVR)	--	25.30	--	75.14
				6/14/12 (20 minutes post-AFVR)	--	25.30	--	75.14
12175-MW4	29	10	98.61	6/13/12 (pre-AFVR)	22.59	27.09	4.50	74.90
				6/14/12 (immediately post-AFVR)	22.61	27.11	4.50	74.88
				6/14/12 (20 minutes post-AFVR)	22.61	27.11	4.50	74.88
12175-MW6	29	10	99.82	6/13/12 (pre-AFVR)	--	24.67	--	75.15
				6/14/12 (immediately post-AFVR)	--	24.75	--	75.07
				6/14/12 (20 minutes post-AFVR)	--	24.73	--	75.09
12175-MW19	28	10	100.01	6/13/12 (pre-AFVR)	23.86	27.74	3.88	75.18
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.88	27.79	3.91	75.15



**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW24	30	10	100.23	6/13/12 (pre-AFVR)	--	25.18	--	75.05
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	25.22	--	75.01
12175-MW25	30	10	99.95	6/13/12 (pre-AFVR)	23.67	28.71	5.04	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.68	28.71	5.03	75.01
12175-MW26	30	10	99.89	6/13/12 (pre-AFVR)	--	26.00	--	73.89
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW19	28	10	100.01	6/28/12 (pre-AFVR)	23.87	27.75	3.88	75.17
				6/29/12 (immediately post-AFVR)	--	27.21	--	72.80
				6/29/12 (20 minutes post-AFVR)	25.38	25.70	0.32	74.55
12175-MW1	35	15	98.51	6/28/12 (pre-AFVR)	22.16	27.38	5.22	75.05
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	22.17	27.38	5.21	75.04
12175-MW2	34	15	100.42	6/28/12 (pre-AFVR)	25.19	25.94	0.75	75.04
				6/29/12 (immediately post-AFVR)	25.24	25.99	0.75	74.99
				6/29/12 (20 minutes post-AFVR)	25.22	25.97	0.75	75.01
12175-MW5	29	10	98.05	6/28/12 (pre-AFVR)	21.95	25.94	3.99	75.10
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	21.95	25.94	3.99	75.10
12175-MW24	30	10	100.23	6/28/12 (pre-AFVR)	--	25.19	--	75.04
				6/29/12 (immediately post-AFVR)	--	25.23	--	75.00
				6/29/12 (20 minutes post-AFVR)	--	25.27	--	74.96
12175-MW25	30	10	99.95	6/28/12 (pre-AFVR)	23.68	28.70	5.02	75.02
				6/29/12 (immediately post-AFVR)	23.74	28.76	5.02	74.96
				6/29/12 (20 minutes post-AFVR)	23.77	28.79	5.02	74.93
12175-MW26	30	10	99.89	6/28/12 (pre-AFVR)	--	25.98	--	73.91
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW1	35	15	98.51	7/30/2012 (gauging event)	22.44	27.95	5.51	74.69
12175-MW2	34	15	100.42	7/30/2012 (gauging event)	25.47	26.25	0.78	74.76
12175-MW5	29	10	98.05	7/30/2012 (gauging event)	22.17	26.71	4.54	74.75
12175-MW19	28	10	100.01	7/30/2012 (gauging event)	24.24	27.94	3.70	74.85
12175-MW24	30	10	100.23	7/30/2012 (gauging event)	--	25.50	--	74.73
12175-MW25	30	10	99.95	7/30/2012 (gauging event)	23.96	29.04	5.08	74.72
12175-MW26	30	10	99.89	7/30/2012 (gauging event)	--	26.28	--	73.61
12175-MW2	34	15	100.42	2/9/13 (pre-AFVR)	26.27	27.30	1.03	73.89
				2/10/13 (immediately post-AFVR)	--	27.20	--	73.22
				2/10/13 (20 minutes post-AFVR)	--	27.25	--	73.17
12175-MW19	28	10	100.01	2/9/13 (pre-AFVR)	25.19	27.92	2.73	74.14
				2/10/13 (immediately post-AFVR)	--	27.05	--	72.96
				2/10/13 (20 minutes post-AFVR)	26.70	26.80	0.10	73.29

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW25	30	10	99.95	2/9/13 (pre-AFVR)	24.92	29.61	4.69	73.86
				2/10/13 (immediately post-AFVR)	--	27.83	--	72.12
				2/10/13 (20 minutes post-AFVR)	--	26.41	--	73.54
12175-MW4	29	10	98.61	2/9/13 (pre-AFVR)	23.90	28.85	4.95	73.47
				2/10/13 (immediately post-AFVR)	24.06	28.23	4.17	73.51
				2/10/13 (20 minutes post-AFVR)	24.06	28.21	4.15	73.51
12175-MW24	30	10	100.23	2/9/13 (pre-AFVR)	--	26.35	--	73.88
				2/10/13 (immediately post-AFVR)	--	26.54	--	73.69
				2/10/13 (20 minutes post-AFVR)	--	26.57	--	73.66
12175-MW26	30	10	99.89	2/9/13 (pre-AFVR)	--	27.06	--	72.83
				2/10/13 (immediately post-AFVR)	--	27.11	--	72.78
				2/10/13 (20 minutes post-AFVR)	--	27.12	--	72.77
12175-MW1	35	15	98.51	2/10/13 (pre-AFVR)	23.47	28.71	5.24	73.73
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	24.63	25.23	0.60	73.73
12175-MW4	29	10	98.61	2/10/13 (pre-AFVR)	24.06	28.23	4.17	73.51
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	25.11	25.17	0.06	73.49
12175-MW5	29	10	98.05	2/10/13 (pre-AFVR)	23.06	27.80	4.74	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	23.88	23.89	0.01	74.17
12175-MW3	34	15	100.44	2/10/13 (pre-AFVR)	--	26.56	--	73.88
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.56	--	73.88
12175-MW6	29	10	99.82	2/10/13 (pre-AFVR)	--	26.01	--	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.03	--	73.79
12175-MW15	27	10	98.47	2/10/13 (pre-AFVR)	--	25.24	--	73.23
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	25.23	--	73.24
12175-MW1	35	15	98.51	3/12/2013 (gauging event)	22.42	27.00	4.58	74.95
12175-MW2	34	15	100.42	3/12/2013 (gauging event)	25.53	25.56	0.03	74.88
12175-MW4	29	10	98.61	3/12/2013 (gauging event)	23.82	24.12	0.30	74.72
12175-MW5	29	10	98.05	3/12/2013 (gauging event)	22.65	24.35	1.70	74.98
12175-MW19	28	10	100.01	3/12/2013 (gauging event)	24.53	27.95	3.42	74.63
12175-MW24	30	10	100.23	3/12/2013 (gauging event)	--	25.37	--	74.86
12175-MW25	30	10	99.95	3/12/2013 (gauging event)	24.18	28.02	3.84	74.81
12175-MW26	30	10	99.89	3/12/2013 (gauging event)	--	26.01	--	73.88

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW1	30	10	98.05	6/5/13 (pre-AFVR)	21.34	22.02	0.68	76.54
				6/6/13 (immediately post-AFVR)	--	23.07	--	74.98
				6/6/13 (20 minutes post-AFVR)	22.93	22.98	0.05	75.11
12175-MW3	34	15	100.44	6/5/13 (pre-AFVR)	--	23.90	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.95	--	76.49
				6/6/13 (20 minutes post-AFVR)	--	23.95	--	76.49
12175-MW4	29	10	98.61	6/5/13 (pre-AFVR)	22.02	23.50	1.48	76.22
				6/6/13 (immediately post-AFVR)	22.09	23.65	1.56	76.13
				6/6/13 (20 minutes post-AFVR)	22.10	23.62	1.52	76.13
12175-MW6	29	10	99.82	6/5/13 (pre-AFVR)	--	23.28	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.47	--	76.35
				6/6/13 (20 minutes post-AFVR)	--	23.48	--	76.34
12175-RW2	30	10	100.05	6/20/13 (pre-AFVR)	22.64	25.92	3.28	76.59
				6/21/13 (immediately post-AFVR)	--	26.90	--	73.15
				6/21/13 (20 minutes post-AFVR)	25.44	25.57	0.13	74.58
12175-MW19	28	10	100.01	6/20/13 (pre-AFVR)	22.85	25.89	3.04	76.40
				6/21/13 (immediately post-AFVR)	23.04	26.02	2.98	76.23
				6/21/13 (20 minutes post-AFVR)	23.15	26.13	2.98	76.12
12175-MW24	30	10	100.23	6/20/13 (pre-AFVR)	--	23.60	--	76.63
				6/21/13 (immediately post-AFVR)	--	23.68	--	76.55
				6/21/13 (20 minutes post-AFVR)	--	23.72	--	76.51
12175-MW25	30	10	99.95	6/20/13 (pre-AFVR)	22.55	25.80	3.25	76.59
				6/21/13 (immediately post-AFVR)	23.86	23.89	0.03	76.08
				6/21/13 (20 minutes post-AFVR)	23.78	23.82	0.04	76.16
12175-RW3	30	10	100.16	7/15/13 (pre-AFVR)	--	22.91	--	77.25
				7/16/13 (immediately post-AFVR)	--	24.52	--	75.64
				7/16/13 (20 minutes post-AFVR)	--	24.28	--	75.88
12175-MW18	28	10	101.51	7/15/13 (pre-AFVR)	--	24.12	--	77.39
				7/16/13 (immediately post-AFVR)	--	24.16	--	77.35
				7/16/13 (20 minutes post-AFVR)	--	24.15	--	77.36
12175-MW24	30	10	100.23	7/15/13 (pre-AFVR)	--	23.01	--	77.22
				7/16/13 (immediately post-AFVR)	--	23.27	--	76.96
				7/16/13 (20 minutes post-AFVR)	--	23.27	--	76.96
12175-MW25	30	10	99.95	7/15/13 (pre-AFVR)	22.14	24.64	2.50	77.19
				7/16/13 (immediately post-AFVR)	22.23	25.02	2.79	77.02
				7/16/13 (20 minutes post-AFVR)	22.23	24.97	2.74	77.04

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW1	30	10	98.05	11/4/13 (pre-AFVR)	20.05	21.15	1.10	77.73
				11/5/13 (immediately post-AFVR)	--	24.02	--	74.03
				11/5/13 (20 minutes post-AFVR)	--	22.71	--	75.34
12175-MW3	34	15	100.44	11/4/13 (pre-AFVR)	--	22.56	--	77.88
				11/5/13 (immediately post-AFVR)	--	22.64	--	77.80
				11/5/13 (20 minutes post-AFVR)	--	22.66	--	77.78
12175-MW4	29	10	98.61	11/4/13 (pre-AFVR)	20.85	22.04	1.19	77.46
				11/5/13 (immediately post-AFVR)	20.94	22.15	1.21	77.37
				11/5/13 (20 minutes post-AFVR)	20.93	22.14	1.21	77.38
12175-MW6	29	10	99.82	11/4/13 (pre-AFVR)	--	21.93	--	77.89
				11/5/13 (immediately post-AFVR)	--	22.16	--	77.66
				11/5/13 (20 minutes post-AFVR)	--	22.15	--	77.67
12175-RW2	30	10	100.05	11/18/13 (pre-AFVR)	21.68	25.22	3.54	77.49
				11/19/13 (immediately post-AFVR)	--	25.82	--	74.23
				11/19/13 (20 minutes post-AFVR)	24.57	24.72	0.15	75.44
12175-MW19	28	10	100.01	11/18/13 (pre-AFVR)	22.22	24.23	2.01	77.29
				11/19/13 (immediately post-AFVR)	22.11	24.20	2.09	77.38
				11/19/13 (20 minutes post-AFVR)	22.56	24.72	2.16	76.91
12175-MW24	30	10	100.23	11/18/13 (pre-AFVR)	--	22.71	--	77.52
				11/19/13 (immediately post-AFVR)	--	22.86	--	77.37
				11/19/13 (20 minutes post-AFVR)	--	22.88	--	77.35
12175-MW25	30	10	99.95	11/18/13 (pre-AFVR)	21.44	25.05	3.61	77.61
				11/19/13 (immediately post-AFVR)	22.36	23.38	1.02	77.34
				11/19/13 (20 minutes post-AFVR)	22.70	23.41	0.71	77.07
12175-MW17	28	10	101.09	12/9/13 (pre-AFVR)	23.18	25.17	1.99	77.41
				12/10/13 (immediately post-AFVR)	--	25.69	--	75.40
				12/10/13 (20 minutes post-AFVR)	--	24.13	--	76.96
12175-MW11	31	10	101.65	12/9/13 (pre-AFVR)	--	24.25	--	77.40
				12/10/13 (immediately post-AFVR)	--	24.30	--	77.35
				12/10/13 (20 minutes post-AFVR)	--	24.32	--	77.33
12175-MW23	31	10	102.29	12/9/13 (pre-AFVR)	--	24.97	--	77.32
				12/10/13 (immediately post-AFVR)	--	24.97	--	77.32
				12/10/13 (20 minutes post-AFVR)	--	24.97	--	77.32
12175-RW2	30	10	100.05	12/9/13 (pre-AFVR)	--	22.65	--	77.40
				12/10/13 (immediately post-AFVR)	--	22.68	--	77.37
				12/10/13 (20 minutes post-AFVR)	--	22.67	--	77.38
12175-RW2	30	10	100.05	5/27/14 (pre-AFVR)	19.33	21.70	2.37	80.13
12175-MW2	34	15	100.42	5/27/14 (pre-AFVR)	20.12	20.69	0.57	80.16
12175-MW6	29	10	99.82	5/27/14 (pre-AFVR)	--	19.41	--	80.41
12175-MW24	30	10	100.23	5/27/14 (pre-AFVR)	--	20.14	--	80.09

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	6/2/14 (pre-AFVR)	19.71	20.32	0.61	80.19
				6/6/14 (immediately post-AFVR)	--	24.30	--	75.75
				6/6/14 (20 minutes post-AFVR)	--	22.91	--	77.14
12175-MW2	34	15	100.42	6/2/14 (pre-AFVR)	20.10	20.61	0.51	80.19
				6/6/14 (immediately post-AFVR)	20.29	20.93	0.64	79.97
				6/6/14 (20 minutes post-AFVR)	20.29	20.94	0.65	79.97
12175-MW6	29	10	99.82	6/2/14 (pre-AFVR)	--	19.37	--	80.45
				6/6/14 (immediately post-AFVR)	--	19.67	--	80.15
				6/6/14 (20 minutes post-AFVR)	--	19.67	--	80.15
12175-MW24	30	10	100.23	6/2/14 (pre-AFVR)	--	20.07	--	80.16
				6/6/14 (immediately post-AFVR)	--	20.28	--	79.95
				6/6/14 (20 minutes post-AFVR)	--	20.20	--	80.03
12175-MW26	30	10	99.89	6/2/14 (pre-AFVR)	NM	NM	NM	NM
				6/6/14 (immediately post-AFVR)	--	20.76	--	79.13
				6/6/14 (20 minutes post-AFVR)	--	20.78	--	79.11
12175-RW1	30	10	98.05	6/16/14 (pre-AFVR)	17.65	17.67	0.02	80.40
				6/20/14 (immediately post-AFVR)	--	22.29	--	75.76
				6/20/14 (20 minutes post-AFVR)	--	21.00	--	77.05
12175-MW3	34	15	100.44	6/16/14 (pre-AFVR)	--	20.10	--	80.34
				6/20/14 (immediately post-AFVR)	--	20.24	--	80.20
				6/20/14 (20 minutes post-AFVR)	--	20.24	--	80.20
12175-MW6	29	10	99.82	6/16/14 (pre-AFVR)	--	19.48	--	80.34
				6/20/14 (immediately post-AFVR)	--	19.79	--	80.03
				6/20/14 (20 minutes post-AFVR)	--	19.79	--	80.03
12175-MW15	27	10	98.47	6/16/14 (pre-AFVR)	--	18.19	--	80.28
				6/20/14 (immediately post-AFVR)	--	18.16	--	80.31
				6/20/14 (20 minutes post-AFVR)	--	18.15	--	80.32

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	1/4/16 (Pre-AFVR)	17.25	20.80	3.55	75.05
				1/8/16 (immediately post-AFVR)	--	24.75	--	73.76
				1/8/16 (20 minutes post-AFVR)	--	21.56	--	76.95
12175-MW4	29	10	98.61	1/4/16 (Pre-AFVR)	18.25	18.55	0.30	79.84
				1/8/16 (immediately post-AFVR)	--	25.14	--	73.47
				1/8/16 (20 minutes post-AFVR)	--	20.66	--	77.95
12175-MW5	29	10	98.05	1/4/16 (Pre-AFVR)	17.40	17.70	0.30	80.13
				1/8/16 (immediately post-AFVR)	--	22.90	--	75.15
				1/8/16 (20 minutes post-AFVR)	--	21.61	--	76.44
12175-RW1	30	10	98.05	1/4/16 (Pre-AFVR)	--	17.51	--	80.54
				1/8/16 (immediately post-AFVR)	--	21.15	--	76.90
				1/8/16 (20 minutes post-AFVR)	--	21.50	--	76.55
12175-MW18	28	10	101.51	1/4/16 (Pre-AFVR)	--	19.91	--	81.60
				1/8/16 (immediately post-AFVR)	--	21.40	--	80.11
				1/8/16 (20 minutes post-AFVR)	--	21.39	--	80.12
12175-MW15	27	10	98.47	1/4/16 (Pre-AFVR)	--	21.30	--	77.17
				1/8/16 (immediately post-AFVR)	--	17.55	--	80.92
				1/8/16 (20 minutes post-AFVR)	--	17.55	--	80.92
12175-MW3	34	15	100.44	1/4/16 (Pre-AFVR)	--	17.45	--	82.99
				1/8/16 (immediately post-AFVR)	--	20.20	--	80.24
				1/8/16 (20 minutes post-AFVR)	--	20.20	--	80.24
12175-MW2	34	15	100.42	1/11/16 (Pre-AFVR)	20.22	20.89	0.67	79.03
				1/15/16 (immediately post-AFVR)	--	20.04	--	80.38
				1/15/16 (20 minutes post -AFVR)	--	20.60	--	79.82
12175-MW19	28	10	100.01	1/11/16 (Pre-AFVR)	19.96	20.41	0.45	79.26
				1/15/16 (immediately post-AFVR)	--	22.51	--	77.50
				1/15/16 (20 minutes post -AFVR)	--	20.92	--	79.09
12175-MW25	30	10	99.95	1/11/16 (Pre-AFVR)	19.18	22.11	2.93	75.64
				1/15/16 (immediately post-AFVR)	--	22.00	--	77.95
				1/15/16 (20 minutes post -AFVR)	--	20.74	--	79.21
12175-RW2	30	10	100.05	1/11/16 (Pre-AFVR)	19.10	22.35	3.25	74.75
				1/15/16 (immediately post-AFVR)	--	21.65	--	78.40
				1/15/16 (20 minutes post -AFVR)	21.90	22.20	0.30	77.63
12175-RW3	30	10	100.16	1/11/16 (Pre-AFVR)	--	20.08	--	80.08
				1/15/16 (immediately post-AFVR)	--	19.57	--	80.59
				1/15/16 (20 minutes post -AFVR)	--	20.19	--	79.97
12175-MW18	28	10	101.51	1/11/16 (Pre-AFVR)	--	21.40	--	80.11
				1/15/16 (immediately post-AFVR)	--	21.42	--	80.09
				1/15/16 (20 minutes post -AFVR)	--	21.41	--	80.10
12175-MW3	34	15	100.44	1/11/16 (Pre-AFVR)	--	20.05	--	80.39
				1/15/16 (immediately post-AFVR)	--	20.05	--	80.39
				1/15/16 (20 minutes post -AFVR)	--	20.04	--	80.40

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	8/21/17 (Pre-AFVR)	20.34	24.71	4.37	78.62
				8/25/17 (immediately post-AFVR)	--	26.38	--	73.67
				8/25/17 (20 minutes post -AFVR)	--	24.35	--	75.70
12175-MW18	28	10	101.51	8/21/17 (Pre-AFVR)	--	23.10	--	78.41
				8/25/17 (immediately post-AFVR)	--	23.27	--	78.24
				8/25/17 (20 minutes post -AFVR)	--	23.27	--	78.24
12175-MW26	30	10	99.89	8/21/17 (Pre-AFVR)	--	22.24	--	77.65
				8/25/17 (immediately post-AFVR)	--	22.45	--	77.44
				8/25/17 (20 minutes post -AFVR)	--	22.45	--	77.44
12175-MW2	34	15	100.42	1/8/18 (Pre-AFVR)	22.95	25.40	2.45	76.86
				1/12/18 (immediately post-AFVR)	--	25.90	--	74.52
				1/12/18 (20 minutes post -AFVR)	--	24.35	--	76.07
12175-MW25	30	10	99.95	1/8/18 (Pre-AFVR)	21.81	26.38	4.57	77.00
				1/12/18 (immediately post-AFVR)	--	26.20	--	73.75
				1/12/18 (20 minutes post -AFVR)	--	23.90	--	76.05
12175-RW2	30	10	100.05	1/8/18 (Pre-AFVR)	21.90	26.35	4.45	77.04
				1/12/18 (immediately post-AFVR)	--	25.80	--	74.25
				1/12/18 (20 minutes post -AFVR)	25.05	25.25	0.20	74.95
12175-MW1	35	15	98.51	1/15/18 (Pre-AFVR)	20.55	25.50	4.95	76.72
				1/19/18 (immediately post-AFVR)	21.35	23.32	1.97	76.67
				1/19/18 (20 minutes post-AFVR)	22.22	23.77	1.55	75.90
12175-RW1	30	10	98.05	1/15/18 (Pre-AFVR)	20.67	22.81	2.14	76.85
				1/19/18 (immediately post-AFVR)	--	22.07		75.98
				1/19/18 (20 minutes post-AFVR)	22.06	22.25	0.19	75.94

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free product, where present, with an assumed density of 0.75 g/cm<sup>3</sup>.

Well depths and screened intervals based on well construction records referencing ground surface.

Depths to fluid measured referencing top of casing as measuring point.

NM - not measured.

"--" free phase petroleum product was not detected.



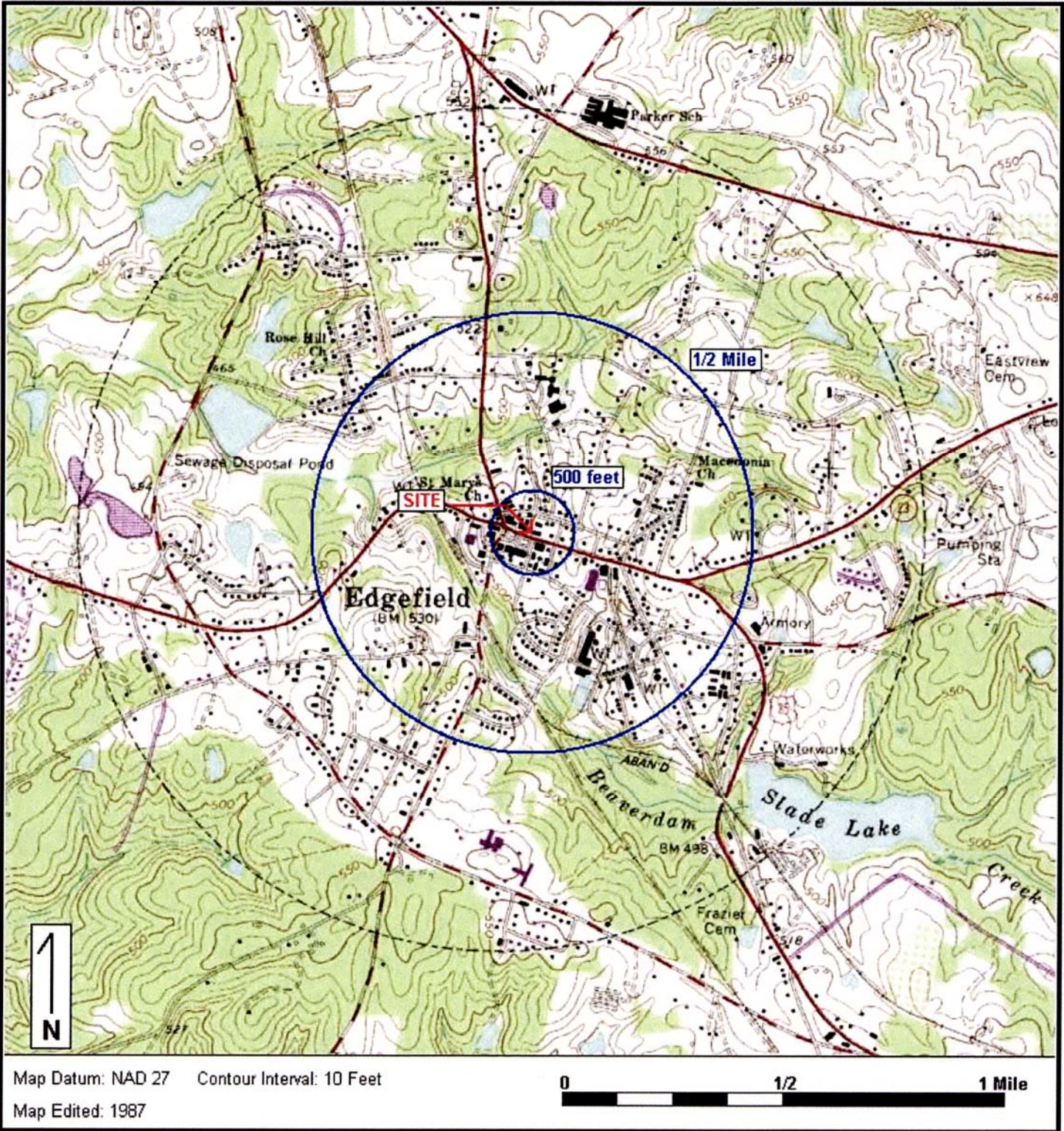
## FIGURES

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Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

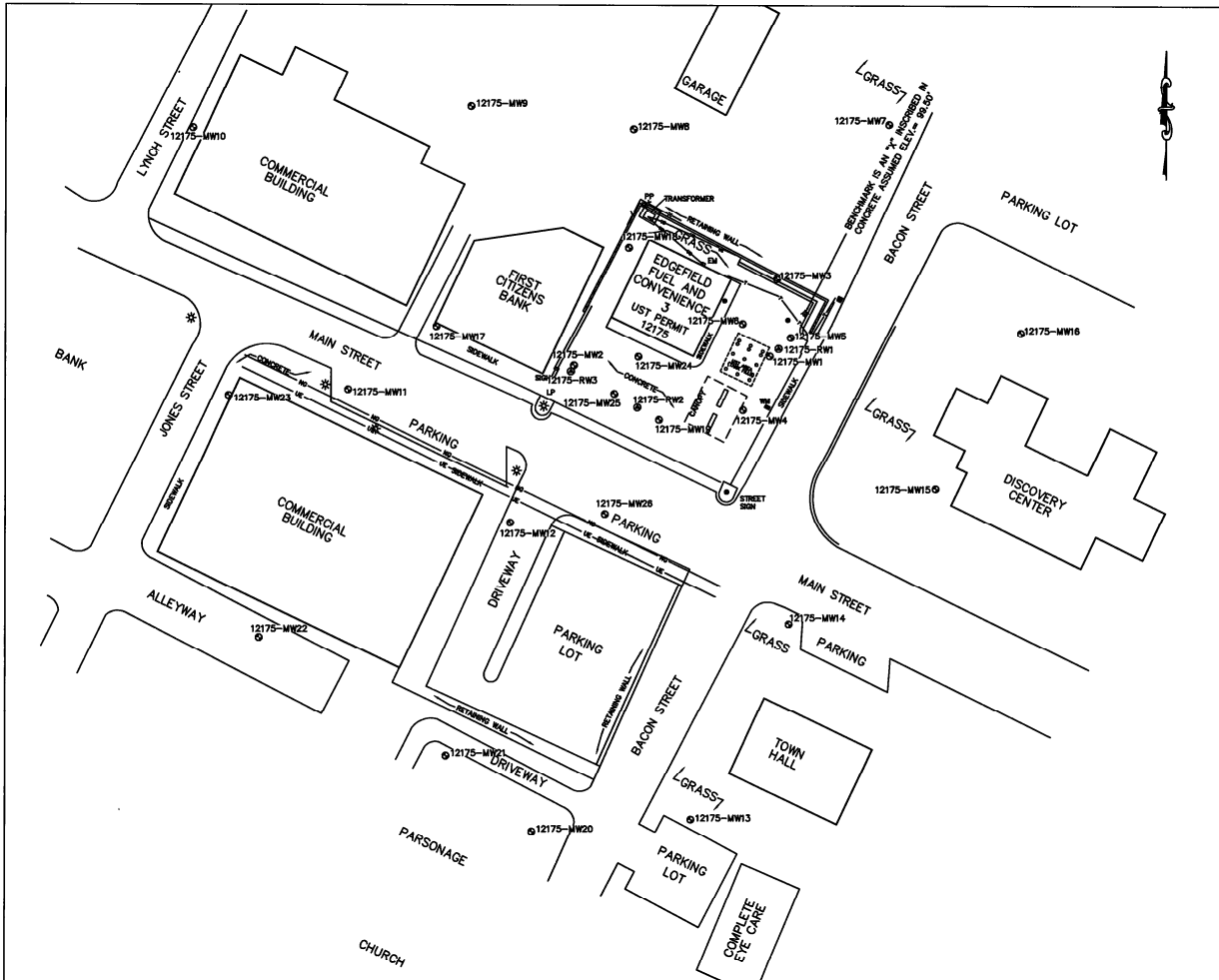
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC  
Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH  
Generated By: Kevin Collins







**Legend**

- UE— Underground Electric Line
- X— Wood Fence Line
- T— Underground Telephone Line
- ⊙ Sanitary Sewer Clean Out
- ⊙ Grate Top Drop Inlet
- ⊙ Light Pole
- ⊙ Light Pole
- 12175-MW1 ⊙ Shallow (Water Table) Monitoring Well
- 12175-RW1 ⊙ Recovery Well

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.



7808 Whitehall Executive Center Drive, Suite 200  
Charlotte, NC 28215  
Phone: (704)368-8711 Fax: (704)368-8744

**PROJECT:**  
Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, South Carolina

**TITLE:**  
Site Plan

**CLIENT:**  
Edgefield Fuel & Convenience, LLC

DESIGNED BY	CHECKED BY	DATE	SCALE
RH	KDP	1/27/15	1"=50'
AV	DM	14-211631	2

**APPENDIX G**

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**Disposal Manifest and Weight Tickets**

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.
Page <u>1</u> of <u>1</u>
Zebra Job No. <u>80026</u>

## GENERATOR INFORMATION

Name <u>Joel Jolly - Edgefield Fuel &amp; Convenience LLC</u>	US EPA ID No.
Street Address <u>311 Rainier Edgefield SC</u>	Mailing Address
	Phone No. <u>803-209-5322</u>
	Contact <u>Henry</u>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers		Total Quantity	Unit Wt./Vol.
					Qty.	Type		
a.	<u>NON HAZ LIQUID</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>1</u>	<u>TI</u>	<u>5344</u>	<u>G</u>
b.								
c.								

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <u>Brigitte Peay Edgefield Fuel &amp; Convenience LLC</u>	Signature <u>[Signature]</u>	Mo. / Day / Yr. <u>1 / 11 / 18</u>
---	---------------------------------	---------------------------------------

## TRANSPORTER INFORMATION

Transporter <u>Zebra Environmental &amp; Industrial Services Inc</u>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <u>901 East Springfield Road High Point, NC 27263</u>	Signature <u>[Signature]</u>	Shipment Date <u>1-11-18</u>
Transporter or EPA ID No. <u>NCO991302669</u>	Unit No. <u>A-4/T-10</u>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone <u>(336) 841-5276</u>	Signature <u>[Signature]</u>	Delivery Date <u>1/11/18</u>

## FACILITY INFORMATION

Facility <u>Zebra Environmental &amp; Industrial Services, Inc.</u>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <u>901 East Springfield Road High Point, NC 27263</u>	Signature <u>[Signature]</u>	Receipt Date <u>1/11/18</u>
Facility or EPA ID No. <u>NCO991302669</u>	Discrepancies / Routing Codes / Handling Methods	
Phone <u>(336) 841-5276</u>	a.	
Contact <u>David Tedder</u>	b.	
	c.	

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facia evidence of the accuracy of the weight shown as prescribed by law.

Jan 11 2018

Ticket : 1007  
Cust. Name: ZEBRA

Truck ID: RT4  
Trailer ID: T10  
Weigh Fee:

Quiktrip 1044  
2790 Lane St  
Kannapolis, NC 28083

Axle 1 : 9380 lb  
Axle 2 : 15320 lb  
Axle 3 : 11280 lb  
Total : 35980 lb



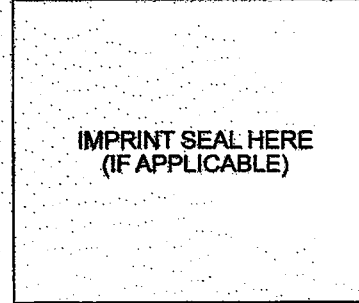
NORTH CAROLINA  
PUBLIC WEIGHMASTER  
LICENSE EXPIRES JUNE 30, 2018  
COREY ALVERSON 41656

WEIGHMASTER OR  
WEIGHER SIGNATURE

*[Handwritten Signature]*  
**INVALID UNLESS SIGNED**

DRIVER IN TRUCK UNLESS CHECKED HERE: \_\_\_\_\_

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE



IMPRINT SEAL HERE  
(IF APPLICABLE)

FULL WEIGH  
TICKET # \_\_\_\_\_  
(IF REWEIGH)



33399591

TICKET NUMBER



# CERTIFIED AUTOMATED TRUCK SCALE

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

### THE CAT SCALE GUARANTEE

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

### WEIGH WHAT WE SAY OR WE PAY®

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong. **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE:

1-11-18

STEER AXLE

9920 lb

DRIVE AXLE

36320 lb

TRAILER AXLE

34200 lb

\* GROSS WEIGHT

80440 lb

14:48

SCALE:

1709

LOCATION:

LOVES

33399591

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

I 85 EXIT 71

SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

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

COMPANY: ZERRA

TRACTOR #:

TRAILER #:

WEIGH NUMBER

9591

FEE

\$11.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

SONYA VAN CAMP

TICKET # OF  
FULL'S WEIGH  
(IF REWEIGH)

OWNER COPY

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

# MATERIAL MANIFEST



Manifest Document No.	
Page 1	of 1
Zebra Job No. 80026	

EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

## GENERATOR INFORMATION

Name <i>Jool Jolly-Edgefield Fuel</i>		US EPA ID No.
Street Address <i>311 Main St. Edgefield S.C. 29824</i>	Mailing Address	Phone No. <i>803-209-5322</i>
		Contact <i>Brian</i>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	<i>NON-Reg. liquids (MOS)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>1</i>	<i>T T</i>	<i>3189</i>	<i>G</i>
b.								
c.								

ADDITIONAL INFORMATION	ERG No.	Zebra Profile Code	Facility Use
a. <i>Call your Petroleum Contact for more</i>			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
		<i>1</i>

## TRANSPORTER INFORMATION

Transporter <i>Zebra Environmental &amp; Industrial Services Inc</i>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <i>901 East Springfield Road High Point, NC 27263</i>	Signature <i>Michael</i>	Shipment Date <i>1-12-2018</i>
Transporter or EPA ID No. <i>NCO991302669</i>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <i>PI-8 T-2</i>	Signature <i>Michael Parker</i>	Delivery Date <i>1-12-2018</i>
Phone <i>(336) 841-5276</i>		

## FACILITY INFORMATION

Facility <i>Zebra Environmental &amp; Industrial Services, Inc.</i>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <i>901 East Springfield Road High Point, NC 27263</i>	Signature <i>David Tedder</i>	Receipt Date <i>1/12/18</i>
Facility or EPA ID No. <i>NCO991302669</i>	Discrepancies / Routing Codes / Handling Methods	
Phone <i>(336) 841-5276</i>	a.	
Contact <i>David Tedder</i>	b.	
	c.	

84907588

TICKET NUMBER



CERTIFIED  
AUTOMATED  
TRUCK  
SCALE

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

WEIGHMYTRUCK.COM

WEIGH USING

YOUR  
PHONE!

\* The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE:

4-04-2016

STEER AXLE

12380 1b

DRIVE AXLE

12280 1b

TRAILER AXLE

7060 1b

\* GROSS WEIGHT

31720 1b

SCALE

1130

LOCATION:

84907588  
PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

966

WILCOHESS

I 74/I 73

CANDOR NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

*Empty #60664 ECS*

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

~~FREIGHT ALL KINDS~~

COMPANY ZEBRA

TRACTOR # RTA TRAILER # T2

FEE

\$10.50

WEIGHMASTER OR  
WEIGHER SIGNATURE

*Tiffany Tanner*  
TIFFANY TANNER

FULL WEIGH  
TICKET #  
(IF REWEIGH)



33474080

TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

DATE:

1-12-2018

1440

SCALE:

756

33474080

LOCATION:

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

PILOT TRAVEL CENTER  
10959 ST HWY 200  
GREAT FALLS SC

STEER AXLE

12420 1b

DRIVE AXLE

22560 1b

TRAILER AXLE

22520 1b

GROSS WEIGHT

57500 1b

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#80026 ATC

IMPRINT SEAL HERE  
(IF APPLICABLE)

WEIGH NUMBER  
4080

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEBRA ENVIRONMENTAL

TRACTOR # RT8

TRAILER # T2

FEE \$11.00 WEIGHMASTER OR  
WEIGHER SIGNATURE

TERRY SMOOT

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

© CAT Scale® Reg 3063/10/

CUSTOMER COPY

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.

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

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

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	0001
Page	1 of 1
Zebra Job No.	80076

## GENERATOR INFORMATION

Name <b>ATC</b>	US EPA ID No.
Street Address <b>311 main st Edgewood SC</b>	Mailing Address
	Phone No. <b>903-209-5322</b>
	Contact <b>Chris E. Byron</b>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	Non-Haz liquids	—	—	—	1	TT	4960	gal
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
----------------------	-----------	-----------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>Chris E. Byron</i>	1-20-18 Shipment Date
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <b>876 7-2</b>	Signature <i>David Tedder</i>	1/20/18 Delivery Date
Phone <b>(336) 841-5276</b>		

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>David Tedder</i>	1/20/18 Receipt Date
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a. 4,179 gallons by Ceresys	
Contact <b>David Tedder</b>	b.	
	c.	



33123008  
TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

713 SCALE:  
33123008 LOCATION:  
PUBLIC WEIGHMASTERS  
CERTIFICATE OF  
WEIGHT & MEASURE

DATE:

1-08-2018

95  
BILLS TRUCK STOP  
I-85 EXIT 86  
LINWOOD NC

STEER AXLE

10020 lb

DRIVE AXLE

12140 lb

TRAILER AXLE

7280 lb

GROSS WEIGHT

29440 lb

\* The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

FREIGHT ALL KINDS

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED:

ZEBRA

TRACTOR # RT6

TRAILER # T2

COMPANY

TRACTOR #

TRAILER #

WEIGH NUMBER

3008

FEE \$11.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

JOHNNY W

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

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

34112892  
TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**  
The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

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

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DATE:	1-20-2018	STEER AXLE	9900	LB
SCALE:	1505	DRIVE AXLE	26580	LB
LOCATION:	FLYING PILOT	TRAILER AXLE	27840	LB
	177 HWY 901 EXIT 23	GROSS WEIGHT	64820	LB
	ROCK HILL SC			

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

21  
112892  
PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEE RA

TRACTOR # RT6

TRAILER # T2

NUMBER 92

FEE \$11.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

VICTORIA STEPHEN

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

CUSTOMER COPY

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



## **APPENDIX K**

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### **Data Verification Checklist**

### Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			✓
34	Has the current and historical laboratory data been provided in tabular format?			✓
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			✓
40	Has the site potentiometric map been provided? (Figure 5)			✓
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)			✓
45	Is the laboratory performing the analyses properly certified?			✓
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		



## **APPENDIX L**

---

**Aggressive Fluid Vapor Recovery Event Data  
Including Before & After Data; Field  
Data Sheets; Air Flow Calculations;  
Pre-Treatment Emission Calculations;  
Post-Treatment Emission Calculations**

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>EFC#3</u>	UST Permit No:	<u>012175</u>
Project No:	<u>EDGEFC300</u>	ATC Field Rep. 1:	<u>H Wells</u>
Start Date:	<u>1/8/2018</u>	ATC Field Rep. 2:	<u>B. Peay</u>
End Date:	<u>1/12/2018</u>		

**AFVR Measurements Prior to and After Event**

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>	
Water Tank Storage Capacity:	<u>9,600</u>	gallons
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches
Is Tank Empty & Clean (Y/N)	<u>Y</u>	

**Measurements Before AFVR Event** **1/8/2018**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>0</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

**Measurements After AFVR Event** **1/12/2018**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>3,355</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
<b>12175-MW2</b>	22.95	25.40	NP	25.90	NP	24.35
<b>12175-MW25</b>	21.81	26.38	NP	26.20	NP	23.90
<b>12175-RW2</b>	21.90	26.35	NP	25.80	25.05	25.25
<b>12175-MW18</b>	NP	24.35	NP	24.88	NP	24.88
<b>12175-MW24</b>	NP	23.25	NP	23.82	NP	23.8

NP denotes no measurable free product.

NM denotes not measured.

Project EFC#3  
 Project EDGEEFC300  
 Date: 8/21-8/25 2017

**APPENDIX L  
 AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
 AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 012175  
 ATC Field Rep. 1: H Wells  
 ATC Field Rep. 2: B. Peay

Elapsed Time (Hours)	Blowdown Interval (Mins)	Measurements During 98-hr AFVR Event																		
		Date & Time	Stack Outlet			TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells						Non-AFVR Wells				#REFI	
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-MW2		12175-MW25		12175-RW2		12175-MW18		12175-MW24			
									Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)		
		1/8/18 11:45	← Start time																	
1 hr	30	1/8/18 12:15	698	87.20	26.70	1,157	2.0	21.0	5.0	22.95	7.0	21.81	4.0	21.90	24.35	0.0	23.25	0.0		
	30	1/8/18 12:45	612	68.30	27.30	2,020	0.0	21.0	5.0	23.45	7.0	22.31	8.0	22.40	24.35	0.0	23.25	0.0		
2 hr	30	1/8/18 13:15	703	69.40	28.60	2,101	0.0	21.0	5.0	23.95	7.0	22.81	9.0	22.90	24.35	0.0	23.25	0.0		
	30	1/8/18 13:45	898	71.30	29.70	2,323	-	21.0	5.0	24.45	7.0	23.31	9.0	23.40	24.35	0.0	23.25	1.2		
3 hr	30	1/8/18 14:15	853	88.20	27.20	2,472	-	21.0	5.0	24.95	7.0	23.81	9.0	23.90	24.35	0.0	23.25	1.2		
	30	1/8/18 14:45	674	76.80	28.30	2,518	-	21.0	5.0	25.45	7.0	24.31	9.0	24.40	24.55	0.0	24.40	1.2		
4 hr	30	1/8/18 15:15	423	98.70	100.0	2,706	-	21.0	5.0	25.95	7.0	25.00	9.0	25.00	24.65	0.0	24.40	1.5		
	30	1/8/18 15:45	371	100.40	100.0	2,504	-	21.0	4.0	26.45	7.0	25.00	7.0	21.90	24.55	0.0	24.40	1.5		
5 hr	30	1/8/18 16:15	380	101.90	100.0	2,203	-	21.0	4.0	26.95	7.0	25.00	11.0	21.90	24.70	0.0	24.45	1.5		
	30	1/8/18 16:45	312	102.00	100.0	1,800	-	21.0	4.0	27.06	7.0	25.00	11.0	21.90	24.70	0.0	24.45	1.5		
6 hr	30	1/8/18 17:15	317	100.40	100.0	1,908	-	21.0	4.0	27.06	7.0	25.00	11.0	21.90	24.70	0.0	24.45	1.5		
	30	1/8/18 17:45	323	85.30	100.0	2,825	-	21.0	4.0	27.06	7.0	25.00	9.0	21.90	24.70	0.0	24.45	0.0		
7 hr	30	1/8/18 18:15	316	97.80	100.0	2,287	-	21.0	4.0	27.06	7.0	25.00	8.0	21.90	24.70	0.0	24.45	1.2		
	30	1/8/18 18:45	374	82.70	100.0	1,953	-	21.0	4.0	27.06	7.0	25.00	8.0	21.90	24.75	0.0	23.60	0.4		
8 hr	30	1/8/18 19:15	305	96.80	100.0	1,906	-	20.0	4.0	27.06	7.0	25.00	8.0	21.90	24.75	0.0	23.60	0.2		
	30	1/8/18 19:45	368	93.30	100.0	2,410	-	20.0	4.0	27.06	7.0	25.00	8.0	21.90	24.75	0.0	23.65	0.5		
9 hr	60	1/8/18 20:45	369	84.10	100.0	2,307	-	20.0	3.0	27.06	7.0	25.00	8.0	21.90	24.75	0.0	23.65	0.7		
10 hr	60	1/8/18 21:45	430	81.30	100.0	2,905	-	20.0	5.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.67	0.3		
11 hr	60	1/8/18 22:45	387	81.70	100.0	1,405	-	20.0	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.67	0.7		
12 hr	60	1/8/18 23:45	402	79.80	100.0	1,656	-	20.0	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
13 hr	60	1/8/18 0:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
14 hr	60	1/8/18 1:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
15 hr	60	1/8/18 2:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
16 hr	60	1/8/18 3:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.69	0.7		
17 hr	60	1/8/18 4:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
18 hr	60	1/8/18 5:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
19 hr	60	1/8/18 6:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
20 hr	60	1/8/18 7:45	458	81.75	100.0	2,798	-	21.50	3.0	27.06	7.0	25.00	8.0	21.90	24.76	0.0	23.68	0.7		
21 hr	60	1/8/18 8:45	514	83.70	100.0	3,940	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.78	0.0	23.72	1.0		
22 hr	60	1/8/18 9:45	472	88.30	100.0	3,814	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.78	0.0	23.73	1.0		
23 hr	60	1/8/18 10:45	463	98.70	100.0	3,723	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.78	0.0	23.73	1.5		
24 hr	60	1/8/18 11:45	441	103.40	100.0	3,704	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.80	0.0	24.80	2.0		
26 hr	120	1/8/18 13:45	521	102.10	100.0	3,571	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.81	0.0	23.76	2.0		
28 hr	120	1/8/18 15:45	518	101.40	100.0	2,816	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.82	0.0	23.78	2.0		
30 hr	120	1/8/18 17:45	419	92.70	100.0	1,755	-	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.80	0.0	23.80	1.0		
32 hr	120	1/8/18 19:45	523	90.00	100.0	2,594	-	21.0	3.0	27.06	8.0	25.00	8.0	21.90	24.82	0.0	23.83	0.7		
34 hr	120	1/8/18 21:45	569	87.80	100.0	3,080	-	21.0	3.0	27.06	8.0	25.00	8.0	21.90	24.82	0.0	23.85	0.5		
36 hr	120	1/8/18 23:45	600	100.80	100.0	3,084	-	21.0	3.0	27.06	7.5	25.00	8.0	21.90	24.82	0.0	23.86	0.5		



Project EFC#3  
 Project EDGEEFC300  
 Date: 8/21-8/25 2017

**APPENDIX L  
 AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
 AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 012175  
 ATC Field Rep. 1: H Wells  
 ATC Field Rep. 2: B. Peay

Elapsed Time (hours)	Reading Interval (mins)	Measurements During 86-hr AFVR Event																	
		Date & Time	Stack Outlet			TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells						Non-AFVR Wells				#REF1
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-MMW2		12175-MMW25		12175-RW2		12175-MMW18		12175-MMW24		
									Vacuum (in.Hg)	Slinger Depth (ft.)	Vacuum (in.Hg)	Slinger Depth (ft.)	Vacuum (in.Hg)	Slinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	
	1/8/18 11:45	← Start time																	
								22.95		21.81		21.90	24.35						
38 hr	120	1/10/18 1:45	406	97.55	100.0	2,898	--	21.0	3.0	27.06	7.5	25.00	8.0	21.90	24.82	0.0	23.86	0.5	
40 hr	120	1/10/18 3:45	406	97.55	100.0	2,898	--	21.0	3.0	27.06	7.5	25.00	8.0	21.90	24.82	0.0	23.86	0.5	
42 hr	120	1/10/18 5:45	406	97.55	100.0	2,898	--	21.0	3.0	27.06	7.5	25.00	8.0	21.90	24.82	0.0	23.86	0.5	
44 hr	120	1/10/18 7:45	212	94.30	100.0	2,701	--	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.82	0.0	23.82	1.0	
46 hr	120	1/10/18 9:45	198	95.60	100.0	2,519	--	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.83	0.0	23.83	1.0	
48 hr	120	1/10/18 11:45	302	100.40	100.0	1,973	--	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.84	0.0	23.83	1.0	
50 hr	120	1/10/18 13:45	241	102.90	100.0	2,215	--	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.85	0.0	23.83	1.0	
52 hr	120	1/10/18 15:45	238	103.70	100.0	2,487	--	21.0	3.0	27.06	7.0	25.00	8.0	21.90	24.85	0.0	23.83	1.0	
54 hr	120	1/10/18 17:45	467	101.90	100.0	1,948	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.86	0.0	23.88	1.0	
56 hr	120	1/10/18 19:45	549	95.20	100.0	3,067	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.88	1.0	
58 hr	120	1/10/18 21:45	435	91.90	100.0	3,592	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.89	1.0	
60 hr	120	1/10/18 23:45	317	98.10	100.0	3,446	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.89	1.0	
62 hr	120	1/11/18 1:45	311	97.20	100.0	3,375	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.89	1.0	
64 hr	120	1/11/18 3:45	311	97.20	100.0	3,375	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.89	1.0	
66 hr	120	1/11/18 5:45	311	97.20	100.0	3,375	--	22.0	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.89	1.0	
68 hr	120	1/11/18 7:45	305	96.30	100.0	3,304	--	21.00	3.0	27.06	8.0	25.00	8.0	21.90	24.84	0.0	23.85	1.0	
70 hr	120	1/11/18 9:45	330	98.40	100.0	3,207	--	21.00	3.0	27.06	8.0	25.00	8.0	21.90	24.84	0.0	23.85	1.0	
72 hr	120	1/11/18 11:45	366	101.40	100.0	3,105	--	21.00	3.0	27.06	8.0	25.00	8.0	21.90	24.84	0.0	23.85	1.0	
74 hr	120	1/11/18 13:45	371	102.00	100.0	3,408	--	21.00	3.0	27.06	8.0	25.00	8.0	21.90	24.85	0.0	23.85	1.0	
76 hr	120	1/11/18 15:45	355	102.90	100.0	2,823	--	20.00	3.0	27.06	8.0	25.00	8.0	21.90	24.85	0.0	23.85	1.0	
78 hr	120	1/11/18 17:45	303	105.30	100.0	3,495	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.85	2.0	
80 hr	120	1/11/18 19:45	336	104.20	100.0	3,893	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.85	2.2	
82 hr	120	1/11/18 21:45	328	104.10	100.0	3,815	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.75	2.2	
84 hr	120	1/11/18 23:45	341	102.50	100.0	3,770	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.75	2.2	
86 hr	120	1/12/18 1:45	334	95.45	100.0	3,807	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.75	2.2	
88 hr	120	1/12/18 3:45	334	95.45	100.0	3,807	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.75	2.2	
90 hr	120	1/12/18 5:45	334	95.45	100.0	3,807	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.75	2.2	
92 hr	120	1/12/18 7:45	326	88.40	100.0	3,843	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.87	0.0	23.81	2.0	
94 hr	120	1/12/18 9:45	310	91.30	100.0	3,780	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.82	2.0	
96 hr	120	1/12/18 11:45	338	99.70	100.0	3,514	--	23.00	3.0	27.06	8.0	25.00	8.0	21.90	24.88	0.0	23.82	2.0	

**NOTES**  
 \*\* = Off-gas treatment system not in operation at this time interval; pre-treatment value applied in post-treatment emission calculation during this time interval.  
 -- Off gas treatment system not used per approval

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-RW2  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>wsw</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	11:45								
01/08/18	12:15	21.00	698	3	67.2	26.7	0.00375160485	0.0060	36
01/08/18	12:45	21.00	512	3	68.3	27.3	0.00398555327	0.0063	26
01/08/18	13:15	21.00	703	3	69.4	78.6	0.01206984341	0.0190	35
01/08/18	13:45	21.00	698	3	71.3	96.7	0.01593895648	0.0249	35
01/08/18	14:15	21.00	653	3	98.2	97.2	0.03936963354	0.0593	30
01/08/18	14:45	21.00	674	3	76.8	98.3	0.01959641099	0.0304	33
01/08/18	15:15	21.00	423	3	98.7	100.0	0.04123813725	0.0620	19
01/08/18	15:45	21.00	371	3	100.4	100.0	0.04355961415	0.0652	17
01/08/18	16:15	21.00	380	3	101.9	100.0	0.04570932609	0.0682	17
01/08/18	16:45	21.00	312	3	102.0	100.0	0.04585613270	0.0684	14
01/08/18	17:15	21.00	317	3	100.4	100.0	0.04355961415	0.0652	14
01/08/18	17:45	21.00	323	3	85.3	100.0	0.02657804353	0.0408	15
01/08/18	18:15	21.00	316	3	97.8	100.0	0.04005652753	0.0603	14
01/08/18	18:45	21.00	374	3	82.7	100.0	0.02436262314	0.0376	18
01/08/18	19:15	20.00	305	3	96.8	100.0	0.03878075552	0.0585	14
01/08/18	19:45	20.00	368	3	93.3	100.0	0.03460732077	0.0525	17
01/08/18	20:45	20.00	389	3	84.1	100.0	0.02553361322	0.0393	19
01/08/18	21:45	20.00	430	3	81.3	100.0	0.02324086376	0.0359	21
01/08/18	22:45	20.00	387	3	81.7	100.0	0.02355645825	0.0364	19
01/08/18	23:45	20.00	402	3	79.8	100.0	0.02209139353	0.0342	19
01/09/18	0:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	1:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	2:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	3:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	4:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	5:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	6:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	7:45	21.50	458	3	81.8	100.0	0.02363596508	0.0365	22
01/09/18	8:45	21.00	514	3	83.7	100.0	0.02519390399	0.0388	25
01/09/18	9:45	21.00	472	3	88.3	100.0	0.02936277282	0.0449	22
01/09/18	10:45	21.00	463	3	98.7	100.0	0.04123813725	0.0620	21
01/09/18	11:45	21.00	441	3	103.4	100.0	0.04795868267	0.0714	20
01/09/18	13:45	21.00	521	3	102.1	100.0	0.04600338344	0.0686	23
01/09/18	15:45	21.00	518	3	101.4	100.0	0.04498190783	0.0672	23
01/09/18	17:45	21.00	419	3	92.7	100.0	0.03393519993	0.0516	19
01/09/18	19:45	21.00	523	3	90.0	100.0	0.03105739835	0.0474	25
01/09/18	21:45	21.00	569	3	87.8	100.0	0.02888079752	0.0442	27
01/09/18	23:45	21.00	600	3	100.8	100.0	0.04412338257	0.0660	27
01/10/18	1:45	21.00	406	3	97.6	100.0	0.03979828089	0.0599	19
01/10/18	3:45	21.00	406	3	97.6	100.0	0.03979828089	0.0599	19
01/10/18	5:45	21.00	406	3	97.6	100.0	0.03979828089	0.0599	19
01/10/18	7:45	21.00	212	3	94.3	100.0	0.03575500546	0.0542	10
01/10/18	9:45	21.00	199	3	95.6	100.0	0.03729984800	0.0564	9

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-RW2  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
01/10/18	11:45	21.00	302	3	100.4	100.0	0.04355961415	0.0652	14
01/10/18	13:45	21.00	241	3	102.9	100.0	0.04719754180	0.0703	11
01/10/18	15:45	21.00	238	3	103.7	100.0	0.04842091869	0.0720	11
01/10/18	17:45	22.00	467	3	101.9	100.0	0.04570932609	0.0682	21
01/10/18	19:45	22.00	549	3	95.2	100.0	0.03681802812	0.0557	25
01/10/18	21:45	22.00	435	3	91.9	100.0	0.03305782799	0.0503	20
01/10/18	23:45	22.00	317	3	98.1	100.0	0.04044683427	0.0609	14
01/11/18	1:45	22.00	311	3	97.2	100.0	0.03928644445	0.0592	14
01/11/18	3:45	22.00	311	3	97.2	100.0	0.03928644445	0.0592	14
01/11/18	5:45	22.00	311	3	97.2	100.0	0.03928644445	0.0592	14
01/11/18	7:45	21.00	305	3	96.3	100.0	0.03815717807	0.0576	14
01/11/18	9:45	21.00	330	3	98.4	100.0	0.04084069346	0.0614	15
01/11/18	11:45	21.00	366	3	101.4	100.0	0.04498190783	0.0672	16
01/11/18	13:45	21.00	371	3	102.0	100.0	0.04585613270	0.0684	17
01/11/18	15:45	20.00	355	3	102.9	100.0	0.04719754180	0.0703	16
01/11/18	17:45	23.00	303	3	105.3	100.0	0.05095825316	0.0755	13
01/11/18	19:45	23.00	336	3	104.2	100.0	0.04920068851	0.0731	15
01/11/18	21:45	23.00	328	3	104.1	100.0	0.04904379015	0.0729	15
01/11/18	23:45	23.00	341	3	102.5	100.0	0.04659685489	0.0695	15
01/12/18	1:45	23.00	334	3	95.5	100.0	0.03717884628	0.0562	15
01/12/18	3:45	23.00	334	3	95.5	100.0	0.03717884628	0.0562	15
01/12/18	5:45	23.00	334	3	95.5	100.0	0.03717884628	0.0562	15
01/12/18	7:45	23.00	326	3	88.4	100.0	0.02946005089	0.0451	15
01/12/18	9:45	23.00	310	3	91.3	100.0	0.03241361696	0.0494	14
01/12/18	11:45	23.00	338	3	99.7	100.0	0.04258925806	0.0639	15
<b>Average</b>		<b>21.35</b>	<b>409.71</b>	<b>3.07</b>	<b>92.52</b>	<b>97.42</b>	<b>0.0348</b>	<b>0.05</b>	<b>19.16</b>

**NOTES**

Q<sub>std</sub> = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)  
 Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)  
 Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)  
 Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)  
 Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)  
 Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping  
 B<sub>ws</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart  
 (temp Vs relative humidity) based on an elevation of 458 feet above sea level.  
 B<sub>ws</sub> = water vapor % by volume

**EQUATIONS**

$$B_{ws} = (B_{ws} / 18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{ws} / 18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528^\circ R / (\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	36	1,157	1,157	1,164	0.47	547	273	0.00002	0.04	0.04	0.02
60	26	2,020	2,020	2,033	0.47	955	477	0.00003	0.05	0.06	0.03
90	35	2,101	2,101	2,142	0.47	1,007	502	0.00003	0.07	0.08	0.04
120	35	2,323	2,323	2,382	0.47	1,120	559	0.00003	0.07	0.09	0.04
150	30	2,472	2,472	2,628	0.47	1,235	616	0.00004	0.07	0.08	0.04
180	33	2,518	2,518	2,597	0.47	1,221	609	0.00004	0.08	0.09	0.04
210	19	2,706	2,706	2,885	0.47	1,356	677	0.00004	0.05	0.06	0.03
240	17	2,504	2,504	2,679	0.47	1,259	628	0.00004	0.04	0.05	0.02
270	17	2,203	2,203	2,364	0.47	1,111	554	0.00003	0.04	0.04	0.02
300	14	1,800	1,800	1,932	0.47	908	453	0.00003	0.02	0.03	0.01
330	14	1,908	1,908	2,041	0.47	959	479	0.00003	0.03	0.03	0.02
360	15	2,825	2,825	2,945	0.47	1,384	691	0.00004	0.04	0.05	0.02
390	14	2,287	2,287	2,434	0.47	1,144	571	0.00004	0.03	0.04	0.02
420	18	1,953	1,953	2,029	0.47	954	476	0.00003	0.03	0.04	0.02
450	14	1,906	1,906	2,024	0.47	951	475	0.00003	0.02	0.03	0.01
480	17	2,410	2,410	2,544	0.47	1,196	597	0.00004	0.04	0.05	0.02
540	19	2,307	2,307	2,401	0.47	1,129	563	0.00004	0.04	0.05	0.05
600	21	2,605	2,605	2,702	0.47	1,270	634	0.00004	0.05	0.06	0.06
660	19	1,405	1,405	1,458	0.47	685	342	0.00002	0.02	0.03	0.03
720	19	1,656	1,656	1,715	0.47	806	402	0.00003	0.03	0.03	0.03
780	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
840	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
900	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
960	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
1020	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
1080	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
1140	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
1200	22	2,798	2,798	2,904	0.47	1,365	681	0.00004	0.06	0.07	0.07
1260	25	3,940	3,940	4,099	0.47	1,927	961	0.00006	0.09	0.11	0.11
1320	22	3,814	3,814	3,993	0.47	1,877	937	0.00006	0.08	0.09	0.09
1380	21	3,723	3,723	3,969	0.47	1,865	931	0.00006	0.07	0.09	0.09
1440	20	3,704	3,704	3,989	0.47	1,875	935	0.00006	0.07	0.08	0.08
1560	23	3,571	3,571	3,834	0.47	1,802	899	0.00006	0.08	0.09	0.19
1680	23	2,816	2,816	3,019	0.47	1,419	708	0.00004	0.06	0.07	0.15
1800	19	1,755	1,755	1,850	0.47	870	434	0.00003	0.03	0.04	0.08
1920	25	2,594	2,594	2,723	0.47	1,280	639	0.00004	0.06	0.07	0.14
2040	27	3,080	3,080	3,223	0.47	1,515	756	0.00005	0.08	0.09	0.18
2160	27	3,094	3,094	3,313	0.47	1,557	777	0.00005	0.08	0.09	0.19
2280	19	2,898	2,898	3,082	0.47	1,449	723	0.00005	0.05	0.06	0.12
2400	19	2,898	2,898	3,083	0.47	1,449	723	0.00005	0.05	0.06	0.12
2520	19	2,898	2,898	3,083	0.47	1,449	723	0.00005	0.05	0.06	0.12
2640	10	2,701	2,701	2,856	0.47	1,342	670	0.00004	0.02	0.03	0.06
2760	9	2,519	2,519	2,670	0.47	1,255	626	0.00004	0.02	0.03	0.05
2880	14	1,973	1,973	2,111	0.47	992	495	0.00003	0.03	0.03	0.06
3000	11	2,215	2,215	2,383	0.47	1,120	559	0.00003	0.02	0.03	0.05
3120	11	2,487	2,487	2,680	0.47	1,260	628	0.00004	0.03	0.03	0.06
3240	21	1,648	1,648	1,769	0.47	831	415	0.00003	0.03	0.04	0.08

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 8/21-8/25 2017

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>cm</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	25	3,067	3,067	3,248	0.47	1,527	762	0.00005	0.07	0.09	0.17
3480	20	3,592	3,592	3,782	0.47	1,778	887	0.00006	0.07	0.08	0.16
3600	14	3,446	3,446	3,669	0.47	1,725	860	0.00005	0.05	0.06	0.11
3720	14	3,375	3,375	3,587	0.47	1,686	841	0.00005	0.04	0.05	0.11
3840	14	3,375	3,375	3,587	0.47	1,686	841	0.00005	0.04	0.05	0.11
3960	14	3,375	3,375	3,587	0.47	1,686	841	0.00005	0.04	0.05	0.11
4080	14	3,304	3,304	3,506	0.47	1,648	822	0.00005	0.04	0.05	0.10
4200	15	3,207	3,207	3,417	0.47	1,608	801	0.00005	0.05	0.05	0.11
4320	16	3,105	3,105	3,329	0.47	1,565	781	0.00005	0.05	0.06	0.11
4440	17	3,409	3,409	3,659	0.47	1,720	858	0.00005	0.05	0.06	0.13
4560	16	2,823	2,823	3,036	0.47	1,427	712	0.00004	0.04	0.05	0.10
4680	13	3,495	3,495	3,780	0.47	1,777	887	0.00006	0.04	0.05	0.11
4800	15	3,893	3,893	4,200	0.47	1,974	985	0.00006	0.06	0.07	0.13
4920	15	3,815	3,815	4,115	0.47	1,934	965	0.00006	0.05	0.06	0.13
5040	15	3,770	3,770	4,051	0.47	1,904	950	0.00006	0.05	0.06	0.13
5160	15	3,807	3,807	4,033	0.47	1,896	946	0.00006	0.05	0.06	0.13
5280	15	3,807	3,807	4,034	0.47	1,896	946	0.00006	0.05	0.06	0.13
5400	15	3,807	3,807	4,034	0.47	1,896	946	0.00006	0.05	0.06	0.13
5520	15	3,843	3,843	4,024	0.47	1,891	944	0.00006	0.05	0.06	0.13
5640	14	3,780	3,780	3,976	0.47	1,869	932	0.00006	0.05	0.06	0.12
5760	15	3,514	3,514	3,754	0.47	1,764	880	0.00005	0.05	0.06	0.12
<b>Average</b>	<b>19</b>	<b>2844</b>	<b>2844</b>	<b>3007</b>	<b>0.47</b>	<b>1413</b>	<b>705</b>	<b>0.00004</b>	<b>0.05</b>	<b>0.06</b>	<b>0.08</b>

Total Pretreatment emissions in pounds: **6.68**  
 Total Pretreatment emissions in gallons: **0.95**

**NOTES**

- PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)
- 100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)
- PPM<sub>wet</sub> = "wet" concentration
- PPM<sub>dry</sub> = "dry" concentration
- CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.
- K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)
- PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP
- C<sub>cm</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon
- M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon
- K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP
- C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP
- PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon
- PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline
- PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

PPM <sub>wet</sub> = PPM <sub>measured</sub>	$C_c = (C_{cm})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$
PPM <sub>dry</sub> = (PPM <sub>wet</sub> )/(1-B <sub>w</sub> )	PMR <sub>c</sub> = (C <sub>c</sub> )(Q <sub>std</sub> )(60 min/hr)
PPM <sub>c</sub> = (PPM <sub>d</sub> )(K)	PMR <sub>g</sub> = (PMR <sub>c</sub> )(M <sub>g</sub> /M <sub>cg</sub> )
C <sub>cm</sub> = (PPM <sub>c</sub> )(M <sub>c</sub> / K <sub>3</sub> )	PMR = (PMR <sub>g</sub> )(#minutes/60)

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>EFC#3</u>	UST Permit No:	<u>012175</u>
Project No:	<u>EDGEEFC300</u>	ATC Field Rep. 1:	<u>H Wells</u>
Start Date:	<u>1/15/2018</u>	ATC Field Rep. 2:	<u>B. Peay</u>
End Date:	<u>1/19/2018</u>		

**AFVR Measurements Prior to and After Event**

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>	
Water Tank Storage Capacity:	<u>9,600</u>	gallons
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches
Is Tank Empty & Clean (Y/N)	<u>Y</u>	

**Measurements Before AFVR Event**                      **1/15/2018**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>0</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

**Measurements After AFVR Event**                      **1/19/2018**

Tanker Product volume	<u>0</u>	gallons
Tanker Water volume	<u>4,282</u>	gallons
Transfer Pump Flow Meter	<u>NA</u>	gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
<b>122175-MW1</b>	20.55	25.50	21.35	23.32	22.22	23.77
<b>12175-RW1</b>	20.67	22.81	NP	22.07	22.06	22.25
<b>12175-MW3</b>	NP	23.65	NP	23.75	NP	23.73
<b>12175-MW18</b>	NP	24.91	NP	24.99	NP	24.98

NP denotes no measurable free product.

NM denotes not measured.

Project EFC#3  
 Project EDGEEFC300  
 Date: 1/15-1/19 2018

APPENDIX L  
 AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
 AFVR EVENT FIELD DATA SHEETS

UST Permit No. 012175  
 ATC Field Rep. 1: H Wells  
 ATC Field Rep. 2: B. Peay

Elapsed Time (Hours)	Reading Interval (mins)	Measurements During 96-hr AFVR Event																
		Date & Time	Air Flow (fpm)	Temperature (°F)	R.H. (%)	TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells				Non-AFVR Wells					
						Pre-Treatment	Post-Treatment		12175-MW1		12175-RW1		12175-MW18		12175-MW24			
		← Start time																
		1/15/18 11:30																
1 hr	30	1/15/18 12:00	672	79.70	100.00	--**	--	22.0	1.0	20.55	5.0	20.67						
	30	1/15/18 12:30	524	83.90	100.00	--**	--	22.0	1.0	20.55	6.0	20.67						
2 hr	30	1/15/18 13:00	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
	30	1/15/18 13:30	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
3 hr	30	1/15/18 14:00	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
	30	1/15/18 14:30	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
4 hr	30	1/15/18 15:00	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
	30	1/15/18 15:30	524	76.00	100.00	--**	--	22.0	1.0	20.55	5.5	20.67						
5 hr	30	1/15/18 16:00	376	68.10	100.00	2,473	--	21.0	1.0	20.55	5.0	20.67						
	30	1/15/18 16:30	351	67.40	100.00	2,233	--	21.0	1.0	20.55	5.0	20.67						
6 hr	30	1/15/18 17:00	435	84.70	100.00	3,139	--	20.0	1.0	20.55	6.0	20.67						
	30	1/15/18 17:30	530	79.10	100.00	2,695	--	20.0	1.0	20.55	6.0	20.67						
7 hr	30	1/15/18 18:00	390	88.50	100.00	3,095	--	19.0	1.0	20.55	6.0	20.67						
	30	1/15/18 18:30	388	76.10	91.3	3,165	--	20.0	1.0	20.55	6.0	20.67						
8 hr	30	1/15/18 19:00	391	78.80	84.1	3,343	--	20.0	1.0	20.55	5.0	20.67						
	30	1/15/18 19:30	387	79.40	85.4	3,212	--	20.0	1.0	20.55	5.0	20.67						
9 hr	60	1/15/18 20:30	388	77.30	87.7	3,341	--	20.0	1.0	20.55	5.0	20.67						
10 hr	60	1/15/18 21:30	376	76.20	86.8	3,474	--	20.0	1.0	20.55	5.0	20.67						
11 hr	60	1/15/18 22:30	377	76.80	87.4	3,381	--	20.0	1.0	20.55	5.0	20.67						
12 hr	60	1/15/18 23:30	371	77.80	88.1	3,436	--	20.0	1.0	20.55	5.0	20.67						
13 hr	60	1/16/18 0:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
14 hr	60	1/16/18 1:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
15 hr	60	1/16/18 2:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
16 hr	60	1/16/18 3:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
17 hr	60	1/16/18 4:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
18 hr	60	1/16/18 5:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
19 hr	60	1/16/18 6:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
20 hr	60	1/16/18 7:30	383	77.35	94.1	2,513	--	18.5	1.0	20.55	5.5	20.67						
21 hr	60	1/16/18 8:30	395	76.90	100.0	1,591	--	17.0	1.0	20.55	6.0	20.67						
22 hr	60	1/16/18 9:30	333	90.70	100.0	1,146	--	19.0	1.0	20.55	6.0	20.67						
23 hr	60	1/16/18 10:30	346	91.90	100.0	1,715	--	20.0	1.0	20.55	6.0	20.67						
24 hr	60	1/16/18 11:30	319	95.70	100.0	1,602	--	22.0	1.0	20.55	6.0	20.67						
26 hr	120	1/16/18 13:30	317	104.00	100.0	1,715	--	22.0	1.0	20.55	6.0	20.67						
28 hr	120	1/16/18 15:30	320	95.00	100.0	1,779	--	22.0	1.0	20.55	6.0	20.67						
30 hr	120	1/16/18 17:30	385	82.30	100.0	1,705	--	20.0	2.0	20.55	7.0	20.67						
32 hr	120	1/16/18 19:30	408	77.70	100.0	1,681	--	18.0	2.0	20.55	7.0	20.67						
34 hr	120	1/16/18 21:30	395	76.80	100.0	1,688	--	18.0	2.0	20.55	7.0	20.67						
36 hr	120	1/16/18 23:30	405	67.20	100.0	1,710	--	18.0	2.0	20.55	7.0	20.67						



Project EFC#3  
 Project EDGEFC300  
 Date: 1/15-1/19 2018

**APPENDIX L  
 AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
 AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 012175  
 ATC Field Rep. 1: H Wells  
 ATC Field Rep. 2: B. Peay

Elapsed Time (hours)	Reading Interval (mins)	Measurements During 96-hr AFVR Event																		
		Date & Time	Stack Outlet			TLV (ppm)		Blower Vacuum (in.Hg)	AFVR Wells				Non-AFVR Wells							
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-MW1		12175-RW1		12175-MW18		12175-MW24					
							Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)		
		1/15/18 11:30	← Start time																	
38 hr	120	1/17/18 1:30	383	74.30	100.0	1,640	--	17.5	1.5	20.55	6.5	20.67			23.71	0.0	24.94	0.0		
40 hr	120	1/17/18 3:30	383	74.30	100.0	1,640	--	17.5	1.5	20.55	6.5	20.67			23.71	0.0	24.94	0.0		
42 hr	120	1/17/18 5:30	383	74.30	100.0	1,640	--	17.5	1.5	20.55	6.5	20.67			23.71	0.0	24.94	0.0		
44 hr	120	1/17/18 7:30	360	81.40	100.0	1,569	--	17.0	1.0	20.55	6.0	20.67			23.72	0.0	24.95	0.0		
46 hr	120	1/17/18 9:30	417	83.50	100.0	1,552	--	17.0	1.0	20.55	6.0	20.67			23.72	0.0	24.96	0.0		
48 hr	120	1/17/18 11:30	328	83.70	100.0	1,549	--	17.0	1.0	20.55	6.0	20.67			23.72	0.0	24.97	0.0		
50 hr	120	1/17/18 13:30	359	84.70	100.0	1,527	--	17.0	1.0	20.55	6.0	20.67			23.73	0.0	24.97	0.0		
52 hr	120	1/17/18 15:30	292	84.30	100.0	1,594	--	17.0	1.0	20.55	6.0	20.67			23.73	0.0	24.97	0.0		
54 hr	120	1/17/18 17:30	315	78.10	100.0	1,676	--	17.0	1.0	20.55	6.0	20.67			23.73	0.0	24.97	0.0		
56 hr	120	1/17/18 19:30	333	75.80	100.0	1,751	--	17.0	1.0	20.55	6.0	20.67			23.73	0.0	24.98	0.0		
58 hr	120	1/17/18 21:30	324	72.60	100.0	1,613	--	18.0	1.0	20.55	6.0	20.67			23.73	0.0	24.98	0.0		
60 hr	120	1/17/18 23:30	218	67.30	100.0	1,502	--	18.0	1.0	20.55	6.0	20.67			23.74	0.0	24.98	0.0		
62 hr	120	1/18/18 1:30	284	79.75	100.0	1,623	--	16.5	1.0	20.55	6.0	20.67			23.74	0.0	24.98	0.0		
64 hr	120	1/18/18 3:30	284	79.75	100.0	1,623	--	16.5	1.0	20.55	6.0	20.67			23.74	0.0	24.98	0.0		
66 hr	120	1/18/18 5:30	284	79.75	100.0	1,623	--	16.5	1.0	20.55	6.0	20.67			23.74	0.0	24.98	0.0		
68 hr	120	1/18/18 7:30	349	92.20	100.0	1,743	--	15.00	1.0	20.55	6.0	20.67			23.76	0.0	25.00	0.0		
70 hr	120	1/18/18 9:30	462	83.00	100.0	1,437	--	17.00	1.0	20.55	6.0	20.67			23.75	0.0	24.99	0.0		
72 hr	120	1/18/18 11:30	562	103.30	100.0	2,960	--	20.00	1.0	20.55	6.0	20.67			23.75	0.0	24.99	0.0		
74 hr	120	1/18/18 13:30	640	99.40	100.0	1,333	--	19.00	1.0	20.55	5.0	20.67			23.71	0.0	24.96	0.0		
76 hr	120	1/18/18 15:30	374	106.60	100.0	1,437	--	19.00	1.0	20.55	5.0	20.67			23.70	0.0	24.95	0.0		
78 hr	120	1/18/18 17:30	519	72.30	100.0	1,659	--	19.00	1.0	20.55	6.0	20.67			23.70	0.0	24.95	0.0		
80 hr	120	1/18/18 19:30	483	73.70	100.0	1,710	--	19.00	1.0	20.55	5.0	20.67			23.72	0.0	24.96	0.0		
82 hr	120	1/18/18 21:30	479	72.10	100.0	1,650	--	19.00	1.0	20.55	5.0	20.67			23.74	0.0	24.98	0.0		
84 hr	120	1/18/18 23:30	463	74.50	100.0	1,680	--	19.00	1.0	20.55	5.0	20.67			23.75	0.0	25.00	0.0		
86 hr	120	1/19/18 1:30	399	77.70	100.0	1,571	--	17.00	1.0	20.55	5.0	20.67			23.75	0.0	25.00	0.0		
88 hr	120	1/19/18 3:30	399	77.70	100.0	1,571	--	17.00	1.0	20.55	5.0	20.67			23.75	0.0	25.00	0.0		
90 hr	120	1/19/18 5:30	399	77.70	100.0	1,571	--	17.00	1.0	20.55	5.0	20.67			23.75	0.0	25.00	0.0		
92 hr	120	1/19/18 7:30	335	80.90	100.0	1,462	--	15.00	1.0	20.55	5.0	20.67			23.75	0.0	24.99	0.0		
94 hr	120	1/19/18 9:30	449	98.70	100.0	1,387	--	16.00	1.0	20.55	5.0	20.67			23.75	0.0	24.99	0.0		
96 hr	120	1/19/18 11:30	446	93.90	100.0	1,524	--	18.00	1.0	20.55	5.0	20.67			23.75	0.0	24.99	0.0		

**NOTES**  
 \*\* = PID out of order system running no readings available  
 -- = Off gas treatment system not used per approval

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW1, 12175-RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>WSW</sub> (Wt/Wt)	B <sub>WS</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	11:30								
01/15/18	12:00	22.00	672	3	79.7	100.0	0.02201663505	0.0341	33
01/15/18	12:30	22.00	524	3	83.9	100.0	0.02536323857	0.0391	25
01/15/18	13:00	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	13:30	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	14:00	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	14:30	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	15:00	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	15:30	22.00	524	3	76.0	100.0	0.01940701715	0.0302	26
01/15/18	16:00	21.00	376	3	68.1	100.0	0.01474833271	0.0231	19
01/15/18	16:30	21.00	351	3	67.4	100.0	0.01438879731	0.0225	18
01/15/18	17:00	20.00	435	3	84.7	100.0	0.02605103819	0.0401	21
01/15/18	17:30	20.00	530	3	79.1	100.0	0.02157289733	0.0334	26
01/15/18	18:00	19.00	390	3	88.5	100.0	0.02955762530	0.0452	18
01/15/18	18:30	20.00	388	3	76.1	91.3	0.01773117491	0.0276	19
01/15/18	19:00	20.00	391	3	78.8	84.1	0.01786129311	0.0278	19
01/15/18	19:30	20.00	387	3	79.4	85.4	0.01851712720	0.0288	19
01/15/18	20:30	20.00	388	3	77.3	87.7	0.01772323616	0.0276	19
01/15/18	21:30	20.00	376	3	76.2	86.8	0.01689115510	0.0264	19
01/15/18	22:30	20.00	377	3	76.8	87.4	0.01736280532	0.0271	19
01/15/18	23:30	20.00	371	3	77.8	88.1	0.01811164842	0.0282	18
01/16/18	0:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	1:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	2:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	3:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	4:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	5:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	6:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	7:30	18.50	383	3	77.4	94.1	0.01912129723	0.0297	19
01/16/18	8:30	17.00	395	3	76.9	100.0	0.02001452119	0.0311	19
01/16/18	9:30	19.00	333	3	90.7	100.0	0.03178101985	0.0485	16
01/16/18	10:30	20.00	346	3	91.9	100.0	0.03305782799	0.0503	16
01/16/18	11:30	22.00	319	3	95.7	100.0	0.03742121602	0.0566	15
01/16/18	13:30	22.00	317	3	104.0	100.0	0.04888736544	0.0726	14
01/16/18	15:30	22.00	320	3	95.0	100.0	0.03657929439	0.0554	15
01/16/18	17:30	20.00	385	3	82.3	100.0	0.02403718382	0.0371	19
01/16/18	19:30	18.00	408	3	77.7	100.0	0.02056895777	0.0319	20
01/16/18	21:30	18.00	395	3	75.8	100.0	0.01927430873	0.0300	19
01/16/18	23:30	18.00	405	3	67.2	100.0	0.01428753376	0.0224	20
01/17/18	1:30	17.50	383	3	74.3	100.0	0.01830491329	0.0285	19
01/17/18	3:30	17.50	383	3	74.3	100.0	0.01830491329	0.0285	19
01/17/18	5:30	17.50	383	3	74.3	100.0	0.01830491329	0.0285	19
01/17/18	7:30	17.00	360	3	81.4	100.0	0.02331939886	0.0360	17
01/17/18	9:30	17.00	417	3	83.5	100.0	0.03729984800	0.0564	20

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AIR FLOW CALCULATIONS**

SITE NAME: EFC#3  
 UST PERMIT NUMBER: 012175  
 AVERAGE DEPTH TO GROUNDWATER: 23.35  
 DESCRIBE SOIL IN THE SATURATED ZONE: silty SAND  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): 0.057 feet/day  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AFVR: 12175-MW1, 12175-RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
01/17/18	11:30	17.00	328	3	83.7	100.0	0.02519390399	0.0388	16
01/17/18	13:30	17.00	359	3	84.7	100.0	0.02605103819	0.0401	17
01/17/18	15:30	17.00	292	3	84.3	100.0	0.02570503398	0.0396	14
01/17/18	17:30	17.00	315	3	78.1	100.0	0.02085137371	0.0323	15
01/17/18	19:30	17.00	333	3	75.8	100.0	0.01927430873	0.0300	16
01/17/18	21:30	18.00	324	3	72.6	100.0	0.01725978666	0.0269	16
01/17/18	23:30	18.00	218	3	67.3	100.0	0.01433808500	0.0225	11
01/18/18	1:30	16.50	284	3	79.8	100.0	0.02209139353	0.0342	14
01/18/18	3:30	16.50	284	3	79.8	100.0	0.02209139353	0.0342	14
01/18/18	5:30	16.50	284	3	79.8	100.0	0.02209139353	0.0342	14
01/18/18	7:30	15.00	349	3	92.2	100.0	0.03338435316	0.0508	16
01/18/18	9:30	17.00	462	3	83.0	100.0	0.02460933709	0.0379	22
01/18/18	11:30	20.00	562	3	103.3	100.0	0.04780553303	0.0711	25
01/18/18	13:30	19.00	640	3	99.4	100.0	0.04217962922	0.0633	29
01/18/18	15:30	19.00	374	3	106.6	100.0	0.05311222397	0.0784	16
01/18/18	17:30	19.00	519	3	72.3	100.0	0.01708106000	0.0266	26
01/18/18	19:30	19.00	483	3	73.7	100.0	0.01792968207	0.0279	24
01/18/18	21:30	19.00	479	3	72.1	100.0	0.01696284017	0.0265	24
01/18/18	23:30	19.00	463	3	74.5	100.0	0.01843156125	0.0287	23
01/19/18	1:30	17.00	399	3	77.7	100.0	0.02056895777	0.0319	19
01/19/18	3:30	17.00	399	3	77.7	100.0	0.02056895777	0.0319	19
01/19/18	5:30	17.00	399	3	77.7	100.0	0.02056895777	0.0319	19
01/19/18	7:30	15.00	335	3	80.9	100.0	0.02292912824	0.0354	16
01/19/18	9:30	16.00	449	3	98.7	100.0	0.04123813725	0.0620	20
01/19/18	11:30	18.00	446	3	93.9	100.0	0.03529176018	0.0535	21
<b>Average</b>		<b>18.88</b>	<b>404.28</b>	<b>3.07</b>	<b>80.63</b>	<b>97.99</b>	<b>0.0235</b>	<b>0.04</b>	<b>19.54</b>

**NOTES**

Q<sub>std</sub> = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)  
 Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)  
 Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)  
 Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)  
 Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)  
 Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping  
 B<sub>ws</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart  
 (temp Vs relative humidity) based on an elevation of 458 feet above sea level.  
 B<sub>ws</sub> = water vapor % by volume

**EQUATIONS**

$$B_{ws} = (B_{ws} / 18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{ws} / 18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528^\circ R / (\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 1/15-1/19 2018

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	33	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
60	25	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
90	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
120	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
150	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
180	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
210	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
240	26	-- **	-- **	0	0.47	0	0	0.00000	0.00	0.00	0.00
270	19	2,473	2,473	2,531	0.47	1,190	594	0.00004	0.04	0.05	0.02
300	18	2,233	2,233	2,284	0.47	1,074	536	0.00003	0.04	0.04	0.02
330	21	3,139	3,139	3,270	0.47	1,537	767	0.00005	0.06	0.07	0.04
360	26	2,695	2,695	2,788	0.47	1,310	654	0.00004	0.06	0.07	0.04
390	18	3,095	3,095	3,242	0.47	1,524	760	0.00005	0.05	0.06	0.03
420	19	3,165	3,165	3,255	0.47	1,530	763	0.00005	0.05	0.06	0.03
450	19	3,343	3,343	3,439	0.47	1,616	806	0.00005	0.06	0.07	0.03
480	19	3,212	3,212	3,307	0.47	1,554	776	0.00005	0.05	0.07	0.03
540	19	3,341	3,341	3,436	0.47	1,615	806	0.00005	0.06	0.07	0.07
600	19	3,474	3,474	3,568	0.47	1,677	837	0.00005	0.06	0.07	0.07
660	19	3,381	3,381	3,475	0.47	1,633	815	0.00005	0.06	0.07	0.07
720	18	3,435	3,435	3,535	0.47	1,661	829	0.00005	0.06	0.07	0.07
780	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
840	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
900	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
960	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
1020	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
1080	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
1140	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
1200	19	2,513	2,513	2,590	0.47	1,217	607	0.00004	0.04	0.05	0.05
1260	19	1,591	1,591	1,642	0.47	772	385	0.00002	0.03	0.03	0.03
1320	16	1,146	1,146	1,204	0.47	566	282	0.00002	0.02	0.02	0.02
1380	16	1,715	1,715	1,806	0.47	849	423	0.00003	0.03	0.03	0.03
1440	15	1,602	1,602	1,698	0.47	798	398	0.00002	0.02	0.03	0.03
1560	14	1,715	1,715	1,849	0.47	869	434	0.00003	0.02	0.03	0.05
1680	15	1,779	1,779	1,883	0.47	885	442	0.00003	0.02	0.03	0.06
1800	19	1,705	1,705	1,771	0.47	832	415	0.00003	0.03	0.03	0.07
1920	20	1,681	1,681	1,736	0.47	816	407	0.00003	0.03	0.04	0.07
2040	19	1,688	1,688	1,740	0.47	818	408	0.00003	0.03	0.04	0.07
2160	20	1,710	1,710	1,749	0.47	822	410	0.00003	0.03	0.04	0.07
2280	19	1,640	1,640	1,688	0.47	793	396	0.00002	0.03	0.03	0.07
2400	19	1,640	1,640	1,688	0.47	793	396	0.00002	0.03	0.03	0.07
2520	19	1,640	1,640	1,688	0.47	793	396	0.00002	0.03	0.03	0.07
2640	17	1,569	1,569	1,628	0.47	765	382	0.00002	0.02	0.03	0.06
2760	20	1,552	1,552	1,645	0.47	773	386	0.00002	0.03	0.03	0.07
2880	16	1,549	1,549	1,612	0.47	757	378	0.00002	0.02	0.03	0.05
3000	17	1,527	1,527	1,591	0.47	748	373	0.00002	0.02	0.03	0.06
3120	14	1,594	1,594	1,660	0.47	780	389	0.00002	0.02	0.02	0.05
3240	15	1,676	1,676	1,732	0.47	814	406	0.00003	0.02	0.03	0.06

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC#3

AFVR EVENT DATE: 1/15-1/19 2018

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c,m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
3360	16	1,751	1,751	1,805	0.47	848	423	0.00003	0.03	0.03	0.06
3480	16	1,613	1,613	1,658	0.47	779	389	0.00002	0.02	0.03	0.06
3600	11	1,502	1,502	1,537	0.47	722	360	0.00002	0.01	0.02	0.04
3720	14	1,623	1,623	1,680	0.47	790	394	0.00002	0.02	0.02	0.05
3840	14	1,623	1,623	1,680	0.47	790	394	0.00002	0.02	0.02	0.05
3960	14	1,623	1,623	1,680	0.47	790	394	0.00002	0.02	0.02	0.05
4080	16	1,743	1,743	1,836	0.47	863	431	0.00003	0.03	0.03	0.06
4200	22	1,437	1,437	1,494	0.47	702	350	0.00002	0.03	0.03	0.07
4320	25	2,960	2,960	3,187	0.47	1,498	747	0.00005	0.07	0.08	0.17
4440	29	1,333	1,333	1,423	0.47	669	334	0.00002	0.04	0.04	0.09
4560	16	1,437	1,437	1,559	0.47	733	366	0.00002	0.02	0.03	0.05
4680	26	1,659	1,659	1,704	0.47	801	400	0.00002	0.04	0.05	0.09
4800	24	1,710	1,710	1,759	0.47	827	413	0.00003	0.04	0.04	0.09
4920	24	1,650	1,650	1,695	0.47	797	397	0.00002	0.04	0.04	0.08
5040	23	1,680	1,680	1,730	0.47	813	406	0.00003	0.03	0.04	0.08
5160	19	1,571	1,571	1,623	0.47	763	381	0.00002	0.03	0.03	0.07
5280	19	1,571	1,571	1,623	0.47	763	381	0.00002	0.03	0.03	0.07
5400	19	1,571	1,571	1,623	0.47	763	381	0.00002	0.03	0.03	0.07
5520	16	1,462	1,462	1,516	0.47	712	355	0.00002	0.02	0.03	0.05
5640	20	1,387	1,387	1,479	0.47	695	347	0.00002	0.03	0.03	0.06
5760	21	1,524	1,524	1,610	0.47	757	378	0.00002	0.03	0.03	0.07
<b>Average</b>	<b>20</b>	<b>2037</b>	<b>2037</b>	<b>1864</b>	<b>0.47</b>	<b>876</b>	<b>437</b>	<b>0.00003</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>

Total Pretreatment emissions in pounds: **3.43**  
 Total Pretreatment emissions in gallons: **0.57**

**NOTES**

- PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)
- 100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)
- PPM<sub>wet</sub> = "wet" concentration
- PPM<sub>dry</sub> = "dry" concentration
- CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.
- K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)
- PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP
- C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon
- M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon
- K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP
- C<sub>c</sub> = lb/dscf, mass concentration of VOC emissions as carbon, dry basis at STP
- PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon
- PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline
- PMR = lb, pollutant mass removal of VOC's as gasoline

**EQUATIONS**

PPM <sub>wet</sub> = PPM <sub>measured</sub>	$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$
PPM <sub>dry</sub> = (PPM <sub>wet</sub> )/(1-B <sub>ws</sub> )	PMR <sub>c</sub> = (C <sub>c</sub> )(Q <sub>std</sub> )(60 min/hr)
PPM <sub>c</sub> = (PPM <sub>d</sub> )(K)	PMR <sub>g</sub> = (PMR <sub>c</sub> )(M <sub>g</sub> /M <sub>cg</sub> )
C <sub>c,m</sub> = (PPM <sub>c</sub> )(M <sub>c</sub> / K <sub>3</sub> )	PMR = (PMR <sub>g</sub> )(#minutes/60)



Healthy People. Healthy Communities.

MAY 22 2018



MR JOEL JOLLY  
EDGEFIELD FUEL & CONVENIENCE LLC  
107 ½ COURTHOUSE SQUARE  
EDGEFIELD SC 2982475

Re: **Site-Specific Work Plan Request for Well Installation**  
Edgefield Fuel & Convenience 3, 311 Main Street, Edgefield, SC  
UST Permit #12175  
Release Reported December 31, 2008  
Aggressive Fluid Vapor Recovery Report received January 26, 2018  
Edgefield County

Dear Mr. Jolly:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) recognizes your commitment to continue work at this site using ATC Group Services, LLC (ATC), as your contractor. The next appropriate scope of work at the site is to install a recovery well near the vicinity of MW-2, MW-19, MW-24, and MW-25.

The well installation should be conducted in accordance with ATC's Annual Contractor Quality Assurance Plan (ACQAP), and must be conducted in compliance with all applicable regulations. A copy of DHEC's Quality Assurance Program Plan for the UST Management Division is available at <http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentCleanup/QualityAssurance/>

**Please have your contractor complete and submit an approvable Site-Specific Work Plan (SSWP) and Cost Proposal within thirty (30) days of the date of this letter.** Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from DHEC must be issued before work begins.**

On all correspondence concerning this site, please reference **UST Permit #12175**. If there are any questions concerning this project, please contact me at (803) 898-0634 or by email at [kuhnkm@dhec.sc.gov](mailto:kuhnkm@dhec.sc.gov).

Sincerely,

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

cc: ATC Group Services, LLC, 7606 Whitehall Executive Drive, Suite 800, Charlotte, NC 29484  
Technical File



**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

7606 Whitehall Executive Center Drive  
Suite 800  
Charlotte, NC 28273  
Telephone 704-529-3200  
Fax 704-583-2744  
[www.atcgroupservices.com](http://www.atcgroupservices.com)

Ms Kimberly Kuhn  
Corrective Action Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201

May 29, 2018  
ATC Project #EFC3002

Re: Site Specific Work Plan  
EFC#3  
311 Main Street  
Edgefield, South Carolina  
UST Permit No. 12175



Ms. Kuhn:

Enclosed please find the Site Specific Work Plan requested for the referenced site, in your letter dated May 22, 2018. Should you have any questions or require additional information, please do not hesitate to call me at (704) 529-3200 or by email at [Noelle.france@atcgs.com](mailto:Noelle.france@atcgs.com)

Sincerely,  
ATC Group Services, LLC

Noelle A. France  
Project Manager





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

To: Ms. Kinberly Kuhn (SCDHEC Project Manager)  
 From: Noelle France (Contractor Project Manager)  
 Contractor: ATC Group Services, LLC UST Contractor Certification Number: 358

Facility Name: Edgefield Fuel and Convenience#3 UST Permit #: 12175  
 Facility Address: 311 Main Street, Edgefield, South Carolina  
 Responsible Party: Edgefield Fuel and Convenience, LLC Phone: 803-367-1900  
 RP Address: 107 1/2 Courthouse Square, Edgefield, South Carolina  
 Property Owner (if different): As above  
 Property Owner Address: As above  
 Current Use of Property: Gas station and convenience store

**Scope of Work (Please check all that apply)**

- IGWA                       Tier II                       Groundwater Sampling                       GAC  
 Tier I                       Monitoring Well Installation                       Other \_\_\_\_\_

**Analyses (Please check all that apply)**

**Groundwater/Surface Water:**

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

**Drinking Water Supply Wells:**

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

**Soil:**

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

**Air:**

- BTEXN

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

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

**Field Screening Methodology**

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: NA Estimated Footage: NA feet per point  
 # of deep points proposed: NA Estimated Footage: NA feet per point  
 Field Screening Methodology: NA

**Permanent Monitoring Wells**

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: NA Estimated Footage: NA feet per point  
 # of deep wells: NA Estimated Footage: NA feet per point  
 # of recovery wells: 1 Estimated Footage: 35 feet per point  
 Comments, if warranted: NA

UST Permit #: 12175 Facility Name: Edgefield Fuel and Convenience#3

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: Within 30 days of receipt of directive Field Work Completion: Within sixty days of receipt of directive  
Report Submittal: Within 90 days of receipt of directive # of Copies Provided to Property Owners: 1

**Aquifer Characterization**

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

NA  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Derived Waste Disposal**

Soil: 10 Tons Purge Water: NA Gallons  
Drilling Fluids: 100 Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ATC will install 12175-RW1 in the vicinity of 12175-MW2, 12175-MW19, 12175-MW24 and 12175-MW25, to an approximate depth of 35 feet below ground surface.  
The recovery well will be completed with a well screen 20 feet in length.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

\_\_\_\_ Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.  
Name of Laboratory: \_\_\_\_\_  
SCDHEC Certification Number: \_\_\_\_\_  
Name of Laboratory Director: \_\_\_\_\_

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

\_\_\_\_ Other variations from ACQAP. Please describe below.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:  
North Arrow Proposed monitoring well locations  
Location of property lines Legend with facility name and address, UST permit number, and bar scale  
Location of buildings Streets or highways (indicate names and numbers)  
Previous soil sampling locations Location of all present and former ASTs and USTs  
Previous monitoring well locations Location of all potential receptors  
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



**ASSESSMENT COMPONENT INVOICE**

**SOUTH CAROLINA**

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

August 16, 2016

**Facility Name:** Edgefield Fuel and Convenience #3

**UST Permit #:** 12175

**Cost Agreement #:** \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>1. Plan Preparation</b>				
A1. Site-specific Work Plan		each	\$150.00	\$0.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>2. A1. Receptor Survey *</b>				
		each	\$551.00	\$0.00
<b>3. Survey (500 ft x 500 ft)</b>				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
<b>B. Subsurface Geophysical Survey</b>				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
<b>4. Mob/Demob</b>				
A1. Equipment	1	each	\$1,020.00	\$1,020.00
B1. Personnel	2	each	\$423.00	\$846.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
<b>5. A1. Soil Borings (hand auger)*</b>				
		foot	\$5.00	\$0.00
<b>6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*</b>				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
<b>7. A1. Soil Leachability Model</b>				
		each	\$60.00	\$0.00
<b>8. Abandonment (per foot)*</b>				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
<b>9. Well Installation (per foot)*</b>				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping		per foot	\$50.00	\$0.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)	35	per foot	\$45.00	\$1,575.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotasonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
<b>10. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
A1. Groundwater Purge		per well/receptor	\$60.00	\$0.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply		per well/receptor	\$22.00	\$0.00
D1. Groundwater (No Purge or Duplicate)		per well/receptor	\$28.00	\$0.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank		each	\$24.60	\$0.00

<b>11. Laboratory Analyses-Groundwater</b>					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)		per sample	\$122.00		\$0.00
AA1. Lead, Filtered		per sample	\$13.80		\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60		\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40		\$0.00
D1. PAH's		per sample	\$60.60		\$0.00
E1. Lead		per sample	\$16.00		\$0.00
F1. EDB by EPA 8011		per sample	\$45.20		\$0.00
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20		\$0.00
G1. 8 RCRA Metals		per sample	\$63.40		\$0.00
H1. TPH (9070)		per sample	\$41.00		\$0.00
II. pH		per sample	\$5.20		\$0.00
J1. BOD		per sample	\$20.00		\$0.00
PP. Ethanol		per sample	\$14.80		\$0.00
<b>11. Analyses-Drinking Water</b>					
L. BTEXNM+1,2 DCA (524 2)		per sample	\$124.05		\$0.00
M. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$91.75		\$0.00
N. EDB (504.1)		per sample	\$79.50		\$0.00
O. RCRA METALS (200.8)		per sample	\$100.00		\$0.00
<b>11. Analyses-Soil</b>					
Q1. BTEX + Naphth.		per sample	\$64.00		\$0.00
R1. PAH's		per sample	\$64.04		\$0.00
S1. 8 RCRA Metals		per sample	\$56.40		\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00		\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96		\$0.00
W1. Grain size/hydrometer		per sample	\$104.00		\$0.00
X1. Total Organic Carbon		per sample	\$30.60		\$0.00
<b>11. Analyses-Air</b>					
Y1. BTEX + Naphthalene		per sample	\$216.00		\$0.00
<b>11. Analyses-Free Phase Product</b>					
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00		\$0.00
<b>12. Aquifer Characterization</b>					
A1. Pumping Test*		per hour	\$23.00		\$0.00
B1. Slug Test*		per test	\$191.00		\$0.00
C1. Fractured Rock		per test	\$100.00		\$0.00
<b>13. A1. Free Product Recovery Rate Test*</b>					
		each	\$38.00		\$0.00
<b>14. Fate/Transport Modeling</b>					
A1. Mathematical Model		each	\$100.00		\$0.00
B1. Computer Model		each	\$100.00		\$0.00
<b>15. Risk Evaluation</b>					
A. Tier I Risk Evaluation		each	\$300.00		\$0.00
B1. Tier II Risk Evaluation		each	\$100.00		\$0.00
<b>16. A1. Subsequent Survey*</b>					
		each	\$260.00		\$0.00
<b>17. Disposal (gallons or tons)*</b>					
AA. Wastewater		gallon	\$0.56		\$0.00
BB. Free Product		gallon	\$0.50		\$0.00
C1. Soil Treatment/Disposal	1	ton	\$60.00		\$60.00
D1. Drilling fluids	100	gallon	\$0.42		\$42.00
<b>18. Miscellaneous (attach receipts)</b>					
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
<b>20. Tier I Assessment (Use DHEC 3665 form)</b>					
		standard			\$0.00
<b>21. IGWA (Use DHEC 3666 form)</b>					
		standard			\$0.00

<b>22. Corrective Action (Use DHEC 3667 form)</b>		PFP Bid		\$0.00
<b>23. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>				
A1. 8-hour Event*		each	\$1,375.00	\$0.00
AA. 24-hour Event*		each	\$3,825.00	\$0.00
A3. 48-hour Event*		each	\$6,265.00	\$0.00
A4. 96-hour Event*		each	\$12,567.50	\$0.00
C1. Off-gas Treatment 8 hour		per event	\$122.50	\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50	\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00	\$0.00
C4. Off-gas Treatment 96 hour		per event	\$780.00	\$0.00
D. Site Reconnaissance		each	\$203.25	\$0.00
E1. Additional Hook-ups		each	\$25.75	\$0.00
F1. Effluent Disposal		gallon	\$0.44	\$0.00
G. AFVR Mobilization/Demobilization		each	\$391.50	\$0.00
<b>24. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>				
A1. New GAC System Installation*		each	\$1,900.00	\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00	\$0.00
C1. Filter replacement/removal*		each	\$350.00	\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00	\$0.00
E1. GAC System housing*		each	\$250.00	\$0.00
F. In-line particulate filter		each	\$150.00	\$0.00
G1. Additional piping & fittings		foot	\$1.50	\$0.00
<b>25. Well Repair</b>				
A1. Additional Copies of the Report Delivered		each	\$50.00	\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00	\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00	\$0.00
D1. Repair well vault*		each	\$118.00	\$0.00
F1. Replace well cover bolts		each	\$2.60	\$0.00
G. Replace locking well cap & lock		each	\$15.00	\$0.00
H1. Replace/Repair stick-up*		each	\$134.00	\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00	\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00	\$0.00
<b>Report Prep &amp; Project Coordination</b>	12%	percent	\$3,543.00	\$425.16
<b>TOTAL</b>				<b>\$3,968.16</b>

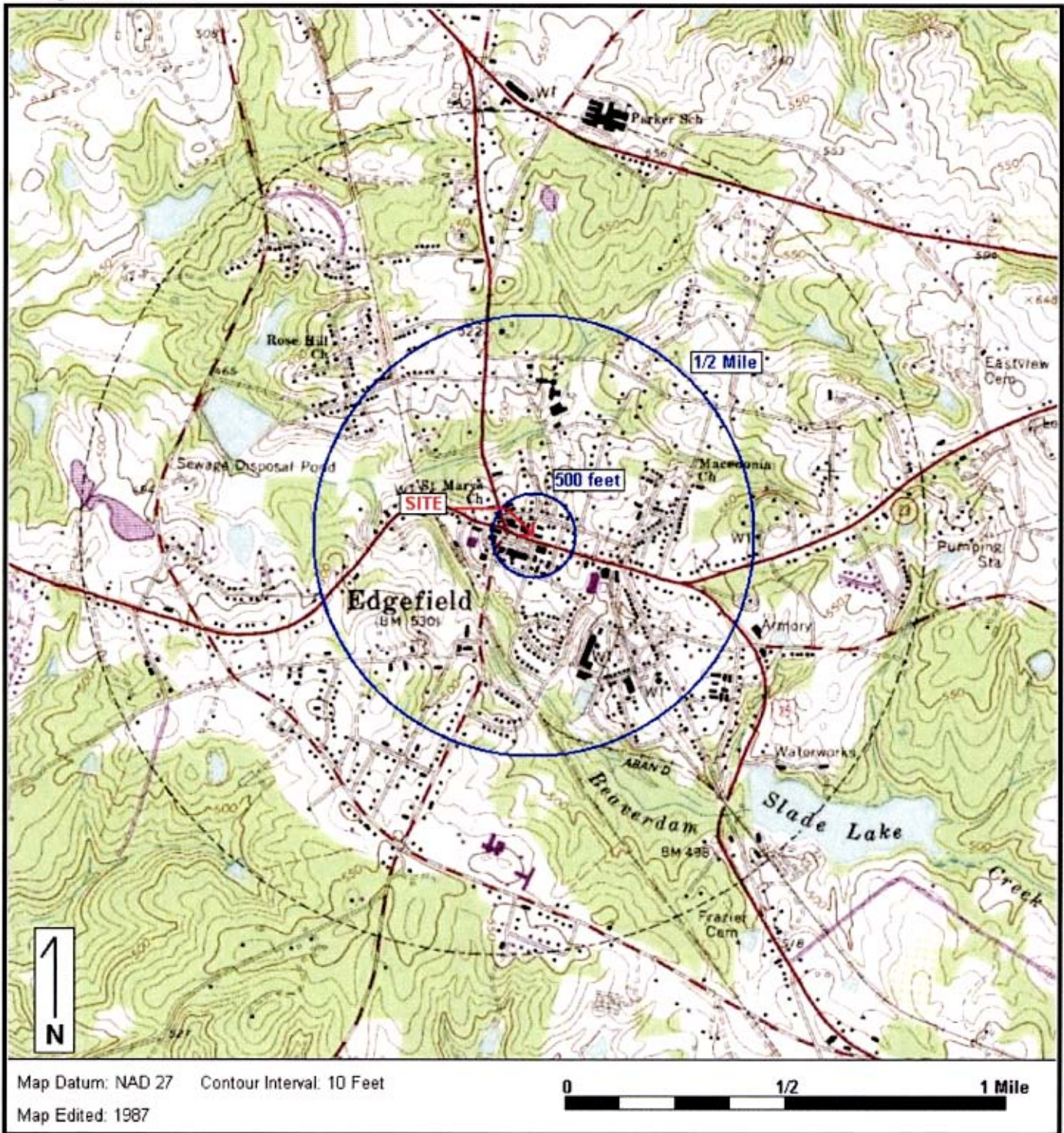
\*The appropriate mobilization cost can be added to complete these tasks, as necessary. DHEC





Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

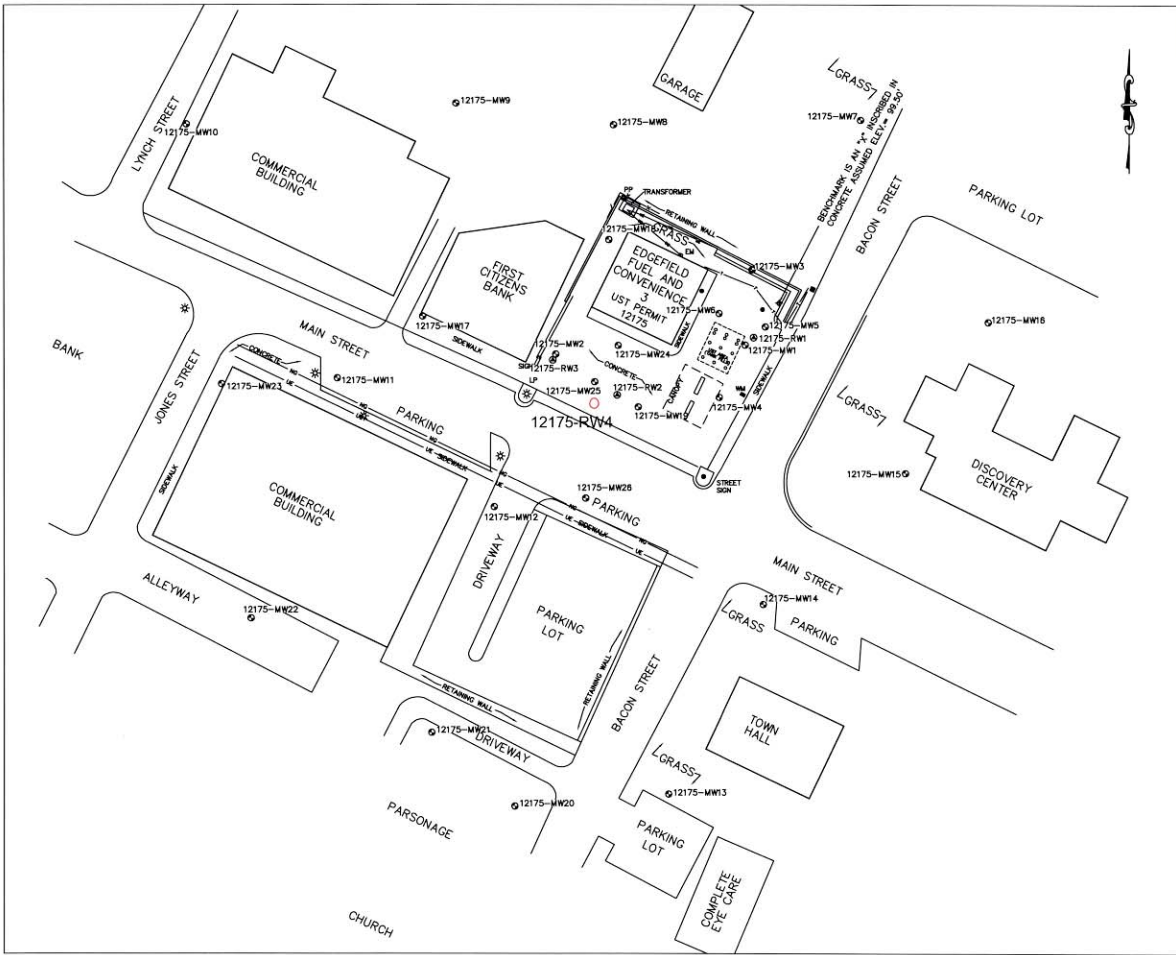
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins



- Legend**
- UE — Underground Electric Line
  - - - Wood Fence Line
  - - - X - - - Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊕ Grate Top Drop Inlet
  - ⊕ Light Pole
  - ⊕ Light Pole
  - ⊕ 12175-MW1 Shallow (Water Table) Monitoring Well
  - ⊕ 12175-RW1 Recovery Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

○ Approximate location Recovery Well

**ATC**  
 7008 Whitehall Executive Center Drive, Suite 800  
 Columbia, SC 29225  
 Phone: (704)885-8711 Fax: (704)885-8744

<b>PROJECT:</b> Edgefield Fuel & Convenience 3 311 Main Street Edgefield, South Carolina			
<b>TITLE:</b> Site Plan			
<b>CLIENT:</b> Edgefield Fuel & Convenience, LLC			
<b>DRAWING SCALE:</b> AS SHOWN			
<b>DRAWN BY:</b> RH	<b>DESIGNED BY:</b> KDP	<b>CHECKED BY:</b> AW	<b>APPROVED BY:</b> DM
<b>SCALE:</b> 1"=50'	<b>DATE:</b> 1/27/15	<b>JOB NO.:</b> 14-211651	<b>FIGURE NO.:</b> 2





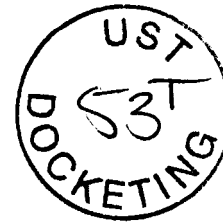
**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

7606 Whitehall Executive Center Drive  
Suite 800  
Charlotte, NC 28273  
Telephone 704-529-3200  
Fax 704-583-2744  
[www.atcgroupservices.com](http://www.atcgroupservices.com)

Mr. Steven Martin  
Assessment Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201

November 8, 2018  
ATC Project #EFC3002

Re: Site Specific Work Plan Revision  
EFC#3  
311 Main Street  
Edgefield, South Carolina  
UST Permit No. 12175



Mr. Martin:

Enclosed please find the revised Site Specific Work Plan requested for the referenced site, requested in our telephone conversation November 8, 2018. Should you have any questions or require additional information, please do not hesitate to call me at (704) 529-3200 or by email at [Noelle.france@atcgs.com](mailto:Noelle.france@atcgs.com)

Sincerely,  
ATC Group Services, LLC

Noelle A. France  
Project Manager



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

To: Mr. Steven Martin (SCDHEC Project Manager)
From: Noelle France (Contractor Project Manager)
Contractor: ATC Group Services, LLC UST Contractor Certification Number: 358

Facility Name: Edgefield Fuel and Convenience#3 UST Permit #: 12175
Facility Address: 311 Main Street, Edgefield, South Carolina
Responsible Party: Edgefield Fuel and Convenience, LLC Phone: 803-367-1900
RP Address: 107 1/2 Courthouse Square, Edgefield, South Carolina
Property Owner (if different): As above
Property Owner Address: As above
Current Use of Property: Gas station and convenience store

Scope of Work (Please check all that apply)

- IGWA, Tier I, Tier II, Monitoring Well Installation, Groundwater Sampling, Other (2) AFVRs, GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

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

Drinking Water Supply Wells:

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

Soil:

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

Air:

- BTEXN

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

NA Soil, NA Water Supply Wells, NA Air, NA Field Blank
NA Monitoring Wells, NA Surface Water, NA Duplicate, NA Trip Blank

Field Screening Methodology

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

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: NA Estimated Footage: NA feet per point
# of deep wells: NA Estimated Footage: NA feet per point
# of recovery wells: 1 Estimated Footage: 35 feet per point
Comments, if warranted: NA

UST Permit #: 12175 Facility Name: Edgefield Fuel and Convenience#3

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: Within 30 days of receipt of directive Field Work Completion: Within sixty days of receipt of directive

Report Submittal: Within 90 days of receipt of directive # of Copies Provided to Property Owners: 1

**Aquifer Characterization**

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

NA  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Derived Waste Disposal**

Soil: 1.0 Tons Purge Water: (Petroleum Contact water) 40,000 Gallons  
Drilling Fluids: 100 Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ATC will install 12175-RW4 in the vicinity of 12175-MW2, 12175-MW19, 12175-MW24 and 12175-MW25, to an approximate depth of 35 feet below ground surface. The recovery well will be completed with a well screen 20 feet in length.

ATC will perform two 96-hour AFVR events. One event will target groundwater monitoring wells 12175-MW2, 12175-MW25, 12175-RW2, 12175-RW3 and 12175-RW4. During this event ATC will monitor 12175-MW24 and 12175-MW19 as observation wells. The second AFVR event will target groundwater monitoring wells 12175-RW1, 12175-MW1 and 12175-MW5. Monitoring wells 12175-MW6 and 12175-MW4 will be used as observation wells.

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

\_\_\_\_ Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: \_\_\_\_\_

SCDHEC Certification Number: \_\_\_\_\_

Name of Laboratory Director: \_\_\_\_\_

\_\_\_\_ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: \_\_\_\_\_

SCLLR Certification Number: \_\_\_\_\_

\_\_\_\_ Other variations from ACQAP. Please describe below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



**ASSESSMENT COMPONENT INVOICE**

**SOUTH CAROLINA**

Department of Health and Environmental Control  
 Underground Storage Tank Management Division  
 State Underground Petroleum Environmental Response Bank Account  
 August 16, 2016



**Facility Name:** Edgefield Fuel and Convenience #3

**UST Permit #:** 12175

**Cost Agreement #:** \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>1. Plan Preparation</b>				
A1. Site-specific Work Plan		each	\$150.00	\$0.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>2. A1. Receptor Survey *</b>		each	\$551.00	\$0.00
<b>3. Survey (500 ft x 500 ft)</b>				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
<b>B. Subsurface Geophysical Survey</b>				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
<b>4. Mob/Demob</b>				
A1. Equipment	1	each	\$1,020.00	\$1,020.00
B1. Personnel	2	each	\$423.00	\$846.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
<b>5. A1. Soil Borings (hand auger)*</b>		foot	\$5.00	\$0.00
<b>6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*</b>				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
<b>7. A1. Soil Leachability Model</b>		each	\$60.00	\$0.00
<b>8. Abandonment (per foot)*</b>				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
<b>9. Well Installation (per foot)*</b>				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping		per foot	\$50.00	\$0.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)	35	per foot	\$45.00	\$1,575.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotosonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
<b>10. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
A1. Groundwater Purge		per well/receptor	\$60.00	\$0.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply		per well/receptor	\$22.00	\$0.00
D1. Groundwater (No Purge or Duplicate)		per well/receptor	\$28.00	\$0.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank		each	\$24.60	\$0.00



<b>11. Laboratory Analyses-Groundwater</b>				
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)		per sample	\$122.00	\$0.00
AA1. Lead, Filtered		per sample	\$13.80	\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60	\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40	\$0.00
D1. PAH's		per sample	\$60.60	\$0.00
E1. Lead		per sample	\$16.00	\$0.00
F1. EDB by EPA 8011		per sample	\$45.20	\$0.00
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20	\$0.00
G1. 8 RCRA Metals		per sample	\$63.40	\$0.00
H1. TPH (9070)		per sample	\$41.00	\$0.00
II. pH		per sample	\$5.20	\$0.00
J1. BOD		per sample	\$20.00	\$0.00
PP. Ethanol		per sample	\$14.80	\$0.00
<b>11. Analyses-Drinking Water</b>				
L. BTEXNM+1,2 DCA (524.2)		per sample	\$124.05	\$0.00
M. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$91.75	\$0.00
N. EDB (504.1)		per sample	\$79.50	\$0.00
O. RCRA METALS (200.8)		per sample	\$100.00	\$0.00
<b>11. Analyses-Soil</b>				
Q1. BTEX + Naphth.		per sample	\$64.00	\$0.00
R1. PAH's		per sample	\$64.04	\$0.00
S1. 8 RCRA Metals		per sample	\$56.40	\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00	\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96	\$0.00
W1. Grain size/hydrometer		per sample	\$104.00	\$0.00
X1. Total Organic Carbon		per sample	\$30.60	\$0.00
<b>11. Analyses-Air</b>				
Y1. BTEX + Naphthalene		per sample	\$216.00	\$0.00
<b>11. Analyses-Free Phase Product</b>				
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00	\$0.00
<b>12. Aquifer Characterization</b>				
A1. Pumping Test*		per hour	\$23.00	\$0.00
B1. Slug Test*		per test	\$191.00	\$0.00
C1. Fractured Rock		per test	\$100.00	\$0.00
<b>13. A1. Free Product Recovery Rate Test*</b>		each	\$38.00	\$0.00
<b>14. Fate/Transport Modeling</b>				
A1. Mathematical Model		each	\$100.00	\$0.00
B1. Computer Model		each	\$100.00	\$0.00
<b>15. Risk Evaluation</b>				
A. Tier I Risk Evaluation		each	\$300.00	\$0.00
B1. Tier II Risk Evaluation		each	\$100.00	\$0.00
<b>16. A1. Subsequent Survey*</b>		each	\$260.00	\$0.00
<b>17. Disposal (gallons or tons)*</b>				
AA. Wastewater		gallon	\$0.56	\$0.00
BB. Free Product		gallon	\$0.50	\$0.00
C1. Soil Treatment/Disposal	1	ton	\$60.00	\$60.00
D1. Drilling fluids	100	gallon	\$0.42	\$42.00
<b>18. Miscellaneous (attach receipts)</b>				
		each	\$0.00	\$0.00
		each	\$0.00	\$0.00
		each	\$0.00	\$0.00
<b>20. Tier I Assessment (Use DHEC 3665 form)</b>		standard		\$0.00
<b>21. IGWA (Use DHEC 3666 form)</b>		standard		\$0.00



22. Corrective Action (Use DHEC 3667 form)		PFP Bid		\$0.00
<b>23. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>				
A1. 8-hour Event*		each	\$1,375.00	\$0.00
AA. 24-hour Event*		each	\$3,825.00	\$0.00
A3. 48-hour Event*		each	\$6,265.00	\$0.00
A4. 96-hour Event*	2	each	\$12,567.50	\$25,135.00
C1. Off-gas Treatment 8 hour		per event	\$122.50	\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50	\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00	\$0.00
C4. Off-gas Treatment 96 hour	2	per event	\$780.00	\$1,560.00
D. Site Reconnaissance	1	each	\$203.25	\$203.25
E1. Additional Hook-ups		each	\$25.75	\$0.00
F1. Effluent Disposal	40000	gallon	\$0.44	\$17,600.00
G. AFVR Mobilization/Demobilization	2	each	\$391.50	\$783.00
<b>24. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>				
A1. New GAC System Installation*		each	\$1,900.00	\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00	\$0.00
C1. Filter replacement/removal*		each	\$350.00	\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00	\$0.00
E1. GAC System housing*		each	\$250.00	\$0.00
F. In-line particulate filter		each	\$150.00	\$0.00
G1. Additional piping & fittings		foot	\$1.50	\$0.00
<b>25. Well Repair</b>				
A1. Additional Copies of the Report Delivered		each	\$50.00	\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00	\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00	\$0.00
D1. Repair well vault*		each	\$118.00	\$0.00
F1. Replace well cover bolts		each	\$2.60	\$0.00
G. Replace locking well cap & lock		each	\$15.00	\$0.00
H1. Replace/Repair stick-up*		each	\$134.00	\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00	\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00	\$0.00
<b>Report Prep &amp; Project Coordination</b>	12%	percent	\$48,824.25	\$5,858.91
<b>TOTAL</b>				\$54,683.16

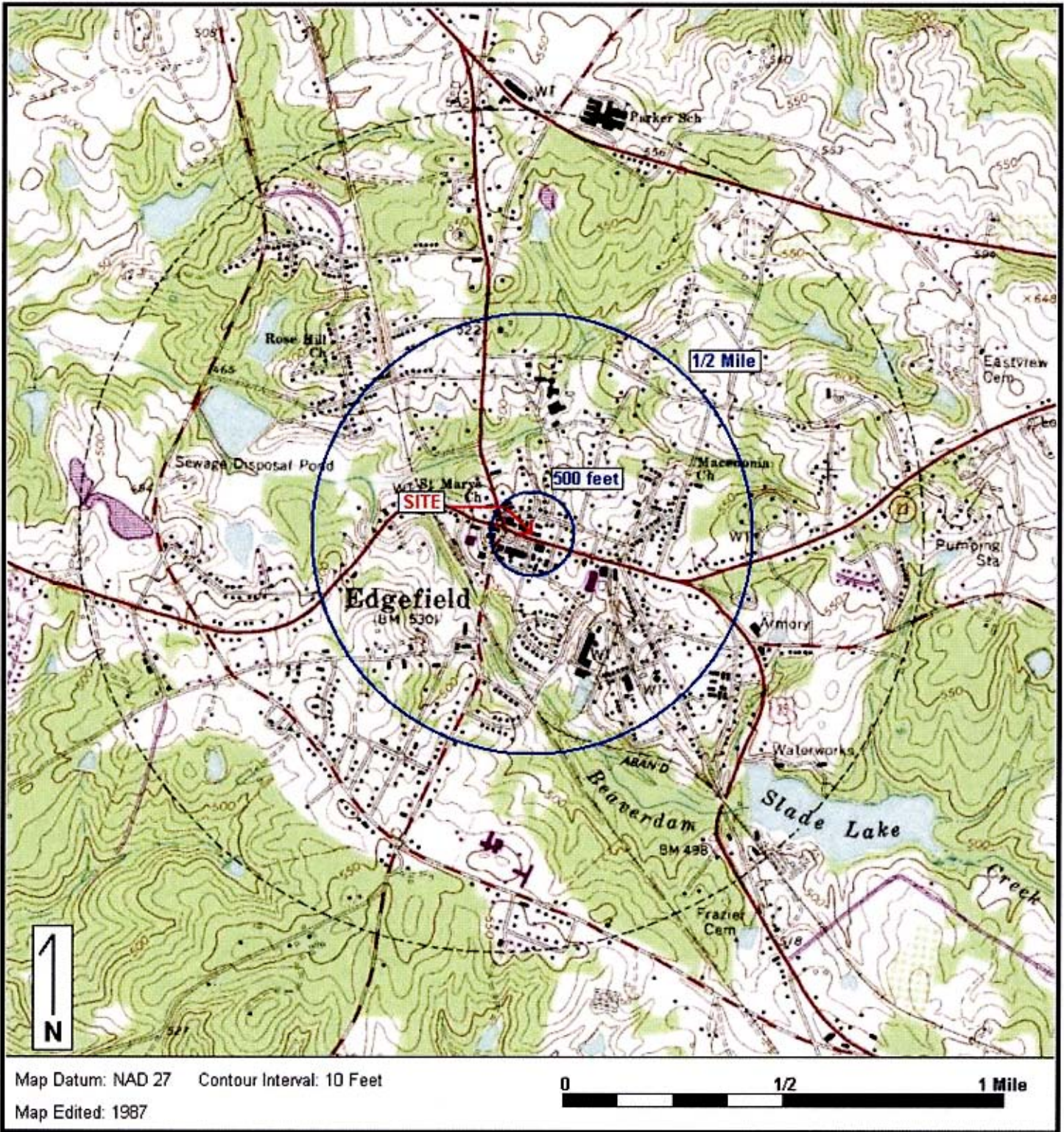
\*The appropriate mobilization cost can be added to complete these tasks, as necessary. DHEC





Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

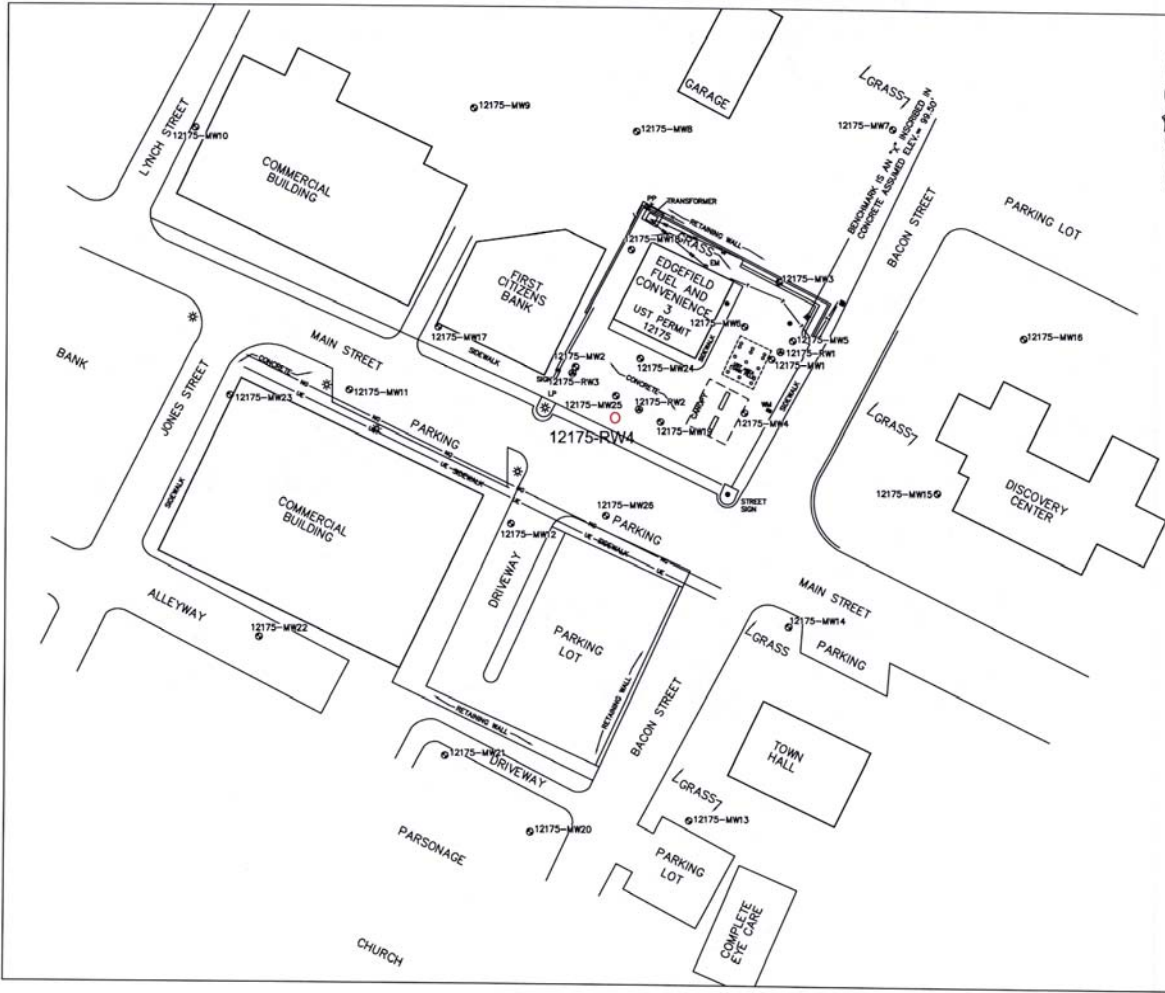
Figure 1: SITE LOCUS



Map Datum: NAD 27    Contour Interval: 10 Feet  
Map Edited: 1987

Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC  
Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH  
Generated By: Kevin Collins





- Legend**
- E— Underground Electric Line
  - X— Wood Fence Line
  - T— Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊕ Grate Top Drop Inlet
  - ⊕ Light Pole
  - ⊕ Light Pole
  - 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
  - 12175-RW1 ⊕ Recovery Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

○ Approximate location Recovery Well

**ATC**  
 7606 Whitehall Executive Center Drive, Suite 800  
 Columbia, SC 29209  
 Phone (704)660-8711 Fax (704)660-8714

PROJECT: **Edgefield Fuel & Convenience 3**  
 311 Main Street  
 Edgefield, South Carolina

TITLE: **Site Plan**

CLIENT: **Edgefield Fuel & Convenience, LLC**

DESIGNED BY:	CHECKED BY:	APPROVED BY:
RH	KDP	AW
DATE:	JOB NO.:	FIGURE NO.:
1/27/15	14-211651	2



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Mr. Steven Martin  
Assessment Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201

November 21, 2018  
ATC Project #EFC3002

Re: Site Specific Work Plan Revision  
EFC#3  
311 Main Street  
Edgefield, South Carolina  
UST Permit No. 12175



Mr. Martin:

Enclosed please find the revised Site Specific Work Plan requested for the referenced site, requested during our meeting on November 20, 2018. Should you have any questions or require additional information, please do not hesitate to call me at (704) 529-3200 or by email at [Noelle.france@atcgs.com](mailto:Noelle.france@atcgs.com)

Sincerely,  
**ATC Group Services, LLC**

Noelle A. France  
Project Manager



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

To: Mr. Steven Martin (SCDHEC Project Manager)  
 From: Noelle France (Contractor Project Manager)  
 Contractor: ATC Group Services, LLC UST Contractor Certification Number: 358

Facility Name: Edgefield Fuel and Convenience#3 UST Permit #: 12175  
 Facility Address: 311 Main Street, Edgefield, South Carolina  
 Responsible Party: Edgefield Fuel and Convenience, LLC Phone: 803-367-1900  
 RP Address: 107 1/2 Courthouse Square, Edgefield, South Carolina  
 Property Owner (if different): As above  
 Property Owner Address: As above  
 Current Use of Property: Gas station and convenience store

**Scope of Work** (Please check all that apply)

- IGWA                       Tier II                       Groundwater Sampling                       GAC  
 Tier I                       Monitoring Well Installation                       Other (2) AFVRs

**Analyses** (Please check all that apply)

Groundwater/Surface Water:

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

Drinking Water Supply Wells:

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

Soil:

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

Air:

- BTEXN

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

NA Soil                      NA Water Supply Wells                      NA Air                      2 Field Blank  
34 Monitoring Wells                      NA Surface Water                      2 Duplicate                      2 Trip Blank

**Field Screening Methodology**

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: NA Estimated Footage: NA feet per point  
 # of deep points proposed: NA Estimated Footage: NA feet per point  
 Field Screening Methodology: NA

**Permanent Monitoring Wells**

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: NA Estimated Footage: NA feet per point  
 # of deep wells: 4 Estimated Footage: See below for well depths feet per point  
 # of recovery wells: 1 Estimated Footage: 35 feet per point

Comments, if warranted: NA

12175-TW1: 40 feet, 12175-TW2; 40 feet, 12175-TW3; 38 feet, 12175-TW4;30 feet

UST Permit #: 12175 Facility Name: Edgefield Fuel and Convenience#3

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: Within 30 days of receipt of directive Field Work Completion: Within sixty days of receipt of directive  
Report Submittal: Within 90 days of receipt of directive # of Copies Provided to Property Owners: 1

**Aquifer Characterization**

Pump Test:  Slug Test:  (Check one and provide explanation below for choice)  
Slug tests to be performed on two telescoping wells.

**Investigation Derived Waste Disposal**

Soil: 5.0 Tons Purge Water: (Petroleum Contact water) 40,000 Gallons  
Drilling Fluids: 400 Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ATC will install 12175-RW4 in the vicinity of 12175-MW2, 12175-MW19, 12175-MW24 and 12175-MW25, to an approximate depth of 35 feet below ground surface. The recovery well will be completed with a well screen 20 feet in length.

ATC will perform two 96-hour AFVR events. One event will target groundwater monitoring wells 12175-MW2, 12175-MW25, 12175-RW2, 12175-RW3 and 12175-RW4. During this event ATC will monitor 12175-MW24 and 12175-MW19 as observation wells. The second AFVR event will target groundwater monitoring wells 12175-RW1, 12175-MW1 and 12175-MW5. Monitoring wells 12175-MW6 and 12175-MW4 will be used as observation wells.

ATC will install four telescoping wells 12175-TW1 (paired with 12175-MW11, 12175-TW2 (paired with 12175-MW26), 12175-TW3 (paired with 12175-MW11) and 12175-TW4 (paired with 12175-MW16). Subsequent to the installation of the telescoping wells, a comprehensive groundwater sampling event will be completed.

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: \_\_\_\_\_  
SCDHEC Certification Number: \_\_\_\_\_  
Name of Laboratory Director: \_\_\_\_\_

Yes Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: \_\_\_\_\_  
SCLLR Certification Number: \_\_\_\_\_

\_\_\_\_ Other variations from ACQAP. Please describe below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:  
North Arrow Proposed monitoring well locations  
Location of property lines Legend with facility name and address, UST permit number, and bar scale  
Location of buildings Streets or highways (indicate names and numbers)  
Previous soil sampling locations Location of all present and former ASTs and USTs  
Previous monitoring well locations Location of all potential receptors  
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



**ASSESSMENT COMPONENT INVOICE**

**SOUTH CAROLINA**

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



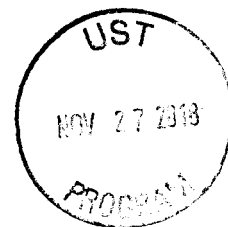
**Facility Name:** Edgefield Fuel and Convenience #3

**UST Permit #:** 12175

**Cost Agreement #:** \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>1. Plan Preparation</b>				
A1. Site-specific Work Plan		each	\$150.00	\$0.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>2. A1. Receptor Survey *</b>				
		each	\$551.00	\$0.00
<b>3. Survey (500 ft x 500 ft)</b>				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
<b>B. Subsurface Geophysical Survey</b>				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
<b>4. Mob/Demob</b>				
A1. Equipment	1	each	\$1,020.00	\$1,020.00
B1. Personnel	2	each	\$423.00	\$846.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
<b>5. A1. Soil Borings (hand auger)*</b>				
		foot	\$5.00	\$0.00
<b>6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*</b>				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
<b>7. A1. Soil Leachability Model</b>				
		each	\$60.00	\$0.00
<b>8. Abandonment (per foot)*</b>				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
<b>9. Well Installation (per foot)*</b>				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping	148	per foot	\$50.00	\$7,400.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)	35	per foot	\$45.00	\$1,575.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotasonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
<b>10. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
A1. Groundwater Purge	34	per well/receptor	\$60.00	\$2,040.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply		per well/receptor	\$22.00	\$0.00
D1. Groundwater (No Purge or Duplicate)	2	per well/receptor	\$28.00	\$56.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank	2	each	\$24.60	\$49.20

<b>11. Laboratory Analyses-Groundwater</b>					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(82)	40	per sample	\$122.00		\$4,880.00
AA1. Lead, Filtered		per sample	\$13.80		\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60		\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40		\$0.00
D1. PAH's		per sample	\$60.60		\$0.00
E1. Lead		per sample	\$16.00		\$0.00
F1. EDB by EPA 8011	38	per sample	\$45.20		\$1,717.60
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20		\$0.00
G1. 8 RCRA Metals		per sample	\$63.40		\$0.00
H1. TPH (9070)		per sample	\$41.00		\$0.00
II. pH		per sample	\$5.20		\$0.00
J1. BOD		per sample	\$20.00		\$0.00
PP. Ethanol		per sample	\$14.80		\$0.00
<b>11. Analyses-Drinking Water</b>					
L. BTEXNM+1,2 DCA (524.2)		per sample	\$124.05		\$0.00
M. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$91.75		\$0.00
N. EDB (504.1)		per sample	\$79.50		\$0.00
O. RCRA METALS (200.8)		per sample	\$100.00		\$0.00
<b>11. Analyses-Soil</b>					
Q1. BTEX + Naphth.		per sample	\$64.00		\$0.00
R1. PAH's		per sample	\$64.04		\$0.00
S1. 8 RCRA Metals		per sample	\$56.40		\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00		\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96		\$0.00
W1. Grain size/hydrometer		per sample	\$104.00		\$0.00
X1. Total Organic Carbon		per sample	\$30.60		\$0.00
<b>11. Analyses-Air</b>					
Y1. BTEX + Naphthalene		per sample	\$216.00		\$0.00
<b>11. Analyses-Free Phase Product</b>					
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00		\$0.00
<b>12. Aquifer Characterization</b>					
A1. Pumping Test*		per hour	\$23.00		\$0.00
B1. Slug Test*	2	per test	\$191.00		\$382.00
C1. Fractured Rock		per test	\$100.00		\$0.00
<b>13. A1. Free Product Recovery Rate Test*</b>		each	\$38.00		\$0.00
<b>14. Fate/Transport Modeling</b>					
A1. Mathematical Model		each	\$100.00		\$0.00
B1. Computer Model		each	\$100.00		\$0.00
<b>15. Risk Evaluation</b>					
A. Tier I Risk Evaluation		each	\$300.00		\$0.00
B1. Tier II Risk Evaluation		each	\$100.00		\$0.00
<b>16. A1. Subsequent Survey*</b>		each	\$260.00		\$0.00
<b>17. Disposal (gallons or tons)*</b>					
AA. Wastewater		gallon	\$0.56		\$0.00
BB. Free Product		gallon	\$0.50		\$0.00
C1. Soil Treatment/Disposal	5	ton	\$60.00		\$300.00
D1. Drilling fluids	400	gallon	\$0.42		\$168.00
<b>18. Miscellaneous (attach receipts)</b>					
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
<b>20. Tier I Assessment (Use DHEC 3665 form)</b>		standard			\$0.00
<b>21. IGWA (Use DHEC 3666 form)</b>		standard			\$0.00





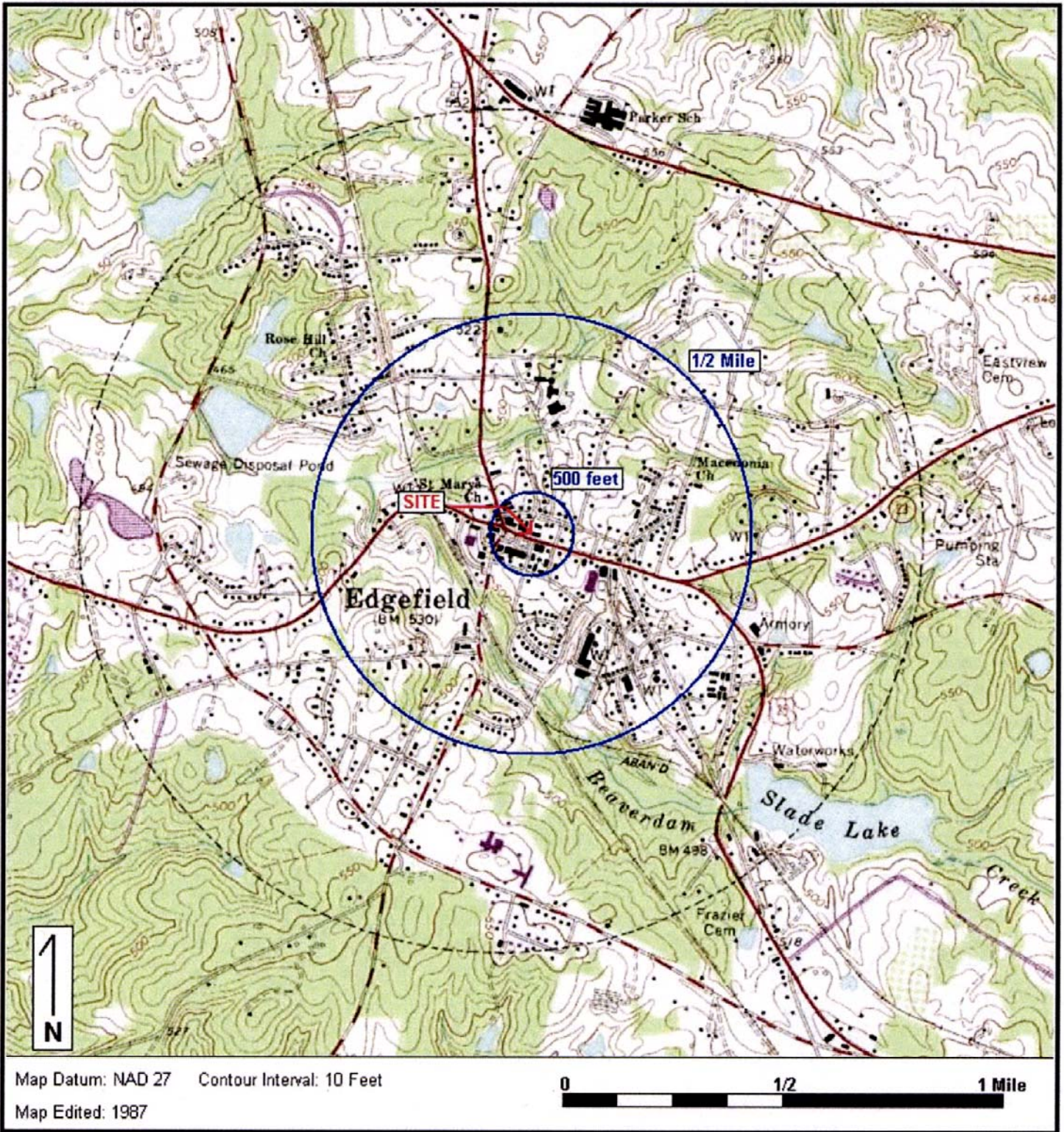
<b>22. Corrective Action (Use DHEC 3667 form)</b>		PFP Bid		\$0.00
<b>23. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>				
A1. 8-hour Event*		each	\$1,375.00	\$0.00
AA. 24-hour Event*		each	\$3,825.00	\$0.00
A3. 48-hour Event*		each	\$6,265.00	\$0.00
A4. 96-hour Event*	2	each	\$12,567.50	\$25,135.00
C1. Off-gas Treatment 8 hour		per event	\$122.50	\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50	\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00	\$0.00
C4. Off-gas Treatment 96 hour	2	per event	\$780.00	\$1,560.00
D. Site Reconnaissance	1	each	\$203.25	\$203.25
E1. Additional Hook-ups		each	\$25.75	\$0.00
F1. Effluent Disposal	40000	gallon	\$0.44	\$17,600.00
G. AFVR Mobilization/Demobilization	2	each	\$391.50	\$783.00
<b>24. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>				
A1. New GAC System Installation*		each	\$1,900.00	\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00	\$0.00
C1. Filter replacement/removal*		each	\$350.00	\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00	\$0.00
E1. GAC System housing*		each	\$250.00	\$0.00
F. In-line particulate filter		each	\$150.00	\$0.00
G1. Additional piping & fittings		foot	\$1.50	\$0.00
<b>25. Well Repair</b>				
A1. Additional Copies of the Report Delivered		each	\$50.00	\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00	\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00	\$0.00
D1. Repair well vault*		each	\$118.00	\$0.00
F1. Replace well cover bolts		each	\$2.60	\$0.00
G. Replace locking well cap & lock		each	\$15.00	\$0.00
H1. Replace/Repair stick-up*		each	\$134.00	\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00	\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00	\$0.00
<b>Report Prep &amp; Project Coordination</b>	12%	percent	\$65,715.05	\$7,885.81
<b>TOTAL</b>				<b>\$73,600.86</b>

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



Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

Figure 1: SITE LOCUS

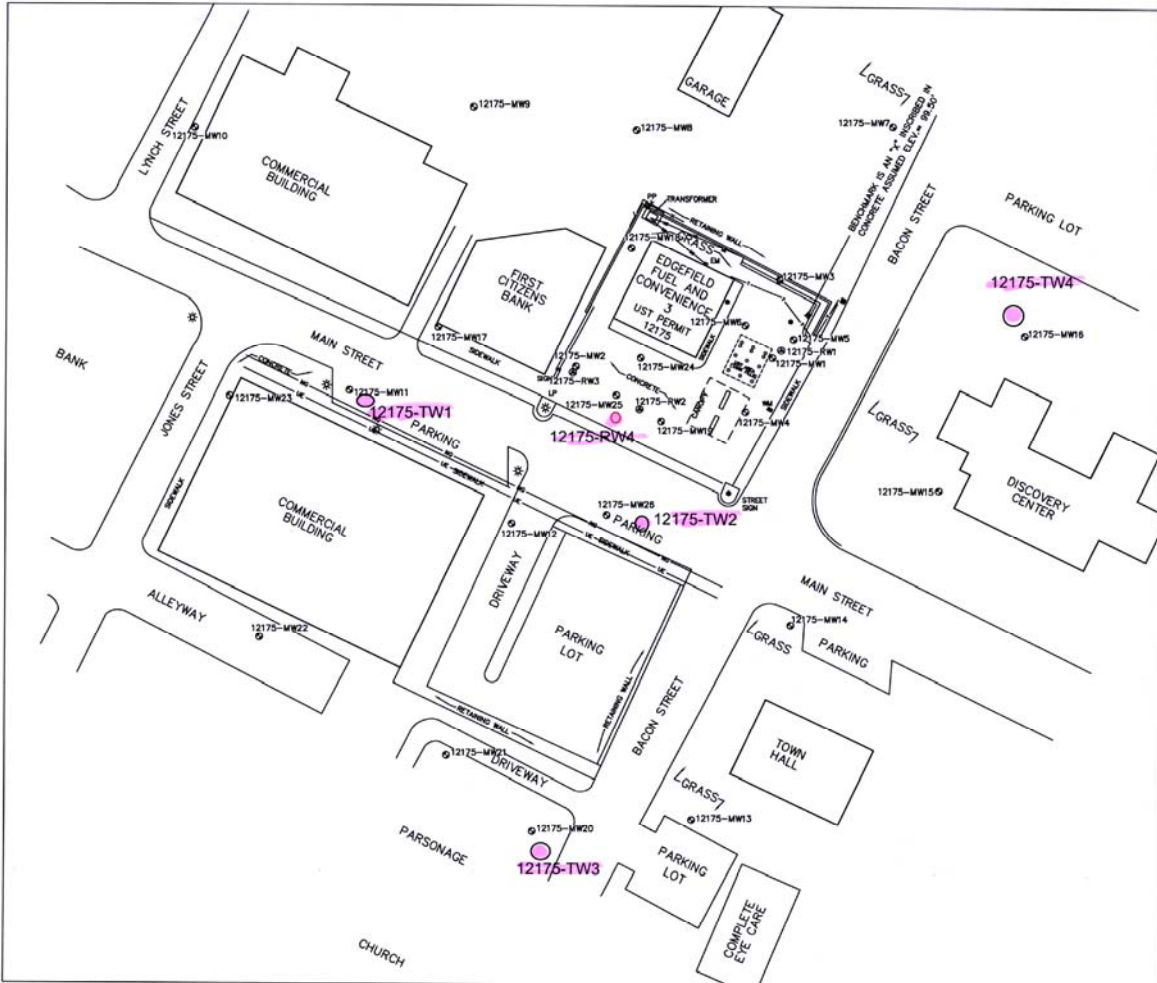


Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins





**Legend**

- UE— Underground Electric Line
- X— Wood Fence Line
- T— Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ⊕ Light Pole
- ⊕ Light Pole
- 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
- 12175-RW1 ⊕ Recovery Well

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

⊕ Approximate location  
Recovery Well



7006 Watahalla Executive Center Drive, Suite 800  
Charleston, SC 29405  
Phone: (704) 582-8711 Fax: (704) 582-8744

**PROJECT:** Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, South Carolina

**TITLE:** Site Plan

**CLIENT:** Edgefield Fuel & Convenience, LLC

DATE	BY	REVISION
1/27/15	KDP	1

DESIGNED BY	CHECKED BY	APPROVED BY
RH	KDP	AW

SCALE	DATE	JOB NO.	FIGURE NO.
1"=50'	1/27/15	14-211651	2



Healthy People. Healthy Communities.

EDGEFIELD FUEL & CONVENIENCE LLC  
107 1/2 COURTHOUSE SQ  
EDGEFIELD SC 29824

DEC 07 2018



Re: **Monitoring Well Installation, AFVR, and GWS Notice to Proceed**  
Edgefield Fuel & Convenience #3, 311 Main St, Edgefield, SC  
UST Permit # 12175; CA # 58512; MWA #UMW-27290  
Release Reported December 31, 2008  
Site-Specific Work Plan and cost proposal received November 27, 2018  
Edgefield County

To Whom It May Concern:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed and approved the referenced Site-Specific Work Plan (SSWP) submitted by ATC Group Services, LLC. All work should be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), ATC's approved SSWP and Annual Contractor Quality Assurance Plan (ACQAP), and in compliance with all applicable regulations. A copy of the current revision of the UST QAPP is available at <http://www.scdhec.gov/Environment/LW/UST/ReleaseAssessmentClean-up/QualityAssurance/>

The assessment should begin immediately upon receipt of this letter. A monitoring well approval has been enclosed for the monitoring well installation. Cost agreement # 58512 has been approved for the amount shown on the enclosed cost agreement form. Please note the following changes to the SSWP and Cost Agreement:

- Item 4 B1 – 2 additional mobs added for sampling.
- Item 10 A1 – Only wells that do not bracket the water table require purging. If a well brackets the water table it should be invoiced as a no-purge well.
- Item 11 W1 – 2 grain size analysis added. Grain size samples should be taken from the interval being slug tested.
- Item 23 D – Site Reconnaissance removed. Reconnaissance can be conducted in conjunction with other work on the site.
- Item 23 G – 1 AFVR Mobilization removed. If AFVRs are performed back to back equipment does not need to be remobilized.
- Item 25 A1 – 5 Additional Copies of the report have been added. Additional Copies should be made available for each property owner with wells on their property.

**The Contractor must provide the UST Project Manager with a Project Status Report on a weekly basis via e-mail or notify the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes or conflicts with the date(s) of site activities, the UST Project Manager must be contacted within 24 hours of those changes.**

**The Assessment report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the Division within thirty (30) days of the ground water sampling. Please note that ground water sampling should take place at least 30 days from the date of the AFVR.** The report submitted at the completion of these activities should include the required information outlined in the UST QAPP.

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

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

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

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

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

On all correspondence regarding this site, please reference UST Permit #12175. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 898-0599, fax me at (803) 898-0673, or e-mail me at martinsr@dhec.sc.gov.

Sincerely,



Steven Martin

Geologist/Hydrogeologist

Assessment & Unregulated Petroleum Section

UST Management Division

Bureau of Land and Waste Management

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

cc: ATC Group Services, 7606 Whitehall Executive Center Drive, Suite 800, Charlotte, NC 28273  
(w/enc.)  
Technical file (with enc.)



## Monitoring Well Approval

**Approval is hereby granted to:** ATC Group Services  
**(on behalf of):** Edgefield Fuel & Convenience  
**Facility:** Edgefield Fuel & Convenience # 3, 311 Main St, Edgefield  
**UST Permit Number:** 12175  
**County:** Edgefield

This approval is for the installation of one recovery and three deep groundwater monitoring wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Division shall be completed and submitted to the Division within 30 days after well completion or abandonment unless another schedule has been approved by the Division. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Division within 30 days of receipt of laboratory results unless another schedule has been approved by the Division as required by R.61-71.H.1.d.
5. If any of the information provided to the Division changes, notification to Steven Martin the project manager (tel: (803) 898-0599 or e-mail: martinr@scdhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Division approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated May 27, 2016. A copy of this approval should be on the site during well installation.

**Date of Issuance: November 30, 2018**

**Approval #: UMW-27290**

A handwritten signature in black ink, appearing to read "Steven Martin", is written over a white background.

Steven Martin  
Geologist/Hydrogeologist  
Assessment & Unregulated Petroleum Section  
UST Management Division  
Bureau of Land and Waste Management

# Approved Cost Agreement 58512

Facility: 12175 EDGEFIELD FUEL & CONVENIENCE 3

NGUYENS

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		A1 SITE SPECIFIC WORK PLAN	1.0000	\$150.000	150.00
04 MOB/DEMOB		A1 EQUIPMENT	1.0000	\$1,020.000	1,020.00
		B1 PERSONNEL	4.0000	\$423.000	1,692.00
09 WELL INSTALLATION		CC TELESCOPING	148.0000	\$50.000	7,400.00
		HH RECOVERY WELL (4 INCH DIA)	35.0000	\$45.000	1,575.00
10 SAMPLE COLLECTION		A1 GROUNDWATER (PURGE)	34.0000	\$60.000	2,040.00
		D1 GROUNDWATER NO PURGE/DUPLICATE	2.0000	\$28.000	56.00
		H1 FIELD BLANK	2.0000	\$24.600	49.20
11 ANALYSES					
	GW GROUNDWATER	A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	40.0000	\$122.000	4,880.00
		F1 EDB BY 8011	38.0000	\$45.200	1,717.60
	SOIL SOIL	W1 GRAIN SIZE / HYDROMETER	2.0000	\$104.000	208.00
12 AQUIFER CHARACTERIZATION		B1 SLUG TEST	2.0000	\$191.000	382.00
16 SUBSEQUENT SURVEY		A1 SUBSEQUENT SURVEY	1.0000	\$260.000	260.00
17 DISPOSAL		AA WASTEWATER	5.0000	\$0.560	2.80
		C1 SOIL TREATMENT DISPOSAL	5.0000	\$60.000	300.00
		D1 DRILLING FLUIDS	400.0000	\$0.420	168.00
19 RPT/PROJECT MNGT & COORDINATIO		PRT REPORT PREPARATION	0.1200	\$66,837.100	8,020.45
23 EFR		A4 96 HOUR EVENT	2.0000	\$12,567.500	25,135.00
		C4 OFF GAS TREATMENT 96 HOUR	2.0000	\$780.000	1,560.00
		F1 EFFLUENT DISPOSAL	40,000.0000	\$0.440	17,600.00
		G AFVR EQUIPMENT MOB	1.0000	\$391.500	391.50
25 WELL REPAIR		A1 ADDITIONAL COPIES OF REPORT	5.0000	\$50.000	250.00
<b>Total Amount</b>					<b>74,857.55</b>



# Document Receipt Information

Hard Copy       CD       Email

Date Received 6-14-19

Permit Number 12175

Project Manager Sharien Nguyen

Name of Contractor ATC

UST Certification Number \_\_\_\_\_

Docket Number 564edh

Scanned \_\_\_\_\_

*Additional Assessment*



**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

**GROUNDWATER ADDITIONAL ASSESSMENT AND AGGRESSIVE FLUID VAPOR  
RECOVERY REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**

**UST PERMIT NO. 12175  
ATC PROJECT NO. EFC3003**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

ATC Group Services, LLC  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

June 12, 2019

Noelle France  
Project Manager

Michael D. Shaw, P.G.  
SC Licensed Professional Geologist



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*Including Before & After Data; Field Data Sheet;  
Air Flow Calculations; Emission Calculations*

## 1.0 INTRODUCTION

This report, prepared by ATC Group Services LLC (ATC), presents the results of the Additional Assessment, Aggressive Fluid Vapor Recovery Events, and groundwater sampling at Edgefield Fuel & Convenience No. 3 site between April 16 and May 31, 2019. The activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1, and Cost Agreement Number 58512 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated December 7, 2018.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-5425

### 1.2 UST OWNER/OPERATOR

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 637-1900

### 1.3 PROPERTY OWNER INFORMATION

**Name:** Edgefield Fuel & Convenience, LLC  
**Address:** P.O. Box 388  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 367-1900

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** ATC Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina, 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 CERTIFIED LABORATORY INFORMATION

**Company Name:** Pace Analytical Services, Inc.  
**Address:** 9800 Kinsey Avenue, Suite 100  
Huntersville, North Carolina 28078  
**SC Certification:** 99006001

### 1.6 DHEC Certified Well Driller Information

**Name:** Tommy Bolyard  
**Company Name:** Environmental Drilling and Probing Service.  
**Address:** 17538 Greenhill Road

**Certification Number:** 2053 Charlotte, North Carolina 28278

## 1.7 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** 2BA

### UST Permit 12175

UST	Size	Product	Date Installed	Currently in Use	Date Closed
1	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
2	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
3	3,000	Premium Unleaded Gasoline	10/11/1989	Not In Use	Not applicable

The site operates as Edgefield Fuel & Convenience 3, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed at the site and the premium unleaded gasoline UST was not in use during these activities.

## 1.8 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.



## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The Edgefield Fuel & Convenience 3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. The site is bordered to the north by an access road and parking lot for the west abutting Carolina First Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street. A site vicinity map with topographic features is included as **Figure 1**.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority utilize potable water from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One wet weather drainage feature was previously identified as being located approximately 1,000 feet southeast of the site. This wet weather drainage feature flows in a general east to west direction before a turn and then flows toward the southwest. The wet weather drainage feature drains into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and a tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general northwest to southeast direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general northeast to southwest direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located at an elevation of approximately 525 feet above mean sea level (MSL) with an approximate total site topographic relief of three feet. The surface at the site is generally covered by asphalt, and some smaller areas of concrete and grass. The site USTs were overlain with a concrete surface finish. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC) stone and clayey to silty sand to depths of approximately 2 feet below ground surface (bgs). Native soils (residuum), below the fill material, are characterized as tan to brown to red silty sand and silty clay to depths of 6 feet bgs. Soils encountered in the boreholes 6 feet bgs are characterized as yellow to orange and tan to gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet during Tier I assessment activities (March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses, the site was underlain at shallow depths by clayey silty sand.

Historical depths to groundwater measured in shallow monitoring wells at the site ranged from 18.09 feet bgs (12175-MW5 in May 2010) to 25.61 feet bgs (12175-MW2 in October 2010 with 3.65 feet of free product), and averaged 22.24 feet bgs in on-site monitoring wells over time. Historical groundwater elevation data is presented in **Table 2**. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, ranged between 0.11 feet per day (ft/day) and 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

### 3.0 ASSESSMENT INFORMATION

#### 3.1 SOIL ASSESSMENT

Soil assessment was not required for the scope of work outlined in the December 7, 2018 directive.

#### 3.2 GROUNDWATER FIELD SCREENING

Groundwater field screening was not required for the scope of work outlined in the December 7, 2018 directive.

#### 3.3 MONITORING WELL INFORMATION

ATC personnel were on site April 16 -18, 2019 2018 to provide oversight for installation of groundwater monitoring wells 12175-TW1, 12175-TW2, and 12175-RW4. The monitoring wells were installed by Environmental Drilling and Probing Services (EDPS) using a Geoprobe 7822DT drill rig.

Type III telescoping (double cased) monitoring well 12175-TW1 was constructed with an outer casing set at 29 feet below ground surface (BGS) and set at a total depth of 38 feet BGS with five feet of screen.. Monitoring well 12175-TW2 was constructed with an outer casing set at 22 feet BGS and set at a total depth of 38 feet BGS with five feet of screen.

The telescoping wells were constructed of 6-inch diameter schedule 40 PVC outer casing. The outer casing boreholes were drilled using 8¼-inch inner diameter hollow stem augers, and the inner casing boreholes were drilled using a 6-inch diameter mud rotary wing bit.

The telescoping wells were completed with 5-feet of 2-inch diameter schedule 40 PVC well screen with 0.010-inch machined slotting and 2-inch diameter schedule 40 PVC inner casing riser. A No. 2 granular sand filter was placed in the annulus of the borehole to a height of approximately 2-feet above the top of well screen. An approximate two foot thick time-release bentonite seal was place above the sand filter pack, hydrated with existing groundwater in the borehole. Following expansion of the bentonite seal, the remainder of the borehole annulus was filled with a neat cement mixture tremied to the surface.

The newly installed wells were each completed with a flush-mounted traffic bearing manhole cover set in a two-foot square concrete pad. Following completion, each newly installed monitoring well was developed by surging and pumping using a submersible pump, decontaminated between each well, while groundwater physical parameters were recorded and logged on the appropriate data forms. Development water was containerized in 55-gallon drums, manifested, and transported off-site by EDPS for proper disposal.

Monitoring well construction details are summarized in **Table 2**. Monitoring well boring logs are presented in **Appendix D**. . The drillers well construction and development verification records are included in **Appendix E**.

### 3.4 GROUNDWATER ASSESSMENT

#### 3.4.1 Product/Water Level Measurements

Thirty one wells (12175-MW1, 12175-MW2, 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW 18, 12175-MW19, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, 12175-TW1, 12175-TW2 12175-RW1, 12175-RW2 and 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on May 20, 2019. Free phase product was detected in wells 12175-MW1 (thickness of 1.01 feet), 12175-MW2 (1.72 feet) 12175-MW19 (1.05 feet), 12175-MW25 (0.04 feet), 12175-RW1 (0.01 feet), 12175-RW2 (0.36 feet), 12175-RW3 (0.53 feet) and 12175-RW4 (0.01 feet).

Monitoring well 12175-MW21 could not be accessed as the bolts securing the manhole cover had been stripped and the well could not be opened.

On May 20, 2019, the groundwater elevations measured in the shallow monitoring wells, relative to a temporary benchmark with an assumed datum of 99.50 feet, ranged from 81.63 feet (12175-MW16) to 75.11 feet (12175-MW20). Based on these data, the groundwater flow direction is interpreted to trend primarily to the south in the southern site vicinity and to the north-northwest in the northern site vicinity.

The horizontal hydraulic gradient is estimated based on the change in hydraulic head per unit distance, calculated by using the formula  $i = (h_2 - h_1)/d$ , referenced from the “EPA On-line Tools for Site Assessment Calculation” website. In this calculation,  $i$  is the gradient,  $h$  is the hydraulic head at the up gradient monitoring well ( $h_1$ ) and down gradient monitoring well ( $h_2$ ), and  $d$  is the distance between the down gradient monitoring well and the up gradient monitoring well. The horizontal hydraulic gradient was calculated to be approximately 0.0178 ft/ft between monitoring wells 12175-MW16 and 12175-MW20.

The groundwater elevations in adjacent (paired) shallow monitoring wells were used to calculate the vertical gradient. The vertical gradient was calculated using the formula  $dh/dl = (h_2 - h_1) / (z_2 - z_1)$ , referenced from the “EPA On-line Tools for Site Assessment Calculation” site <<http://www.epa.gov/athens/learn2model/part-two/onsite/vgradient02.html>>. In this calculation, the vertical hydraulic gradient is the difference in head divided by the vertical distance of mid-points of the screened intervals between wells.

The vertical hydraulic gradient between monitoring well pair 12175-MW20 and 12175-TW1 was calculated to be 0.02518 ft/ft in the downward direction.

The vertical hydraulic gradient between monitoring well pair 12175-MW16 and 12175-TW2 was calculated to be 0.0079101 ft/ft in the downward direction.

Historical groundwater elevation data is presented in **Table 2**. A groundwater elevation map for site monitoring wells is included as **Figure 5**.

#### 3.4.2 Water Sampling and Analyses

Twenty-three monitoring wells (12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-

MW18, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW26, 12175-TW1 and 12175-TW2) were purged and sampled between May 20 and 22, 2019. Groundwater samples were not collected from monitoring wells 12175-MW1, 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW1, 12175-RW2, 12175-RW3 and 12175-RW4 due to the presence of free phase product.

Monitoring wells were purged using a combination of new, disposable polyethylene bailers and/or a stainless steel Proactive Mega-Monsoon® (centrifugal pump) with new, disposable polyethylene tubing and/or a Waterra Hydrolift2® pump with decontaminated foot valves and new, disposable polyethylene tubing while wearing new, disposable nitrile gloves.

Purging was accomplished by removing three to five well volumes while observing in-field groundwater quality parameters for stabilization criteria or until the well was bailed dry and allowed to recharge. Measurements of hydrogen ion concentration (pH), conductivity, temperature, oxidation reduction potential (ORP), and dissolved oxygen (DO) were recorded utilizing a Horiba U52® multi-parameter water quality meter. The visual clarity (turbidity) was also noted.

Groundwater samples collected were containerized in laboratory-prepared glass bottles, packed on ice, and transported to Pace Analytical Services, Inc. located in Huntersville, North Carolina, a South Carolina certified laboratory. Standard chain-of-custody procedures were maintained, as documented in **Appendix B**.

The duplicate samples were assigned a unique identification name with no time listed on the chain of custody to avoid potential laboratory analytical bias and identified in the field book. Two field blank samples were collected (per quality assurance/quality control [QAQC], one field blank sample is to be obtained for each 24 hour sampling period), during water sampling activities for quality assurance and quality control. Two sets of trip blank samples, (per QAQC protocol, one set of trip blank samples per each cooler submitted) were included for quality assurance and quality control.

A duplicate sample identified as 12175-DUP1 was collected from 12175-MW11 within 5 minutes of 12175-MW11 groundwater sample collection. A second duplicate sample, identified as 12175-DUP2, was collected from 12175-MW5 within 5 minutes of 12175-MW5 groundwater sample collection.

Thirty water samples (23 monitoring wells, two duplicates, three field blanks, and two trip blank) were analyzed for benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX compounds), naphthalene, 1,2-dichloroethane (1,2-DCA), methyl tertiary butyl ether (MTBE), tertiary amyl alcohol (TAA), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), tertiary butyl formate (TBF), diisopropyl ether (DIPE), ethanol, ethyl tertiary butyl ether (ETBE), and 3,3-dimethyl-1-butanol by Environmental Protection Agency (EPA) Method 8260. Twenty-eight water samples (24 monitoring wells, two duplicates, and two field blanks) were analyzed for ethylene dibromide (EDB) by EPA Method 8011.

### 3.4.3 Groundwater Analytical Data

Analytical results were compared to the Risk Based Screening Levels (RBSLs), as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D1: RBSLs for Groundwater* and the Action Levels (ALs) as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D2: Action Levels for Groundwater (Oxygenates)*.

ATC requested that the laboratory report include values flagged with a “J”, representing an estimated value between the laboratory reporting limit and the method detection limit. Where the “J” values are reported in excess of the RBSL or AL, they are included as exceeding the RBSL or AL for that constituent.

Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells 12175-MW5, 12175-MW6, 12175-MW11, 12175-MW17, 12175-MW18, 12175-MW23, 12175-MW24, and 12175-MW26.

Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW5, 12175-MW17, and 12175-MW24.

Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4 (as a “J” value), 12175-MW6, 12175-MW11, and 12175-MW23.

Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a “J” value), 12175-MW6 (as a “J” value), 12175-MW11, 12175-MW18 (as a “J” value), and 12175-MW24.

Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW3, 12175-MW5, 12175-MW11, 12175-MW17, 12175-MW18, and 12175-MW20.

Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater collected from well 12175-MW26.

Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4 (with a “J” Value), 12175-MW6, 12175-MW11, 12175-MW23, 12175-MW24 and 12175-MW26.

Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128  $\mu\text{g/L}$  in the groundwater sample collected from monitoring well 12175-MW11 (with a “J” value).

Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400  $\mu\text{g/L}$  was reported in the groundwater sample collected from monitoring wells 12175-MW4 (with a “J” value) and 12175-MW6.

Chemicals of Concern (COCs) were not detected in the field blanks or trip blanks from the May 2019 groundwater sampling event. .

Per QAPP requirements, precision is measured utilizing the relative percent difference (RPD) calculation. The average RPD for CoC concentrations exceeding the reporting limits from groundwater sample pair 12175-Dup 1 and 12175-MW11, and groundwater sample pair 12175-Dup2 and 12175-MW5 was calculated to be less than the maximum RPD limits of 20%.

Historical groundwater analytical data are presented in **Table 3**. A groundwater quality map based on the October 2016 data is included as **Figure 4**. Groundwater Sampling Field Data Sheets, the laboratory reports for groundwater samples collected during this assessment, and the QA/QC evaluation are included in **Appendix B**.

#### 3.4.4 Aquifer Characterization

Two slug tests (i.e., rising head) were performed on May 20, 2019, utilizing monitoring wells 12175-MW24 and 12175-TW1.

Slug test data was collected using the In-Situ (100 psi) Level TROLL® 700. Data was downloaded for interpretation using AQTESOLV software, as developed by HydroSOLVE, Inc. Data was downloaded for interpretation using Win-Situ® 5 and evaluated with AQTESOLV® software, as developed by HydroSOLVE, Inc.

The hydraulic conductivity estimated for the aquifer surrounding monitoring well 12175-MW24, using the Bouwer and Rice method, was calculated as 0.45 ft/day.

The hydraulic conductivity estimated for the aquifer surrounding monitoring well 12175-TW1, using the Bouwer and Rice method, was calculated as 0.2.05 ft/day.

Seepage velocity represents the apparent velocity of groundwater through the bulk of a porous medium. The horizontal seepage velocity was calculated using Darcy's Law ( $V=K_i/n_e$ ) where  $V$  is the average linear flow,  $K$  is the hydraulic conductivity,  $i$  is the hydraulic gradient, and  $n_e$  is the effective porosity.

The estimated seepage velocity in monitoring well 12175-MW24 was calculated as 11.69 ft/yr based on the horizontal hydraulic gradient of 0.018ft/ft. Using the same hydraulic gradient, and soil observations, the estimated seepage velocity in monitoring well 12175-TW1 was calculated as 0.53.27ft/yr.

Results of slug tests performed on May 20, 2019 are presented in **Table 4**. Calculations and raw data from the slug tests have been included as **Appendix F**.

### 3.5 INVESTIGATIVE DERIVED WASTE

Approximately 2.50 tons of soil generated during well installation were manifested and transported off-site by EDPS April 18, 2019 for disposal at the Environmental Soils, Inc. facility located in Lattimore, NC.

Six (6) 55-gallon drums of drilling mud and water were generated during well installation activities, and were manifested and transported off-site by EDPS on April 18, 2019 for disposal at the DART facility located in Charlotte, NC.



A total of approximately 40-gallons of purge water generated during monitoring well purging and sampling activities were manifested and transported off-site by ATC for disposal at the Haz-Mat Environmental Services facility located in Charlotte, NC. Copies of the disposal manifests for soil and water generated from well installation and sampling activities are included in **Appendix G**.

## 4.0 CORRECTIVE ACTION

The SCDHEC directive dated March 1, 2018, included conducting two 96-hour Aggressive Fluid Vapor Recovery (AFVR) events targeted monitoring wells 12175-RW2, 12175-RW3 and 12175-RW4 the first week and 12175-MW1 and 12175-RW2 during the second event.

### 4.1 Corrective Action Activities

#### 4.1.1 AFVR Event (May 6-10, 2019)

Groundwater and free-phase petroleum product gauging was conducted on May 6, 2019, prior to commencing AFVR activities, and on May 10, 2019, immediate following completion of AFVR activities, and again approximately 20 minutes following completion of AFVR activities. Free-phase petroleum product was detected in gauged wells during pre- AFVR activities. This event targeted groundwater monitoring well 12175-MW25, and recovery wells 12175-RW2 and 12175-RW4. Groundwater monitoring wells 12175-18 and 12175-26 were used as observation wells during this event.

Free-phase petroleum product was detected in 12175-MW25 (1.85 feet), and 12175-RW2 (2.36 feet). Recovery well 12175-RW2 was found to contain 0.14 feet of free phase petroleum 20 minutes post AFVR.

ATC conducted a 96-hour AFVR event between May 6-10, 2019. The AFVR event was completed by ATC with activity monitoring provided by Henry Wells and Austen Rubenstein.

The AFVR was performed with a trailer-mounted vacuum system capable of extracting vapors and fluids from monitoring well 12175-MW25 and recovery wells 12175-RW2 and 12175-RW for a duration of approximately 96 hours. The trailer mounted AFVR equipment consisted of one Dekker® VMX0303K oil-sealed liquid ring pump (LRP) capable of providing an air extraction rate of 275 cubic feet per minute (CFM) at 25 inches of mercury-gauge (inHg) vacuum. The LRP is connected to a manifold, air/water separator, and magnehelic gauges which allow for data collection and system monitoring during AFVR activities. A water discharge line is connected to the oil water separator, flow meter, and transfer pump and transports the recovered fluids to a holding tank temporarily stored on-site.

The stinger inlet depths (also known as drop tubes) in extraction wells 12175-MW25, 12175-RW2 and 12175-RW were initially set at the groundwater table interface detected in each well. The stinger inlets were lowered periodically throughout the first 8 hours and then adjusted to levels in which the highest vapor concentrations were detected from the exhaust stack. Observation wells were used to monitor the depth to groundwater (cone of depression detection) and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours of AFVR operation; at 1-hour intervals between 8 and 24 hours of operation; and at 2 hour intervals during the remainder of the event.

The vacuum readings averaged 23.59 in Hg over the course of the event. The air velocity rates averaged 258.56 feet per minute (ft/min) from the discharge stack over the course of the event. The organic vapor concentrations recovered from the extraction wells were measured at the discharge stack using a MiniRae 3000® Photoionization Detector (PID) and averaged 11,395 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 116.94 degrees Fahrenheit (°F).

A summary of free-phase petroleum product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of petroleum products removed as a vapor was calculated to be approximately 16.72 pounds (~2.78 equivalent gallons).

A measurable amount of free-phase product was not detected in the holding tank during post-AFVR measurements. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

Based on weigh tickets provided by Zebra Environmental and Industrial Services (Zebra), approximately 8,892 gallons of total fluids were disposed of from these activities. Total fluids recovered during the AFVR event were disposed by Zebra at their facility located in High Point, North Carolina. A copy of the disposal manifests and weigh tickets for 8,892 gallons of water from AFVR activities is included in **Appendix G**.

#### 4.1.1 AFVR Event (May13-17, 2019)

ATC conducted a 96-hour AFVR event between May 13 and May 17, 2019. The AFVR event was completed by ATC with activity monitoring provided by Henry Wells and Austen Rubenstein. Groundwater monitoring well 12175-MW1 and recovery well 12175-RW2 were used as target wells during this event.

Groundwater and free-phase petroleum product gauging was conducted on May 13, 2019, prior to commencing AFVR activities, and on May 17, 2019, immediately following completion of AFVR activities, and again approximately 20 minutes following completion of AFVR activities. Free-phase petroleum product was detected in gauged wells during pre-AFVR activities. Free-phase petroleum product was detected in 12175-MW1 (3.38ft), and 12175-RW1 (2.34 ft). Groundwater monitoring wells 12175-MW3 and 12175-MW6 were used as observation wells during this event.

The AFVR was performed with a trailer-mounted vacuum system capable of extracting vapors and fluids from the subsurface for approximately 96 hours. The trailer mounted AFVR equipment consisted of one Dekker® VMX0303K oil-sealed liquid ring pump (LRP) capable of providing an air extraction rate of 275 cubic feet per minute (CFM) at 25 inches of mercury-gauge (inHg) vacuum. The LRP is connected to a manifold, air/water separator, and magnehelic gauges which allow for data collection and system monitoring during AFVR activities. A water discharge line is connected to the oil water separator, flow meter, and transfer pump and transports the recovered fluids to a holding tank temporarily stored on-site.

The stinger inlet depths (also known as drop tubes) in extraction well 12175-MW1 and 12175-RW1 were initially set at the groundwater table interface detected in each well. The stinger inlets were lowered periodically throughout the first 8 hours and then adjusted to levels in which the highest vapor concentrations were detected from the exhaust stack. Observation wells were used to monitor the depth to groundwater (cone of depression detection) and collect vacuum radius of influence measurements throughout the AFVR event.

Measurements of vacuum, air velocities, temperature, and off-gas concentration readings were collected at 30-minute intervals during the first eight hours of AFVR operation; at 1-hour intervals between 8 and 24 hours of operation; and at 2 hour intervals during the remainder of the event.

The vacuum readings averaged 24.00 in Hgg over the course of the event. The air velocity rates averaged 331.24 feet per minute (ft/min) from the discharge stack over the course of the event. The organic vapor concentrations recovered from monitoring well 12175-MW1 and 12175-RW1 were measured at the

discharge stack using a MiniRae 3000® Photoionization Detector (PID) and averaged 12,184 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 103.51 degrees Fahrenheit (°F).

Free-phase petroleum product was not detected in the target or observation wells during post-AFVR measurements on May 17, 2019. A summary of free-phase petroleum product and AFVR data collected is presented in **Table 6**. A summary of groundwater elevation data is presented in **Table 7**.

The total estimated amount of petroleum products removed as a vapor was calculated to be approximately 21.69 pounds (~3.61 equivalent gallons).

A measurable amount of free-phase product was not detected in the holding tank during post-AFVR measurements. Field data sheets, air flow calculations, and emission calculations for this AFVR event are included in **Appendix L**.

Based on weigh tickets provided by Zebra Environmental and Industrial Services (Zebra), approximately 11,019 gallons of total fluids were disposed of from these activities. Total fluids recovered during the AFVR event were disposed by Zebra at their facility located in High Point, North Carolina. A copy of the disposal manifests and weigh tickets for 11,019 gallons of water from AFVR activities is included in **Appendix G**.

## 5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### 5.1 SUMMARY

- ATC personnel were on site April 16 -18, 2019 2018 to provide oversight for installation of groundwater monitoring wells 12175-TW1, 12175-TW2, and 12175-RW4. The monitoring wells were installed by Environmental Drilling and Probing Services (EDPS) using a Geoprobe 7822DT drill rig.
- ATC conducted a 96-hour AFVR event between May 6-10, 2019. The AFVR was performed with a trailer-mounted vacuum system capable of extracting vapors and fluids from monitoring well 12175-MW25 and recovery wells 12175-RW2 and 12175-RW for a duration of approximately 96 hours. The vacuum readings averaged 23.59 in Hgg over the course of the event. The air velocity rates averaged 258.56 feet per minute (ft/min) from the discharge stack over the course of the event. Organic Vapor readings averaged 11,395 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 116.94 degrees Fahrenheit (°F). The total estimated amount of petroleum products removed as a vapor was calculated to be approximately 16.72 pounds (~2.78 equivalent gallons). Based on weigh tickets provided by Zebra Environmental and Industrial Services (Zebra), approximately 8,892 gallons of total fluids were disposed of from these activities.
- ATC conducted a 96-hour AFVR event between May 13 and May 17, 2019. Groundwater monitoring well 12175-MW1 and recovery well 12175-RW2 were used as target wells during this event. The vacuum readings averaged 24.00 in Hgg over the course of the event. The air velocity rates averaged 331.24 feet per minute (ft/min) from the discharge stack over the course of the event. Organic Vapor readings averaged 12,184 parts per million (ppm) over 96 hours for this AFVR event. The exhaust stack gas temperatures averaged 103.51 degrees Fahrenheit (°F). The total estimated amount of petroleum products removed as a vapor was calculated to be approximately 21.69 pounds (~3.61 equivalent gallons). Based on weigh tickets provided by Zebra Environmental and Industrial Services (Zebra), approximately 11,019 gallons of total fluids were disposed of from these activities.
- Thirty one wells (12175-MW1, 12175-MW2, 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW 18, 12175-MW19, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, 12175-TW1, 12175-TW2 12175-RW1, 12175-RW2 and 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on May 20, 2019.
- Free phase product was detected in wells 12175-MW1 (thickness of 1.01 feet), 12175-MW2 (1.72 feet) 12175-MW19 (1.05 feet), 12175-MW25 (0.04 feet), 12175-RW1 (0.01 feet), 12175-RW2 (0.36 feet), 12175-RW3 (0.53 feet) and 12175-RW4 (0.01 feet).
- Twenty-three monitoring wells (12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW18, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW26, 12175-TW1 and 12175-TW2) were purged and sampled between May 20 and 22, 2019.
- Based on the May 2019 gauging data, the groundwater flow direction was interpreted to trend toward the south in the southern site vicinity and towards the north-northwest on the northern site vicinity.

- Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells 12175-MW5, 12175-MW6, 12175-MW11, 12175-MW17, 12175-MW18, 12175-MW23, 12175-MW24, and 12175-MW26.
- Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW17, 12175-MW18, and 12175-MW24.
- Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW17, 12175-MW18, and 12175-MW24.
- Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW5, 12175-MW17, and 12175-MW24.
- Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4 (as a "J" value), 12175-MW6, 12175-MW11, and 12175-MW23.
- Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW5 (as a "J" value), 12175-MW6 (as a "J" value), 12175-MW11, 12175-MW18 (as a "J" value), and 12175-MW24.
- Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW3, 12175-MW5, 12175-MW11, 12175-MW17, 12175-MW18, and 12175-MW20.
- Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater collected from well 12175-MW26.
- Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4 (with a "J" Value), 12175-MW6, 12175-MW11, 12175-MW23, 12175-MW24 and 12175-MW26.
- Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128  $\mu\text{g/L}$  in the groundwater sample collected from monitoring well 12175-MW11 (with a "J" value).
- Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400  $\mu\text{g/L}$  was reported in the groundwater sample collected from monitoring wells 12175-MW4 (with a "J" value) and 12175-MW6.

## 5.2 CONCLUSIONS

- Free phase product continues to be detected at the site in wells located at and to the west of the UST system.
- The horizontal and vertical extent of dissolved phase petroleum in the groundwater has not been defined.

### 5.3 RECOMMENDATIONS

- ATC recommends delineating the extent of free phase petroleum at the site with the use of Laser Induced Fluorescence (LIF) technology, to establish optimal locations for recovery wells.
- Subsequent to the LIF event, it is recommended that recovery wells be installed in the areas determined to have the greatest thickness of free phase petroleum product.
- ATC recommends performing two 96-hour aggressive fluid vapor recovery (AFVR) events in order to aid in mitigation of onsite free phase product. The first event will target monitoring wells 12175-MW1, and 12175-RW1, and a second event will target monitoring wells 12175-MW2, 12175-MW25, and recovery well 12175-RW2. Groundwater gauging events will be conducted prior to and at the conclusion of each AFVR event.
- Additional monitoring wells appear appropriate to delineate CoC above RBSLs in groundwater. It is recommended that these wells be installed subsequent to the removal of free phase petroleum product at the site.



## 6.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ATC. Although the accuracy of these data cannot be verified, for the purposes of this report, ATC assumes that they are correct.

### 6.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## **TABLES**

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**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW1	35	20-35	98.51	12/17/04	22.13	23.68	1.55	75.99	NM
				05/10/10	17.83	21.00	3.17	79.89	NM
				10/20/10	19.38	25.07	5.69	77.71	NM
				09/12/11	20.59	26.35	5.76	76.48	NM
				08/16/13	19.33	22.72	3.39	78.33	NM
				01/09/14	19.37	22.77	3.40	78.29	NM
				01/23/15	18.70	20.10	1.40	79.46	33.30
				09/15/15	19.15	22.67	3.52	78.48	NM
				10/11/16	18.62	21.77	3.15	79.10	NM
12175-MW2	34	19-34	100.42	05/20/19	17.80	18.81	1.01	80.46	NM
				12/17/04	---	24.55	---	75.87	34.05
				05/10/10	20.27	22.73	2.46	79.54	33.98
				10/20/10	21.96	25.61	3.65	77.55	NM
				09/12/11	23.01	27.06	4.05	76.40	NM
				08/16/13	22.35	22.67	0.32	77.99	NM
				01/09/14	22.08	22.91	0.83	78.13	NM
				01/23/15	21.10	21.90	0.80	79.12	34.00
				09/15/15	21.80	22.63	0.83	78.41	NM
12175-MW3	34	19-34	100.44	10/11/16	21.46	21.72	0.26	78.90	NM
				05/20/19	19.66	21.88	2.22	80.21	NM
				12/17/04	---	24.38	---	76.06	34.00
				05/10/10	---	20.54	---	79.90	33.91
				10/20/10	---	22.71	---	77.73	33.90
				09/12/11	---	23.90	---	76.54	33.89
				08/16/13	---	22.32	---	78.12	---
				01/09/14	---	22.11	---	78.33	---
				12/22/14	---	21.90	---	78.54	33.90
12175-MW4	29	19-29	98.61	09/15/15	---	21.77	---	78.67	33.90
				10/11/16	---	21.38	---	79.06	27.89
				05/20/19	---	19.72	---	80.72	33.95
				05/10/10	---	18.92	---	79.69	28.91
				10/20/10	---	21.04	---	77.57	28.95
				09/12/11	---	22.22	---	76.39	28.96
				08/16/13	20.49	21.49	1.00	77.87	---
				01/09/14	20.27	21.15	0.88	78.12	---
				01/23/15	19.30	19.85	0.55	79.17	29.00
12175-MW5	29	19-29	98.05	09/15/15	19.93	20.90	0.97	78.44	NM
				10/11/16	---	19.65	---	78.96	28.89
				05/20/19	---	18.17	---	80.44	29.03
				05/10/10	---	18.09	---	79.96	29.04
				10/20/10	20.22	20.57	0.35	77.74	NM
				09/12/11	20.66	24.05	3.39	76.54	NM
				08/16/13	19.39	21.83	2.44	78.05	NM
				01/09/14	19.24	20.96	1.72	78.38	NM
				01/23/15	18.55	18.90	0.35	79.41	29.00
12175-MW6	29	19-29	99.82	09/15/15	19.35	19.72	0.37	78.61	NM
				10/11/16	---	18.80	---	79.25	28.99
				05/20/19	---	17.18	---	80.87	29.14
				05/10/10	---	19.94	---	79.88	28.99
				10/20/10	---	22.09	---	77.73	29.02
				09/12/11	---	23.27	---	76.55	28.99
				08/16/13	---	21.75	---	78.07	---
				01/09/14	---	21.51	---	78.31	---
12/22/14	---	21.24	---	78.58	29.01				
09/15/15	---	21.12	---	78.70	28.99				
10/11/16	---	20.70	---	79.12	28.93				
05/20/19	---	19.10	---	80.72	29.80				

**TABLE 2  
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Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW7	20	10-20	93.32	05/10/10	---	13.51	---	79.81	20.33
				10/20/10	---	15.91	---	77.41	20.25
				09/12/11	---	17.00	---	76.32	20.36
				08/16/13	---	15.18	---	78.14	---
				01/09/14	---	14.95	---	78.37	---
				12/22/14	---	15.10	---	78.22	20.40
				09/15/15	---	15.03	---	78.29	20.40
				10/11/16	---	14.65	---	78.67	20.28
12175-MW8	27	17-27	100.59	05/10/10	---	21.61	---	78.98	26.85
				10/20/10	---	23.83	---	76.76	26.89
				09/12/11	---	24.89	---	75.70	26.89
				08/16/13	---	22.87	---	77.72	---
				01/09/14	---	22.73	---	77.86	---
				12/22/14	---	23.07	---	77.52	26.90
				09/15/15	---	23.01	---	77.58	26.90
				10/11/16	---	22.57	---	78.02	26.80
12175-MW9	27	17-27	97.55	05/10/10	---	18.81	---	78.74	27.03
				10/20/10	---	21.12	---	76.43	27.07
				09/12/11	---	22.16	---	75.39	26.93
				08/16/13	---	20.03	---	77.52	---
				01/09/14	---	19.75	---	77.80	---
				12/22/14	---	20.30	---	77.25	26.89
				09/15/15	---	20.36	---	77.19	26.89
				10/11/16	---	19.85	---	77.70	26.97
12175-MW10	30	20-30	101.31	05/10/10	---	22.88	---	78.43	30.31
				10/20/10	---	24.90	---	76.41	30.40
				09/12/11	---	25.87	---	75.44	30.39
				08/16/13	---	23.86	---	77.45	---
				01/09/14	---	23.74	---	77.57	---
				12/22/14	---	24.10	---	77.21	30.30
				09/15/15	---	23.89	---	77.42	30.30
				10/11/16	---	23.66	---	77.65	30.25
12175-MW11	31	21-31	101.65	05/10/10	---	22.16	---	79.49	31.04
				10/20/10	---	24.10	---	77.55	31.07
				09/12/11	---	25.25	---	76.40	30.91
				08/16/13	---	23.69	---	77.96	---
				01/09/14	---	23.61	---	78.04	---
				12/22/14	---	23.41	---	78.24	30.85
				09/15/15	---	23.09	---	78.56	30.85
				10/11/16	---	22.79	---	78.86	30.85
12175-MW12	30	20-30	100.55	05/10/10	---	21.78	---	78.77	30.15
				10/20/10	---	23.75	---	76.80	30.10
				09/12/11	---	25.00	---	75.55	30.04
				08/16/13	---	23.35	---	77.20	---
				01/09/14	---	23.24	---	77.31	---
				12/22/14	---	22.98	---	77.57	30.05
				09/15/15	---	22.70	---	77.85	30.05
				10/11/16	---	22.29	---	78.26	29.95
05/20/19	---	20.78	---	79.77	30.00				

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Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW13	25	15-25	93.20	05/10/10	---	17.82	---	75.38	25.20
				10/20/10	---	20.26	---	72.94	25.24
				09/12/11	---	21.60	---	71.60	25.24
				08/16/13	---	19.20	---	74.00	---
				01/09/14	---	18.87	---	74.33	---
				12/22/14	---	19.44	---	73.76	25.25
				09/15/15	---	18.86	---	74.34	25.25
				10/11/16	---	18.55	---	74.65	25.15
12175-MW14	30	20-30	100.05	05/20/19	---	16.84	---	76.36	25.23
				05/10/10	---	22.47	---	77.58	29.54
				10/20/10	---	24.77	---	75.28	29.59
				09/12/11	---	25.97	---	74.08	29.57
				08/16/13	---	24.06	---	75.99	---
				01/09/14	---	23.70	---	76.35	---
				12/22/14	---	23.90	---	76.15	29.60
				09/15/15	---	23.40	---	76.65	29.60
12175-MW15	27	17-27	98.47	10/11/16	---	23.05	---	77.00	29.46
				05/20/19	---	21.29	---	78.76	29.59
				05/10/10	---	18.81	---	79.66	26.93
				10/20/10	---	21.16	---	77.31	26.97
				09/12/11	---	22.10	---	76.37	26.96
				08/16/13	---	20.66	---	77.81	---
				01/09/14	---	20.24	---	78.23	---
				12/22/14	---	20.09	---	78.38	26.93
12175-MW16	20	10-20	93.01	09/15/15	---	19.70	---	78.77	26.93
				10/11/16	---	19.69	---	78.78	26.89
				05/20/19	---	17.68	---	80.79	27.00
				05/10/10	---	12.34	---	80.67	19.92
				10/20/10	---	14.97	---	78.04	19.89
				09/12/11	---	16.15	---	76.86	19.66
				08/16/13	---	14.68	---	78.33	---
				01/09/14	---	14.28	---	78.73	---
12175-MW17	28	18-28	101.09	12/22/14	---	13.61	---	79.40	19.25
				09/15/15	---	13.93	---	79.08	19.25
				10/11/16	---	13.51	---	79.50	19.29
				05/20/19	---	11.36	---	81.65	19.34
				10/20/10	---	23.52	---	77.57	28.70
				09/12/11	---	24.67	---	76.42	28.68
				08/16/13	22.62	24.66	2.04	77.96	---
				01/09/14	---	23.00	---	78.09	---
12175-MW18	28	18-28	101.51	12/22/14	---	22.82	---	78.27	28.66
				09/15/15	---	22.72	---	78.37	28.66
				10/11/16	---	22.21	---	78.88	28.61
				05/20/19	---	20.69	---	80.40	28.71
				10/20/10	---	24.01	---	77.50	28.66
				09/12/11	---	25.14	---	76.37	28.58
				08/16/13	---	23.45	---	78.06	---
				01/09/14	---	23.33	---	78.18	---
12175-MW19	28	18-28	100.01	12/22/14	---	23.31	---	78.20	28.60
				09/15/15	---	23.12	---	78.39	28.60
				10/11/16	---	22.73	---	78.78	28.39
				05/20/19	---	21.19	---	80.32	28.58
				10/20/10	22.35	23.19	0.84	77.45	NM
				09/12/11	22.57	27.18	4.61	76.29	NM
				08/16/13	20.73	23.35	2.62	78.63	NM
				01/09/14	21.58	23.25	1.67	78.01	NM
12175-MW19	28	18-28	100.01	01/23/15	20.05	20.80	0.75	79.77	28.30
				09/15/15	21.53	22.05	0.52	78.35	NM
				10/11/16	---	21.18	---	78.83	28.16
				05/20/19	19.36	20.41	1.05	80.39	NM

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW20	27	17-27	91.80	10/20/10	---	20.28	---	71.52	26.24
				09/12/11	---	21.66	---	70.14	26.24
				08/16/13	---	18.98	---	72.82	---
				01/09/14	---	18.42	---	73.38	---
				12/22/14	---	19.21	---	72.59	26.25
				09/15/15	---	19.13	---	72.67	26.25
				10/11/16	---	18.59	---	73.21	26.15
12175-MW21	29	19-29	94.30	10/20/10	---	21.70	---	72.60	29.37
				09/12/11	---	22.94	---	71.36	29.35
				08/16/13	---	20.70	---	73.60	---
				01/09/14	---	20.33	---	73.97	---
				12/22/14	---	20.81	---	73.49	29.37
				09/15/15	---	20.58	---	73.72	29.37
				10/11/16	---	20.01	---	74.29	29.25
12175-MW22	30	20-30	99.82	10/20/10	---	25.99	---	73.83	29.89
				09/12/11	---	26.94	---	72.88	29.89
				08/16/13	---	24.04	---	75.78	---
				01/09/14	---	23.98	---	75.84	---
				12/22/14	---	25.15	---	74.67	29.90
				09/15/15	---	24.79	---	75.03	29.90
				10/11/16	---	23.73	---	76.09	29.80
12175-MW23	31	21-31	102.29	10/20/10	---	24.86	---	77.43	31.37
				09/12/11	---	25.99	---	76.30	31.34
				08/16/13	20.87	24.35	3.48	80.55	NM
				01/09/14	---	24.32	---	77.97	---
				12/22/14	---	24.21	---	78.08	31.35
				09/15/15	---	23.90	---	78.39	31.35
				10/11/16	---	23.61	---	78.68	31.23
12175-MW24	30	20-30	100.23	08/16/13	---	22.07	---	78.16	---
				01/09/14	---	22.08	---	78.15	---
				12/22/14	---	21.85	---	78.38	30.15
				09/15/15	---	21.76	---	78.47	30.15
				10/11/16	---	21.21	---	79.02	30.05
				05/20/19	---	20.00	---	80.23	30.25
12175-MW25	30	20-30	99.95	08/16/13	21.40	23.87	2.47	77.93	NM
				01/09/14	21.22	23.75	2.53	78.10	NM
				01/23/15	19.90	21.90	2.00	79.55	30.15
				09/15/15	20.48	24.45	3.97	78.48	NM
				10/11/16	20.16	23.77	3.61	78.89	NM
				05/20/19	19.64	19.68	0.04	80.30	NM
12175-MW26	30	20-30	99.89	08/16/13	---	22.81	---	77.08	---
				01/09/14	---	22.68	---	77.21	---
				12/22/14	---	22.45	---	77.44	30.09
				09/15/15	---	22.13	---	77.76	30.09
				10/11/16	---	21.66	---	78.23	29.97
12175-RW1	30	20-30	98.05	05/20/19	---	20.17	---	79.72	30.08
				08/16/13	---	19.80	---	78.25	---
				08/16/13	19.64	19.67	0.03	78.40	NM
				04/03/14	18.31	18.35	0.04	79.73	NM
				12/22/14	---	19.38	---	78.67	29.18
				09/15/15	---	19.42	---	78.63	NM
10/11/16	18.75	18.80	0.05	79.29	NM				
05/20/19	17.25	17.26	0.01	80.80	NM				

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-RW2	30	20-30	100.05	08/16/13	20.75	20.87	0.12	79.27	NM
				08/16/13	21.16	24.18	3.02	78.14	NM
				04/03/14	19.79	22.38	2.59	79.61	NM
				01/23/15	20.00	22.50	2.50	79.43	30.10
				09/15/15	20.45	24.40	3.95	78.61	NM
				10/11/16	20.20	24.09	3.89	78.88	NM
				05/20/19	19.67	20.03	0.36	80.29	NM
12175-RW3	30	20-30	100.16	08/16/13	---	22.16	---	78.00	---
				01/09/14	---	22.00	---	78.16	---
				12/22/14	---	21.78	---	78.38	30.00
				09/15/15	---	21.68	---	78.48	NM
				10/11/16	---	21.28	---	78.88	30.08
				05/20/19	19.67	20.20	0.53	80.25	NM
12175-RW4	35	15-35	100.25	05/20/19	19.80	19.81	0.01	80.44	---
12175-TW1	38	33-38	91.52	05/20/19	---	16.82	---	74.70	38.79
12175-TW2	38	33-38	93.29	05/20/19	---	11.66	---	81.63	29.50

Notes:

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free phase product with an assumed density of 0.75g/cm<sup>3</sup>, where present.

Well depths and screen lengths based on well construction records referencing ground surface.

Measured depths to fluids reference top of casing as measuring point.



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)		
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE		
12175-MW1	03/04/09	FREE PHASE PRODUCT																		
	05/10/10	FREE PHASE PRODUCT																		
	10/20/10	FREE PHASE PRODUCT																		
	09/12/11	FREE PHASE PRODUCT																		
	12/22/14	FREE PHASE PRODUCT																		
	09/15/15	FREE PHASE PRODUCT																		
	10/11/16	FREE PHASE PRODUCT																		
12175-MW2	05/20/19	FREE PHASE PRODUCT																		
	03/04/09	4,970	7,470	1,020	4,400	183	142	0.46	NR	<3.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	05/10/10	FREE PHASE PRODUCT																		
	10/20/10	FREE PHASE PRODUCT																		
	09/12/11	FREE PHASE PRODUCT																		
	12/22/14	FREE PHASE PRODUCT																		
	09/15/15	FREE PHASE PRODUCT																		
12175-MW3	10/11/16	FREE PHASE PRODUCT																		
	05/20/19	FREE PHASE PRODUCT																		
	03/04/09	7.9	33.9	<5.0	12.8	<5.0	<5.0	<0.019	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	<5.0	4.3J	<5.0	5.7J	<5.0	<5.0	<0.020	<5.0	<5.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	10/21/10	7.5	<5.0	<5.0	4.7J	<5.0	3.6J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	21.4	<1	<0.5	3.5	<1	<5	<0.0189	<0.5	NR	<20	<1	2.6I	<160	<1	<800	<1	<40		
	12/23/14	43.1	1.7J	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	09/15/15	3.1J	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	10/12/2016	8.5	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1		
	05/21/2019	<1.7	3.0J	<1.8	<5.0	<3.1	3.0J	0.13	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW4	05/10/10	411	29.8	8.3	31.9J	256	<5.0	<0.020	<5.0	17.6	3,120	11.8	322	<50.0	<5.0	<200	<10.0	<100		
	10/21/10	1,360	87.5	108	121.6	630	15.2	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
	09/12/11	626	10.6	9.5	19.2	862	<25	<0.019	<2.5	NR	7,600	30	350	<800	4.4I	<4,000	<5	<200		
	12/22/14	FREE PHASE PRODUCT																		
	09/15/15	FREE PHASE PRODUCT																		
	10/12/2016	415	3210	1630	7070	464	526	<0.019	<45.0	NR	20000	<85.0	2750	<182	<42.5	<3280	<90.0	<802		
	05/22/2019	<74.8	1030	1550	7140	101J	722	<0.011	<70.5	NR	6760	<139	1510J	<585	<65.0	<3200	<134	<1640		
12175-MW5	05/10/10	20,900	30,900	1,090	12,100	11,400	316	0.93	<5.0	21.7	25,300	1,620	<100	<50.0	131	<200	47.1	<100		
	10/20/10	FREE PHASE PRODUCT																		
	09/12/11	FREE PHASE PRODUCT																		
	12/22/14	FREE PHASE PRODUCT																		
	09/15/15	FREE PHASE PRODUCT																		
	10/12/2016	26000	41800	3100	17000	660J	819J	2.1	<45.0	NR	<19200	1370J	<14400	<1820	<425	<32800	<900	<8020		
	05/22/2019	22600	37700	3260	16700	<524	723J	1.4	<564	NR	<12400	<1110	<5880	<4680	<520	<25600	<1070	<13100		
12175-MW6	05/10/10	270	200	20.1	213.3	59.4	<5.0	<0.019	<5.0	9.4	787	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	10/21/10	1,830	1,140	110	677	186	9.1J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
	09/12/11	1,500	351	19.5	353	155	<50	<0.0187	<5	NR	<200	6.7I	<200	<1,600	<10	<8,000	<10	<400		
	12/23/14	2,350	183	483	263	459	26.6	<0.019	<25.0	NR	13,600	<50.0	1,050	<250	<25.0	<1,000	<50.0	<500		
	09/15/15	1890	<100	708	<200	905	<100	<0.020	<100	NR	28300	<200	2020	<1000	<100	<4000	<200	<2000		
	10/12/2016	1660	595	497	842	770	43.5J	<0.020	<36.0	NR	34800	<68.0	2870	<146	<34.0	<2620	<72.0	<642		
	05/22/2019	3480	562	932	2120	1190	115J	<0.011	<113	NR	62100	<223	4340	<936	<104	<5120	<215	<2620		
12175-MW7	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	59.3	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0187	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40		
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1		
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW8	05/10/10	<5.0	3.7J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	57.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	1.9I	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW9	05/10/10	<5.0	3.1J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	34.4	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0185	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	2.8J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.018J	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW10	05/10/10	<5.0	1.8J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	41.6	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW11	05/10/10	1,820	522	33.1	522	125	31.9	0.097	<5.0	40.5	310	100	<100	<50.0	4.7J	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	4.4J	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	1,110	1,140	155	3,610	<10	<50	<0.0191	<5	NR	<200	19.3	<200	<1,600	<10	<8,000	<10	<400
	12/22/14	1,980	519	62.7	2,470	161	251	<0.020	<5.0	NR	1,340	94.0	200	<50.0	5.9	<200	<10.0	<100
	09/15/15	673	637	<62.5	3620	<62.5	260	<0.020	<25.5	NR	<1250	<125	<1250	<62.5	<62.5	<2500	<125	<1250
	10/12/2016	1340	451	50.4J	3950	25.3J	279	<0.020	<22.5	NR	<960	<42.5	<721	<91.2	<21.2	<1640	<45.0	<401
05/21/2019	4850	850	155	916	480	218	0.26	<70.5	NR	5360	207J	<735	<585	<65.0	<3200	<134	<1640	
12175-MW12	05/10/10	75.7	3.5J	9.4	34.0J	<5.0	12.0	<0.020	<5.0	61.5	157	<10.0	570	<50.0	<5.0	<200	<10.0	<100
	10/20/10	58.0	2.6J	8.5	19.5	<5.0	14.6	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	53.6	2.1	2.6	1.11	<1	5.9	<0.0188	<0.5	NR	343	<1	88.2	<160	<1	<800	<1	<40
	12/23/14	44.7	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	1,120	<10.0	75.6J	<50.0	<5.0	<200	<10.0	<100
	09/15/15	24.7	<5.0	11.3	<10.0	<5.0	14.5	<0.019	<5.0	NR	715	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	29.1	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	979	<3.4	87.4J	<7.3	<1.7	<131	<3.6	<32.1
05/22/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	NR	186	<5.6	34.7J	<23.4	<2.6	<128	<5.4	<65.6	
12175-MW13	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.021	<5.0	96.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.019	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	3.5J	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW14	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	7.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.044	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW15	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	128	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.031	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW16	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	146	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW17	10/21/10	15,900	31,400	2,820	12,970	564	623	0.69	<5.0	NR	13,600	533J	<100	<50.0	24.5	<200	8.5J	<100
	09/12/11	9,220	19,500	1,530	7,480	<100	272 I	0.13	<50	NR	9,580	260	<2,000	<16,000	<100	<80,000	<100	<4,000
	12/23/14	15,600	40,400	3,430	18,500	545 J	843	0.23	<675	NR	18,000	490 J	<12,500	<6,250	<625	<25,000	<1,250	<12,500
	09/16/15	15,900	33,000	2,820	17,000	<1000	1880	0.70	<1000	NR	15,700 J	<2000	<20,000	<10,000	<1000	<40,000	<2,000	<20,000
	10/12/2016	19,100	38,100	3,180	16,200	<340	613 J	0.64	<360	NR	29,100	<680	<11,500	<1,460	<340	<26,200	<720	<6,420
	05/21/2019	13,600	30,900	3,120	15,900	<1050	<1070	0.74	<1130	NR	<24,800	<2,230	<11,800	<9360	<1040	<51,200	<2,150	<26,200
12175-MW18	10/21/10	26.8	101	9.3	42.7	2.8J	3.1J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/23/14	7,030	17,400	1,430	8,170	18.7	228	<0.019	<10.0	NR	1,540	94.3	<200	<100	<10.0	<400	<20.0	<200
	09/16/15	3,350	9,620	898	6,070	<25.0	208	0.056	<25.0	NR	740	31.8 J	<500	<250	<25.0	<1,000	<50.0	<500
	10/12/2016	5070	13,300	1,630	5,810	<170	276 J	0.11	<180	NR	<7,680	<340	<5,770	<730	<170	<13,100	<360	<3,210
	05/22/2019	2,450	13,300	1,690	7,050	<328	388 J	0.096	<352	NR	<7,740	<696	<3,680	<2,920	<325	<16,000	<671	<8,200
12175-MW19	10/20/10	FREE PHASE PRODUCT																
	09/12/11	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/12/2016	910	6950	1460	9810	<85.0	360	<0.020	<90.0	NR	7780	<170	<2880	<365	<85.0	<6550	<180	<1600
	5/20/2019	FREE PHASE PRODUCT																
12175-MW20	10/21/10	5.6	7.0	1.1J	9.1J	9.5	2.9J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	0.17 I	<0.5	<2	5	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/20/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	0.096	<2.8	NR	<61.9	<5.6	<29.4	<23.4	<2.6	<128	<5.4	<65.6
12175-MW21	10/21/10	2.5J	10.5	1.8J	8.2J	<5.0	5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/23/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	3.2 J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	9.9	<0.019	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/20/2019	No Access																
12175-MW22	10/21/10	<5.0	4.5J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0191	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	2.9J	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW23	10/21/10	<5.0	4.5J	<5.0	<15.0	3.8J	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	0.66 I	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	18.9	<5.0	<5.0	<10.0	6.4	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	18.7	<5.0	<5.0	<10.0	10.1	3.6 J	<0.020	<5.0	NR	<100	3.5 J	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	1110	<16.0	<16.0	51.6 J	117	22.1 J	<0.020	<18.0	NR	<768	65.4 J	<577	<73.0	<17.0	<1310	<36.0	<321
05/21/2019	998	<28.7	<29.0	<50.0	262	<26.7	<0.011	<28.2	NR	2260	115	447 J	<234	<26.0	<1280	<53.7	<656	
12175-MW24	12/23/14	12,100	32,800	1,780	21,100	75.5	469	<0.020	<50.0	NR	17,400	119	644 J	<500	<50.0	<2,000	<100	<1,000
	09/16/15	4720	17000	2600	14600	<625	1320	<0.020	<625	NR	15600	<1250	<12500	<6250	<625	<25000	<1250	<12500
	10/12/2016	4320	13600	2170	11300	<170	493 J	0.35	<180	NR	18700	<340	<5770	<730	<170	<13100	<360	<3210
	05/22/2019	5290	15300	2470	12000	<262	584	<0.011	<282	NR	18700	<557	<2940	<2340	<260	<12800	<537	<6560
12175-MW25	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
12175-MW26	12/22/14	967	41.8	<25.0	<50.0	84.6	25.6	<0.019	13.9 J	NR	1,310	44.7 J	306 J	<250	16.0 J	<1,000	<50.0	161 J
	09/15/15	563	<25.0	<25.0	<50.0	54.4	47.5	<0.020	12.1 J	NR	1200	27.4 J	<500	<250	18.6 J	<1000	<50.0	<500
	10/12/2016	238	<4.0	<4.0	<6.8	37.2	<5.0	<0.019	7.6 J	NR	1100	30.6	249 J	<18.2	10.0 J	<328	<9.0	<80.2
	05/22/2019	52.1	<2.0	<1.8	<5.0	29.7	<2.1	<0.011	5.9	NR	1920	57.4	194	<24.1	10.2	<144	<8.5	<53.9
12175-TW1	05/20/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	05/22/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-RW1	12/23/14	27,900	44,800	2,900	17,000	4,540	525	1.2	<100	NR	18,100	2,010	1,550 J	<1,000	145	<4,000	<200	<2,000
	09/16/15	26800	51700	3630	21600	2330	3120	0.39	<2000	NR	41800	1570 J	<40000	<20000	<2000	<80000	<4000	<40000
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
12175-RW2	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
12175-RW3	12/23/14	13,300	36,200	3,140	15,700	<2,500	<2,500	0.028	<2,500	NR	<50,000	<5,000	<50,000	<25,000	<2,500	<100,000	<5,000	<50,000
	09/16/15	8210	29800	2410	16000	<125	705	<0.019	<125	NR	19600	<250	<2500	<1250	<125	<5000	<250	<2500
	10/12/2016	11200	34900	3280	17100	<425	602 J	0.21	<450	NR	39000	<850	<14400	<1820	<425	<32800	<900	<8020
	05/20/19	FREE PHASE PRODUCT																
12175-RW4	05/20/19	FREE PHASE PRODUCT																

Risk-Based Screening Level (RBSL) as defined in Appendix B of SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.  
South Carolina Risk-Based Corrective Action for Petroleum Releases

Action Level (AL) as defined in SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, October 22, 2008, Certification of the Oxygenate

Concentrations in bold face type exceeded the RBSL / Action Level

< = less than the reporting limit specified in the laboratory report

NR = analysis not requested

NS = not sampled

J value = an estimated value between the laboratory reporting limit and the method detection limit

I value = an estimated value between the laboratory method detection limit and the laboratory practical quantitation limit

NE = not established

NF = well not found

EDB = 1,2-Dibromoethane

TBF = *tert*-Butyl Formate

TAA = *tert*-Amyl Alcohol

1,2-DCA = 1,2-Dichloroethane

TBA = *tert*-Butyl Alcohol

MTBE = Methyl-*tert*-butyl ether

TAME = *tert*-Amyl methyl ether

DIPE = Diisopropyl ether

ETBE = Ethyl-*tert*-butyl ether

**TABLE 4  
AQUIFER CHARACTERISTICS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Groundwater Measurement Date	Hydraulic Conductivity				Hydraulic Gradient ft/ft	Effective Porosity (%)	Seepage Velocity	
		cm/sec	ft/sec	ft/min	ft/day			ft/day	ft/year
12175-MW1	03/23/09	2.02E-04	6.6E-06	3.97E-04	0.57	0.002	0.20	0.006	2.09
175-MW3	03/23/09	2.57E-04	8.4E-06	5.05E-04	0.73	0.002	0.20	0.007	2.65
12175-MW6	05/10/10	4.02E-05	1.3E-06	7.92E-05	0.11	0.010	0.25	0.005	1.66
12175-MW11	05/10/10	9.19E-05	3.0E-06	1.81E-04	0.26	0.010	0.25	0.010	3.81
12175-MW24	05/20/19	--	--	--	0.45	0.018	0.25	0.032	11.69
12175-TW1	05/20/19	--	--	--	2.05	0.018	0.25	0.145	53.27

Notes:

Slug tests were performed in MW-2 and MW-3 during Tier I activities on March 23, 2009; slug tests were performed in MW-6 and MW-11 during Tier II activities on May 10, 2010. Slug test performed May 2019 MW24 and TW1 during additional assessment activities.

Average hydraulic conductivities were calculated using groundwater elevations data collected during groundwater sampling events.

Seepage velocities (<http://www.epa.gov/athens/learn2model/part-two/onsite/seepage.htm>), calculated using the equation  $V = Ki/n_e$ , where:

$K$  = hydraulic conductivity

$i$  = hydraulic gradient (feet/foot)

$n_e$  = effective porosity (%)

TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-MW1	4/6/10 - 4/7/10	8	4,419	194.3	626	1.33	0	1.33	314
12175-MW1	7/12/11 - 7/13/11	12	4,456	232.3	2,454	4.88	0	4.88	1,503
12175-MW2	8/2/11 - 8/3/11	12	4,069	244.6	923	1.65	0	1.65	580
12175-MW19	8/11/11 - 8/12/11	12	4,274	216.4	2,804	5.30	0	5.30	740
12175-MW1	5/10/12 - 5/11/12	8	3,579	186.7	3,280	5.18	0	5.18	674
12175-MW2	5/31/12 - 6/1/12	8	3,481	188.1	1,325	1.97	0	1.97	330
12175-MW5	6/13/12 - 6/14/12	8	2,899	204.4	2,010	2.47	0	2.47	155
12175-MW19	6/28/12 - 6/29/12	8	4,901	230.1	2,790	5.50	0	5.50	167
12175-MW2	2/9/13 - 2/10/13	24	3,762	173.1	7,963	40.29	Sheen	40.29	1,675
12175-MW19									
12175-MW25									
12175-MW1	2/10/13 - 2/11/13	20.67	3,473	176.3	5,649	22.12	Sheen	22.12	1,525
12175-MW4									
12175-MW5									
12175-RW1	6/5/13 - 6/6/13	12	4,332	195.7	1,536	4.46	Sheen	4.46	920
12175-RW2	6/20/13 - 6/21/13	12	4,532	173.5	7,807	19.70	0	19.70	314
12175-RW3	7/15/13 - 7/16/13	12	3,350	179.4	465	1.11	0	1.11	747

TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-RW1	11/4/13-11/5/13	8	5,278	184.5	863	1.98	0	1.98	911
12175-RW2	11/18/13-11/19/13	8	4,424	174.8	3,790	7.46	0	7.46	209
12175-MW17	12/9/13-12/10/13	8	4,772	180.8	198	0.41	0	0.41	450
12175-RW2	5/27/2014	3	520	133.4	99,667	15.69	Sheen	15.69	601
12175-RW2	6/2/14 - 6/6/14	96	347	119.5	90,015	47.85	Sheen	47.85	4,569
12175-RW1	6/16/14-6/20/14	96	357	118	40,064	29.53	Sheen	29.53	8,634
12175-MW1	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW4	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW5	1/4/16-1/8/16	96	339.09	87.03	99,941	20.57	0	20.57	6,678
12175-MW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW19	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-MW25	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW3	1/11/16-1/15/16	90	1,033.07	82.03	66,585	22.94	0	22.94	2,065
12175-RW2*	8/21/17-8/25/17	96	480.93	115.57	4,776	2.04	0	2.04	2,774
12175-MW2	1/8/18-1/12/18	96	409.71	92.52	2,844	0.95	0	0.95	8,422
12175-MW25	1/8/18-1/12/18	96	409.71	92.52	2,844		0		
12175-RW2	1/8/18-1/12/18	96	409.71	92.52	2,844		0		



TABLE 6  
SUMMARY OF AFVR DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Date	Time (hours)	Average Effluent Velocity (fpm)	Average Effluent Temperature (F°)	Average Effluent Concentration (ppm)	Total Free Product Volatized (gallons)	Total Free Product as Fluid (gallons)	Total Free Product Recovered (gallons)	Total Volume of Fluid Removed (gallons)
12175-MW1	1/15/18-1/19/18	96	404.28	80.63	2,037	0.57	0	0.57	4,182
12175-RW1	1/15/18-1/19/18	96	404.28	80.63			0		
122175-MW25	5/6/19-5/10/19	96	258.56	116.94	11,395	0.9267	0	0.9267	8,892
12175-RW2		96	258.56	116.94	11,395	0.9267	0	0.9267	
12175-RW4		96	258.56	116.94	11,395	0.9267	0	0.9267	
12175-MW1	5/13/19-5/17/19	96	331.24	103.51	12,184	3.61	0	3.61	11,019
12175-RW1									
		1113.67	--	--	--	405.24	0.00	405.24	90,666.00

Total Volatized in gallons = Air emissions in pounds/(6.25 lbs./gal.)

Total Free Product as Fluid is obtained from disposal manifest, flow meter, and/or correspondence with subcontractors from each AFVR event.

Total Free Product Recovered = Total Free Product Volatized + Total Free Product as Fluid.

Average Effluent Concentration (before off-gas treatment) calculated using 100,000 ppm for measurements exceeding maximum range of 100,000 ppm of organic vapor instrument.

\* gallons based on weight tickets provided by disposal contractor

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	4/6/10 (pre-AFVR)	17.61	22.24	4.63	79.74
				4/7/10 (immediately post-AFVR)	--	21.42	--	77.09
				4/7/10 (20 minutes post-AFVR)	20.37	20.42	0.05	78.13
12175-MW3	34	15	100.44	4/6/10 (pre-AFVR)	--	20.74	--	79.70
				4/7/10 (immediately post-AFVR)	--	20.78	--	79.66
				4/7/10 (20 minutes post-AFVR)	--	20.78	--	79.66
12175-MW4	29	10	98.61	4/6/10 (pre-AFVR)	--	19.14	--	79.47
				4/7/10 (immediately post-AFVR)	--	19.22	--	79.39
				4/7/10 (20 minutes post-AFVR)	--	19.23	--	79.38
12175-MW5	29	10	98.05	4/6/10 (pre-AFVR)	--	18.24	--	79.81
				4/7/10 (immediately post-AFVR)	--	18.95	--	79.10
				4/7/10 (20 minutes post-AFVR)	--	18.82	--	79.23
12175-MW6	29	10	99.82	4/6/10 (pre-AFVR)	--	20.14	--	79.68
				4/7/10 (immediately post-AFVR)	--	20.28	--	79.54
				4/7/10 (20 minutes post-AFVR)	--	20.29	--	79.53
12175-MW1	35	15	98.51	7/12/11 (pre-AFVR)	19.61	24.75	5.14	77.62
				7/13/11 (immediately post-AFVR)	--	25.35	--	73.16
				7/13/11 (20 minutes post-AFVR)	22.92	23.03	0.11	75.56
12175-MW5	29	10	98.05	7/12/11 (pre-AFVR)	19.3	23.6	4.30	77.68
				7/13/11 (immediately post-AFVR)	23.16	23.25	0.09	74.87
				7/13/11 (20 minutes post-AFVR)	22.31	22.51	0.20	75.69
12175-MW3	34	15	100.44	7/12/11 (pre-AFVR)	--	22.84	--	77.60
				7/13/11 (immediately post-AFVR)	--	22.89	--	77.55
				7/13/11 (20 minutes post-AFVR)	--	22.84	--	77.60
12175-MW4	29	10	98.61	7/12/11 (pre-AFVR)	--	21.21	--	77.40
				7/13/11 (immediately post-AFVR)	--	21.31	--	77.30
				7/13/11 (20 minutes post-AFVR)	--	21.32	--	77.29
12175-MW6	29	10	99.82	7/12/11 (pre-AFVR)	--	22.20	--	77.62
				7/13/11 (immediately post-AFVR)	--	22.50	--	77.32
				7/13/11 (20 minutes post-AFVR)	--	22.51	--	77.31
12175-MW2	34	15	100.42	8/2/11 (pre-AFVR)	22.45	26.65	4.20	76.92
				8/3/11 (immediately post-AFVR)	--	25.67	--	74.75
				8/3/11 (20 minutes post-AFVR)	24.03	24.13	0.10	76.37
12175-MW17	28	10	101.09	8/2/11 (pre-AFVR)	--	24.07	--	77.02
				8/3/11 (immediately post-AFVR)	--	24.19	--	76.90
				8/3/11 (20 minutes post-AFVR)	--	24.18	--	76.91
12175-MW18	28	10	101.51	8/2/11 (pre-AFVR)	--	24.51	--	77.00
				8/3/11 (immediately post-AFVR)	--	24.56	--	76.95
				8/3/11 (20 minutes post-AFVR)	--	24.56	--	76.95
12175-MW19	28	10	100.01	8/2/11 (pre-AFVR)	21.98	26.81	4.83	76.82
				8/3/11 (immediately post-AFVR)	22.05	26.90	4.85	76.75
				8/3/11 (20 minutes post-AFVR)	22.05	26.89	4.84	76.75

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW19	28	10	100.01	8/11/11 (pre-AFVR)	22.13	27.05	4.92	76.65
				8/12/11 (immediately post-AFVR)	--	27.42	--	72.59
				8/12/11 (20 minutes post-AFVR)	24.42	24.51	0.09	75.57
12175-MW1	35	15	98.51	8/11/11 (pre-AFVR)	20.25	25.86	5.61	76.86
				8/12/11 (immediately post-AFVR)	20.37	25.97	5.60	76.74
				8/12/11 (20 minutes post-AFVR)	20.41	26.02	5.61	76.70
12175-MW2	34	15	100.42	8/11/11 (pre-AFVR)	23.05	25.47	2.42	76.77
				8/12/11 (immediately post-AFVR)	23.12	25.97	2.85	76.59
				8/12/11 (20 minutes post-AFVR)	23.13	25.58	2.45	76.68
12175-MW4	29	10	98.61	8/11/11 (pre-AFVR)	--	21.90	--	76.71
				8/12/11 (immediately post-AFVR)	--	22.32	--	76.29
				8/12/11 (20 minutes post-AFVR)	--	22.32	--	76.29
12175-MW1	35	15	98.51	5/10/12 (pre-AFVR)	21.91	27.13	5.22	75.30
				5/11/12 (immediately post-AFVR)	24.97	25.06	0.09	73.52
				5/11/12 (20 minutes post-AFVR)	23.90	24.24	0.34	74.53
12175-MW2	34	15	100.42	5/10/12 (pre-AFVR)	24.23	28.02	3.79	75.24
				5/11/12 (immediately post-AFVR)	24.31	28.14	3.83	75.15
				5/11/12 (20 minutes post-AFVR)	24.31	28.14	3.83	75.15
12175-MW3	34	15	100.44	5/10/12 (pre-AFVR)	--	25.04	--	75.40
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.33
				5/11/12 (20 minutes post-AFVR)	--	25.12	--	75.32
12175-MW4	29	10	98.61	5/10/12 (pre-AFVR)	22.41	26.85	4.44	75.09
				5/11/12 (immediately post-AFVR)	22.50	26.98	4.48	74.99
				5/11/12 (20 minutes post-AFVR)	22.50	27.00	4.50	74.99
12175-MW5	29	10	98.05	5/10/12 (pre-AFVR)	21.50	26.15	4.65	75.39
				5/11/12 (immediately post-AFVR)	21.98	25.93	3.95	75.08
				5/11/12 (20 minutes post-AFVR)	22.02	26.01	3.99	75.03
12175-MW6	29	10	99.82	5/10/12 (pre-AFVR)	--	24.44	--	75.38
				5/11/12 (immediately post-AFVR)	--	24.61	--	75.21
				5/11/12 (20 minutes post-AFVR)	--	24.62	--	75.20
12175-MW19	28	10	100.01	5/10/12 (pre-AFVR)	23.66	27.73	4.07	75.33
				5/11/12 (immediately post-AFVR)	23.76	27.74	3.98	75.26
				5/11/12 (20 minutes post-AFVR)	23.77	27.75	3.98	75.25
12175-MW24	30	10	100.23	5/10/12 (pre-AFVR)	--	24.97	--	75.26
				5/11/12 (immediately post-AFVR)	--	25.11	--	75.12
				5/11/12 (20 minutes post-AFVR)	--	25.11	--	75.12
12175-MW25	30	10	99.95	5/10/12 (pre-AFVR)	23.50	28.34	4.84	75.24
				5/11/12 (immediately post-AFVR)	23.61	28.55	4.94	75.11
				5/11/12 (20 minutes post-AFVR)	23.60	28.53	4.93	75.12
12175-MW26	30	10	99.89	5/10/12 (pre-AFVR)	--	25.84	--	74.05
				5/11/12 (immediately post-AFVR)	--	25.88	--	74.01
				5/11/12 (20 minutes post-AFVR)	--	25.87	--	74.02

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW2	34	15	100.42	5/31/12 (pre-AFVR)	24.39	28.16	3.77	75.09
				6/1/12 (immediately post-AFVR)	25.14	25.31	0.17	75.24
				6/1/12 (20 minutes post-AFVR)	25.30	25.61	0.31	75.04
12175-MW1	35	15	98.51	5/31/12 (pre-AFVR)	22.06	27.26	5.20	75.15
				6/1/12 (immediately post-AFVR)	22.13	27.33	5.20	75.08
				6/1/12 (20 minutes post-AFVR)	22.13	27.33	5.20	75.08
12175-MW5	29	10	98.05	5/31/12 (pre-AFVR)	21.68	26.32	4.64	75.21
				6/1/12 (immediately post-AFVR)	21.75	26.27	4.52	75.17
				6/1/12 (20 minutes post-AFVR)	21.75	26.27	4.52	75.17
12175-MW19	28	10	100.01	5/31/12 (pre-AFVR)	23.80	27.74	3.94	75.23
				6/1/12 (immediately post-AFVR)	23.87	27.75	3.88	75.17
				6/1/12 (20 minutes post-AFVR)	23.87	27.74	3.87	75.17
12175-MW24	30	10	100.23	5/31/12 (pre-AFVR)	--	25.13	--	75.10
				6/1/12 (immediately post-AFVR)	--	25.18	--	75.05
				6/1/12 (20 minutes post-AFVR)	--	25.20	--	75.03
12175-MW25	30	10	99.95	5/31/12 (pre-AFVR)	23.60	28.84	5.24	75.04
				6/1/12 (immediately post-AFVR)	23.65	28.73	5.08	75.03
				6/1/12 (20 minutes post-AFVR)	23.65	28.74	5.09	75.03
12175-MW26	30	10	99.89	5/31/12 (pre-AFVR)	--	25.97	--	73.92
				6/1/12 (immediately post-AFVR)	--	25.96	--	73.93
				6/1/12 (20 minutes post-AFVR)	--	25.96	--	73.93
12175-MW5	29	10	98.05	6/13/12 (pre-AFVR)	21.72	26.43	4.71	75.15
				6/14/12 (immediately post-AFVR)	--	26.35	--	71.70
				6/14/12 (20 minutes post-AFVR)	24.32	24.67	0.35	73.64
12175-MW1	35	15	98.51	6/13/12 (pre-AFVR)	22.13	27.56	5.43	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	22.13	27.58	5.45	75.02
12175-MW2	34	15	100.42	6/13/12 (pre-AFVR)	25.21	25.82	0.61	75.06
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	25.21	25.82	0.61	75.06
12175-MW3	34	15	100.44	6/13/12 (pre-AFVR)	--	25.28	--	75.16
				6/14/12 (immediately post-AFVR)	--	25.30	--	75.14
				6/14/12 (20 minutes post-AFVR)	--	25.30	--	75.14
12175-MW4	29	10	98.61	6/13/12 (pre-AFVR)	22.59	27.09	4.50	74.90
				6/14/12 (immediately post-AFVR)	22.61	27.11	4.50	74.88
				6/14/12 (20 minutes post-AFVR)	22.61	27.11	4.50	74.88
12175-MW6	29	10	99.82	6/13/12 (pre-AFVR)	--	24.67	--	75.15
				6/14/12 (immediately post-AFVR)	--	24.75	--	75.07
				6/14/12 (20 minutes post-AFVR)	--	24.73	--	75.09
12175-MW19	28	10	100.01	6/13/12 (pre-AFVR)	23.86	27.74	3.88	75.18
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.88	27.79	3.91	75.15

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW24	30	10	100.23	6/13/12 (pre-AFVR)	--	25.18	--	75.05
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	25.22	--	75.01
12175-MW25	30	10	99.95	6/13/12 (pre-AFVR)	23.67	28.71	5.04	75.02
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	23.68	28.71	5.03	75.01
12175-MW26	30	10	99.89	6/13/12 (pre-AFVR)	--	26.00	--	73.89
				6/14/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/14/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW19	28	10	100.01	6/28/12 (pre-AFVR)	23.87	27.75	3.88	75.17
				6/29/12 (immediately post-AFVR)	--	27.21	--	72.80
				6/29/12 (20 minutes post-AFVR)	25.38	25.70	0.32	74.55
12175-MW1	35	15	98.51	6/28/12 (pre-AFVR)	22.16	27.38	5.22	75.05
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	22.17	27.38	5.21	75.04
12175-MW2	34	15	100.42	6/28/12 (pre-AFVR)	25.19	25.94	0.75	75.04
				6/29/12 (immediately post-AFVR)	25.24	25.99	0.75	74.99
				6/29/12 (20 minutes post-AFVR)	25.22	25.97	0.75	75.01
12175-MW5	29	10	98.05	6/28/12 (pre-AFVR)	21.95	25.94	3.99	75.10
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	21.95	25.94	3.99	75.10
12175-MW24	30	10	100.23	6/28/12 (pre-AFVR)	--	25.19	--	75.04
				6/29/12 (immediately post-AFVR)	--	25.23	--	75.00
				6/29/12 (20 minutes post-AFVR)	--	25.27	--	74.96
12175-MW25	30	10	99.95	6/28/12 (pre-AFVR)	23.68	28.70	5.02	75.02
				6/29/12 (immediately post-AFVR)	23.74	28.76	5.02	74.96
				6/29/12 (20 minutes post-AFVR)	23.77	28.79	5.02	74.93
12175-MW26	30	10	99.89	6/28/12 (pre-AFVR)	--	25.98	--	73.91
				6/29/12 (immediately post-AFVR)	NM	NM	NM	NM
				6/29/12 (20 minutes post-AFVR)	--	26.00	--	73.89
12175-MW1	35	15	98.51	7/30/2012 (gauging event)	22.44	27.95	5.51	74.69
12175-MW2	34	15	100.42	7/30/2012 (gauging event)	25.47	26.25	0.78	74.76
12175-MW5	29	10	98.05	7/30/2012 (gauging event)	22.17	26.71	4.54	74.75
12175-MW19	28	10	100.01	7/30/2012 (gauging event)	24.24	27.94	3.70	74.85
12175-MW24	30	10	100.23	7/30/2012 (gauging event)	--	25.50	--	74.73
12175-MW25	30	10	99.95	7/30/2012 (gauging event)	23.96	29.04	5.08	74.72
12175-MW26	30	10	99.89	7/30/2012 (gauging event)	--	26.28	--	73.61
12175-MW2	34	15	100.42	2/9/13 (pre-AFVR)	26.27	27.30	1.03	73.89
				2/10/13 (immediately post-AFVR)	--	27.20	--	73.22
				2/10/13 (20 minutes post-AFVR)	--	27.25	--	73.17
12175-MW19	28	10	100.01	2/9/13 (pre-AFVR)	25.19	27.92	2.73	74.14
				2/10/13 (immediately post-AFVR)	--	27.05	--	72.96
				2/10/13 (20 minutes post-AFVR)	26.70	26.80	0.10	73.29

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW25	30	10	99.95	2/9/13 (pre-AFVR)	24.92	29.61	4.69	73.86
				2/10/13 (immediately post-AFVR)	--	27.83	--	72.12
				2/10/13 (20 minutes post-AFVR)	--	26.41	--	73.54
12175-MW4	29	10	98.61	2/9/13 (pre-AFVR)	23.90	28.85	4.95	73.47
				2/10/13 (immediately post-AFVR)	24.06	28.23	4.17	73.51
				2/10/13 (20 minutes post-AFVR)	24.06	28.21	4.15	73.51
12175-MW24	30	10	100.23	2/9/13 (pre-AFVR)	--	26.35	--	73.88
				2/10/13 (immediately post-AFVR)	--	26.54	--	73.69
				2/10/13 (20 minutes post-AFVR)	--	26.57	--	73.66
12175-MW26	30	10	99.89	2/9/13 (pre-AFVR)	--	27.06	--	72.83
				2/10/13 (immediately post-AFVR)	--	27.11	--	72.78
				2/10/13 (20 minutes post-AFVR)	--	27.12	--	72.77
12175-MW1	35	15	98.51	2/10/13 (pre-AFVR)	23.47	28.71	5.24	73.73
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	24.63	25.23	0.60	73.73
12175-MW4	29	10	98.61	2/10/13 (pre-AFVR)	24.06	28.23	4.17	73.51
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	25.11	25.17	0.06	73.49
12175-MW5	29	10	98.05	2/10/13 (pre-AFVR)	23.06	27.80	4.74	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	23.88	23.89	0.01	74.17
12175-MW3	34	15	100.44	2/10/13 (pre-AFVR)	--	26.56	--	73.88
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.56	--	73.88
12175-MW6	29	10	99.82	2/10/13 (pre-AFVR)	--	26.01	--	73.81
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	26.03	--	73.79
12175-MW15	27	10	98.47	2/10/13 (pre-AFVR)	--	25.24	--	73.23
				2/11/13 (immediately post-AFVR)	NM	NM	NM	NM
				2/11/13 (20 minutes post-AFVR)	--	25.23	--	73.24
12175-MW1	35	15	98.51	3/12/2013 (gauging event)	22.42	27.00	4.58	74.95
12175-MW2	34	15	100.42	3/12/2013 (gauging event)	25.53	25.56	0.03	74.88
12175-MW4	29	10	98.61	3/12/2013 (gauging event)	23.82	24.12	0.30	74.72
12175-MW5	29	10	98.05	3/12/2013 (gauging event)	22.65	24.35	1.70	74.98
12175-MW19	28	10	100.01	3/12/2013 (gauging event)	24.53	27.95	3.42	74.63
12175-MW24	30	10	100.23	3/12/2013 (gauging event)	--	25.37	--	74.86
12175-MW25	30	10	99.95	3/12/2013 (gauging event)	24.18	28.02	3.84	74.81
12175-MW26	30	10	99.89	3/12/2013 (gauging event)	--	26.01	--	73.88

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW1	30	10	98.05	6/5/13 (pre-AFVR)	21.34	22.02	0.68	76.54
				6/6/13 (immediately post-AFVR)	--	23.07	--	74.98
				6/6/13 (20 minutes post-AFVR)	22.93	22.98	0.05	75.11
12175-MW3	34	15	100.44	6/5/13 (pre-AFVR)	--	23.90	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.95	--	76.49
				6/6/13 (20 minutes post-AFVR)	--	23.95	--	76.49
12175-MW4	29	10	98.61	6/5/13 (pre-AFVR)	22.02	23.50	1.48	76.22
				6/6/13 (immediately post-AFVR)	22.09	23.65	1.56	76.13
				6/6/13 (20 minutes post-AFVR)	22.10	23.62	1.52	76.13
12175-MW6	29	10	99.82	6/5/13 (pre-AFVR)	--	23.28	--	76.54
				6/6/13 (immediately post-AFVR)	--	23.47	--	76.35
				6/6/13 (20 minutes post-AFVR)	--	23.48	--	76.34
12175-RW2	30	10	100.05	6/20/13 (pre-AFVR)	22.64	25.92	3.28	76.59
				6/21/13 (immediately post-AFVR)	--	26.90	--	73.15
				6/21/13 (20 minutes post-AFVR)	25.44	25.57	0.13	74.58
12175-MW19	28	10	100.01	6/20/13 (pre-AFVR)	22.85	25.89	3.04	76.40
				6/21/13 (immediately post-AFVR)	23.04	26.02	2.98	76.23
				6/21/13 (20 minutes post-AFVR)	23.15	26.13	2.98	76.12
12175-MW24	30	10	100.23	6/20/13 (pre-AFVR)	--	23.60	--	76.63
				6/21/13 (immediately post-AFVR)	--	23.68	--	76.55
				6/21/13 (20 minutes post-AFVR)	--	23.72	--	76.51
12175-MW25	30	10	99.95	6/20/13 (pre-AFVR)	22.55	25.80	3.25	76.59
				6/21/13 (immediately post-AFVR)	23.86	23.89	0.03	76.08
				6/21/13 (20 minutes post-AFVR)	23.78	23.82	0.04	76.16
12175-RW3	30	10	100.16	7/15/13 (pre-AFVR)	--	22.91	--	77.25
				7/16/13 (immediately post-AFVR)	--	24.52	--	75.64
				7/16/13 (20 minutes post-AFVR)	--	24.28	--	75.88
12175-MW18	28	10	101.51	7/15/13 (pre-AFVR)	--	24.12	--	77.39
				7/16/13 (immediately post-AFVR)	--	24.16	--	77.35
				7/16/13 (20 minutes post-AFVR)	--	24.15	--	77.36
12175-MW24	30	10	100.23	7/15/13 (pre-AFVR)	--	23.01	--	77.22
				7/16/13 (immediately post-AFVR)	--	23.27	--	76.96
				7/16/13 (20 minutes post-AFVR)	--	23.27	--	76.96
12175-MW25	30	10	99.95	7/15/13 (pre-AFVR)	22.14	24.64	2.50	77.19
				7/16/13 (immediately post-AFVR)	22.23	25.02	2.79	77.02
				7/16/13 (20 minutes post-AFVR)	22.23	24.97	2.74	77.04



**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW1	30	10	98.05	11/4/13 (pre-AFVR)	20.05	21.15	1.10	77.73
				11/5/13 (immediately post-AFVR)	--	24.02	--	74.03
				11/5/13 (20 minutes post-AFVR)	--	22.71	--	75.34
12175-MW3	34	15	100.44	11/4/13 (pre-AFVR)	--	22.56	--	77.88
				11/5/13 (immediately post-AFVR)	--	22.64	--	77.80
				11/5/13 (20 minutes post-AFVR)	--	22.66	--	77.78
12175-MW4	29	10	98.61	11/4/13 (pre-AFVR)	20.85	22.04	1.19	77.46
				11/5/13 (immediately post-AFVR)	20.94	22.15	1.21	77.37
				11/5/13 (20 minutes post-AFVR)	20.93	22.14	1.21	77.38
12175-MW6	29	10	99.82	11/4/13 (pre-AFVR)	--	21.93	--	77.89
				11/5/13 (immediately post-AFVR)	--	22.16	--	77.66
				11/5/13 (20 minutes post-AFVR)	--	22.15	--	77.67
12175-RW2	30	10	100.05	11/18/13 (pre-AFVR)	21.68	25.22	3.54	77.49
				11/19/13 (immediately post-AFVR)	--	25.82	--	74.23
				11/19/13 (20 minutes post-AFVR)	24.57	24.72	0.15	75.44
12175-MW19	28	10	100.01	11/18/13 (pre-AFVR)	22.22	24.23	2.01	77.29
				11/19/13 (immediately post-AFVR)	22.11	24.20	2.09	77.38
				11/19/13 (20 minutes post-AFVR)	22.56	24.72	2.16	76.91
12175-MW24	30	10	100.23	11/18/13 (pre-AFVR)	--	22.71	--	77.52
				11/19/13 (immediately post-AFVR)	--	22.86	--	77.37
				11/19/13 (20 minutes post-AFVR)	--	22.88	--	77.35
12175-MW25	30	10	99.95	11/18/13 (pre-AFVR)	21.44	25.05	3.61	77.61
				11/19/13 (immediately post-AFVR)	22.36	23.38	1.02	77.34
				11/19/13 (20 minutes post-AFVR)	22.70	23.41	0.71	77.07
12175-MW17	28	10	101.09	12/9/13 (pre-AFVR)	23.18	25.17	1.99	77.41
				12/10/13 (immediately post-AFVR)	--	25.69	--	75.40
				12/10/13 (20 minutes post-AFVR)	--	24.13	--	76.96
12175-MW11	31	10	101.65	12/9/13 (pre-AFVR)	--	24.25	--	77.40
				12/10/13 (immediately post-AFVR)	--	24.30	--	77.35
				12/10/13 (20 minutes post-AFVR)	--	24.32	--	77.33
12175-MW23	31	10	102.29	12/9/13 (pre-AFVR)	--	24.97	--	77.32
				12/10/13 (immediately post-AFVR)	--	24.97	--	77.32
				12/10/13 (20 minutes post-AFVR)	--	24.97	--	77.32
12175-RW2	30	10	100.05	12/9/13 (pre-AFVR)	--	22.65	--	77.40
				12/10/13 (immediately post-AFVR)	--	22.68	--	77.37
				12/10/13 (20 minutes post-AFVR)	--	22.67	--	77.38
12175-RW2	30	10	100.05	5/27/14 (pre-AFVR)	19.33	21.70	2.37	80.13
12175-MW2	34	15	100.42	5/27/14 (pre-AFVR)	20.12	20.69	0.57	80.16
12175-MW6	29	10	99.82	5/27/14 (pre-AFVR)	--	19.41	--	80.41
12175-MW24	30	10	100.23	5/27/14 (pre-AFVR)	--	20.14	--	80.09

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	6/2/14 (pre-AFVR)	19.71	20.32	0.61	80.19
				6/6/14 (immediately post-AFVR)	--	24.30	--	75.75
				6/6/14 (20 minutes post-AFVR)	--	22.91	--	77.14
12175-MW2	34	15	100.42	6/2/14 (pre-AFVR)	20.10	20.61	0.51	80.19
				6/6/14 (immediately post-AFVR)	20.29	20.93	0.64	79.97
				6/6/14 (20 minutes post-AFVR)	20.29	20.94	0.65	79.97
12175-MW6	29	10	99.82	6/2/14 (pre-AFVR)	--	19.37	--	80.45
				6/6/14 (immediately post-AFVR)	--	19.67	--	80.15
				6/6/14 (20 minutes post-AFVR)	--	19.67	--	80.15
12175-MW24	30	10	100.23	6/2/14 (pre-AFVR)	--	20.07	--	80.16
				6/6/14 (immediately post-AFVR)	--	20.28	--	79.95
				6/6/14 (20 minutes post-AFVR)	--	20.20	--	80.03
12175-MW26	30	10	99.89	6/2/14 (pre-AFVR)	NM	NM	NM	NM
				6/6/14 (immediately post-AFVR)	--	20.76	--	79.13
				6/6/14 (20 minutes post-AFVR)	--	20.78	--	79.11
12175-RW1	30	10	98.05	6/16/14 (pre-AFVR)	17.65	17.67	0.02	80.40
				6/20/14 (immediately post-AFVR)	--	22.29	--	75.76
				6/20/14 (20 minutes post-AFVR)	--	21.00	--	77.05
12175-MW3	34	15	100.44	6/16/14 (pre-AFVR)	--	20.10	--	80.34
				6/20/14 (immediately post-AFVR)	--	20.24	--	80.20
				6/20/14 (20 minutes post-AFVR)	--	20.24	--	80.20
12175-MW6	29	10	99.82	6/16/14 (pre-AFVR)	--	19.48	--	80.34
				6/20/14 (immediately post-AFVR)	--	19.79	--	80.03
				6/20/14 (20 minutes post-AFVR)	--	19.79	--	80.03
12175-MW15	27	10	98.47	6/16/14 (pre-AFVR)	--	18.19	--	80.28
				6/20/14 (immediately post-AFVR)	--	18.16	--	80.31
				6/20/14 (20 minutes post-AFVR)	--	18.15	--	80.32

**TABLE 7**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**FOR AFVR EVENTS**  
**EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-MW1	35	15	98.51	1/4/16 (Pre-AFVR)	17.25	20.80	3.55	75.05
				1/8/16 (immediately post-AFVR)	--	24.75	--	73.76
				1/8/16 (20 minutes post-AFVR)	--	21.56	--	76.95
12175-MW4	29	10	98.61	1/4/16 (Pre-AFVR)	18.25	18.55	0.30	79.84
				1/8/16 (immediately post-AFVR)	--	25.14	--	73.47
				1/8/16 (20 minutes post-AFVR)	--	20.66	--	77.95
12175-MW5	29	10	98.05	1/4/16 (Pre-AFVR)	17.40	17.70	0.30	80.13
				1/8/16 (immediately post-AFVR)	--	22.90	--	75.15
				1/8/16 (20 minutes post-AFVR)	--	21.61	--	76.44
12175-RW1	30	10	98.05	1/4/16 (Pre-AFVR)	--	17.51	--	80.54
				1/8/16 (immediately post-AFVR)	--	21.15	--	76.90
				1/8/16 (20 minutes post-AFVR)	--	21.50	--	76.55
12175-MW18	28	10	101.51	1/4/16 (Pre-AFVR)	--	19.91	--	81.60
				1/8/16 (immediately post-AFVR)	--	21.40	--	80.11
				1/8/16 (20 minutes post-AFVR)	--	21.39	--	80.12
12175-MW15	27	10	98.47	1/4/16 (Pre-AFVR)	--	21.30	--	77.17
				1/8/16 (immediately post-AFVR)	--	17.55	--	80.92
				1/8/16 (20 minutes post-AFVR)	--	17.55	--	80.92
12175-MW3	34	15	100.44	1/4/16 (Pre-AFVR)	--	17.45	--	82.99
				1/8/16 (immediately post-AFVR)	--	20.20	--	80.24
				1/8/16 (20 minutes post-AFVR)	--	20.20	--	80.24
12175-MW2	34	15	100.42	1/11/16 (Pre-AFVR)	20.22	20.89	0.67	79.03
				1/15/16 (immediately post-AFVR)	--	20.04	--	80.38
				1/15/16 (20 minutes post -AFVR)	--	20.60	--	79.82
12175-MW19	28	10	100.01	1/11/16 (Pre-AFVR)	19.96	20.41	0.45	79.26
				1/15/16 (immediately post-AFVR)	--	22.51	--	77.50
				1/15/16 (20 minutes post -AFVR)	--	20.92	--	79.09
12175-MW25	30	10	99.95	1/11/16 (Pre-AFVR)	19.18	22.11	2.93	75.64
				1/15/16 (immediately post-AFVR)	--	22.00	--	77.95
				1/15/16 (20 minutes post -AFVR)	--	20.74	--	79.21
12175-RW2	30	10	100.05	1/11/16 (Pre-AFVR)	19.10	22.35	3.25	74.75
				1/15/16 (immediately post-AFVR)	--	21.65	--	78.40
				1/15/16 (20 minutes post -AFVR)	21.90	22.20	0.30	77.63
12175-RW3	30	10	100.16	1/11/16 (Pre-AFVR)	--	20.08	--	80.08
				1/15/16 (immediately post-AFVR)	--	19.57	--	80.59
				1/15/16 (20 minutes post -AFVR)	--	20.19	--	79.97
12175-MW18	28	10	101.51	1/11/16 (Pre-AFVR)	--	21.40	--	80.11
				1/15/16 (immediately post-AFVR)	--	21.42	--	80.09
				1/15/16 (20 minutes post -AFVR)	--	21.41	--	80.10
12175-MW3	34	15	100.44	1/11/16 (Pre-AFVR)	--	20.05	--	80.39
				1/15/16 (immediately post-AFVR)	--	20.05	--	80.39
				1/15/16 (20 minutes post -AFVR)	--	20.04	--	80.40

**TABLE 7  
SUMMARY OF GROUNDWATER ELEVATION DATA  
FOR AFVR EVENTS  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (feet)	Well Screen Length (feet)	Top of Casing Elevation (feet)	Date Measured	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
12175-RW2	30	10	100.05	8/21/17 (Pre-AFVR)	20.34	24.71	4.37	78.62
				8/25/17 (immediately post-AFVR)	--	26.38	--	73.67
				8/25/17 (20 minutes post -AFVR)	--	24.35	--	75.70
12175-MW18	28	10	101.51	8/21/17 (Pre-AFVR)	--	23.10	--	78.41
				8/25/17 (immediately post-AFVR)	--	23.27	--	78.24
				8/25/17 (20 minutes post -AFVR)	--	23.27	--	78.24
12175-MW26	30	10	99.89	8/21/17 (Pre-AFVR)	--	22.24	--	77.65
				8/25/17 (immediately post-AFVR)	--	22.45	--	77.44
				8/25/17 (20 minutes post -AFVR)	--	22.45	--	77.44
12175-MW2	34	15	100.42	1/8/18 (Pre-AFVR)	22.95	25.40	2.45	76.86
				1/12/18 (immediately post-AFVR)	--	25.90	--	74.52
				1/12/18 (20 minutes post -AFVR)	--	24.35	--	76.07
12175-MW25	30	10	99.95	1/8/18 (Pre-AFVR)	21.81	26.38	4.57	77.00
				1/12/18 (immediately post-AFVR)	--	26.20	--	73.75
				1/12/18 (20 minutes post -AFVR)	--	23.90	--	76.05
12175-RW2	30	10	100.05	1/8/18 (Pre-AFVR)	21.90	26.35	4.45	77.04
				1/12/18 (immediately post-AFVR)	--	25.80	--	74.25
				1/12/18 (20 minutes post -AFVR)	25.05	25.25	0.20	74.95
12175-MW1	35	15	98.51	1/15/18 (Pre-AFVR)	20.55	25.50	4.95	76.72
				1/19/18 (immediately post-AFVR)	21.35	23.32	1.97	76.67
				1/19/18 (20 minutes post-AFVR)	22.22	23.77	1.55	75.90
12175-RW1	30	10	98.05	1/15/18 (Pre-AFVR)	20.67	22.81	2.14	76.85
				1/19/18 (immediately post-AFVR)	--	22.07		75.98
				1/19/18 (20 minutes post-AFVR)	22.06	22.25	0.19	75.94
12175-MW25	30	10	99.95	5/6/19 (Pre-AFVR)	19.10	20.95	1.85	80.39
				5/10/19 (immediately post-AFVR)	--	24.30	--	75.65
				5/10/19 (20 minutes post -AFVR)	--	21.30	--	78.65
12175-RW2	30	10	100.05	5/6/19 (Pre-AFVR)	18.75	21.11	2.36	80.71
				5/10/19 (immediately post-AFVR)	--	22.50	--	77.55
				5/10/19 (20 minutes post -AFVR)	22.12	22.26	0.14	77.90
12175-RW4	35	20	100.16	5/6/19 (Pre-AFVR)	--	19.45	--	80.71
				5/10/19 (immediately post-AFVR)	--	23.03	--	77.13
				5/10/19 (20 minutes post -AFVR)	--	21.23	--	78.93
12175-MW1	35	15	98.51	5/13/19 (Pre-AFVR)	16.73	20.11	3.38	80.94
				5/17/19 (immediately post-AFVR)	--	19.85	--	78.66
				5/17/19 (20 minutes post-AFVR)	--	19.50	--	79.01
12175-RW1	30	10	98.05	5/13/19 (Pre-AFVR)	16.55	18.89	2.34	80.92
				5/17/19 (immediately post-AFVR)	--	18.99	--	79.06
				5/17/19 (20 minutes post-AFVR)	--	19.10	--	75.94
12175-MW3	34	15	100.44	5/13/19 (Pre-AFVR)	--	19.57	--	80.87
				5/17/19 (immediately post-AFVR)	--	19.93	--	80.51
				5/17/19 (20 minutes post-AFVR)	--	19.91	--	80.53
12175-MW6	29	10	99.82	5/13/19 (Pre-AFVR)	--	18.98	--	81.46
				5/17/19 (immediately post-AFVR)	--	19.49	--	80.33
				5/17/19 (20 minutes post-AFVR)	--	19.46	--	80.36

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free product, where present, with an assumed density of 0.75 g/cm<sup>3</sup>.

Well depths and screened intervals based on well construction records referencing ground surface.

Depths to fluid measured referencing top of casing as measuring point.

NM - not measured.

"--" free phase petroleum product was not detected.

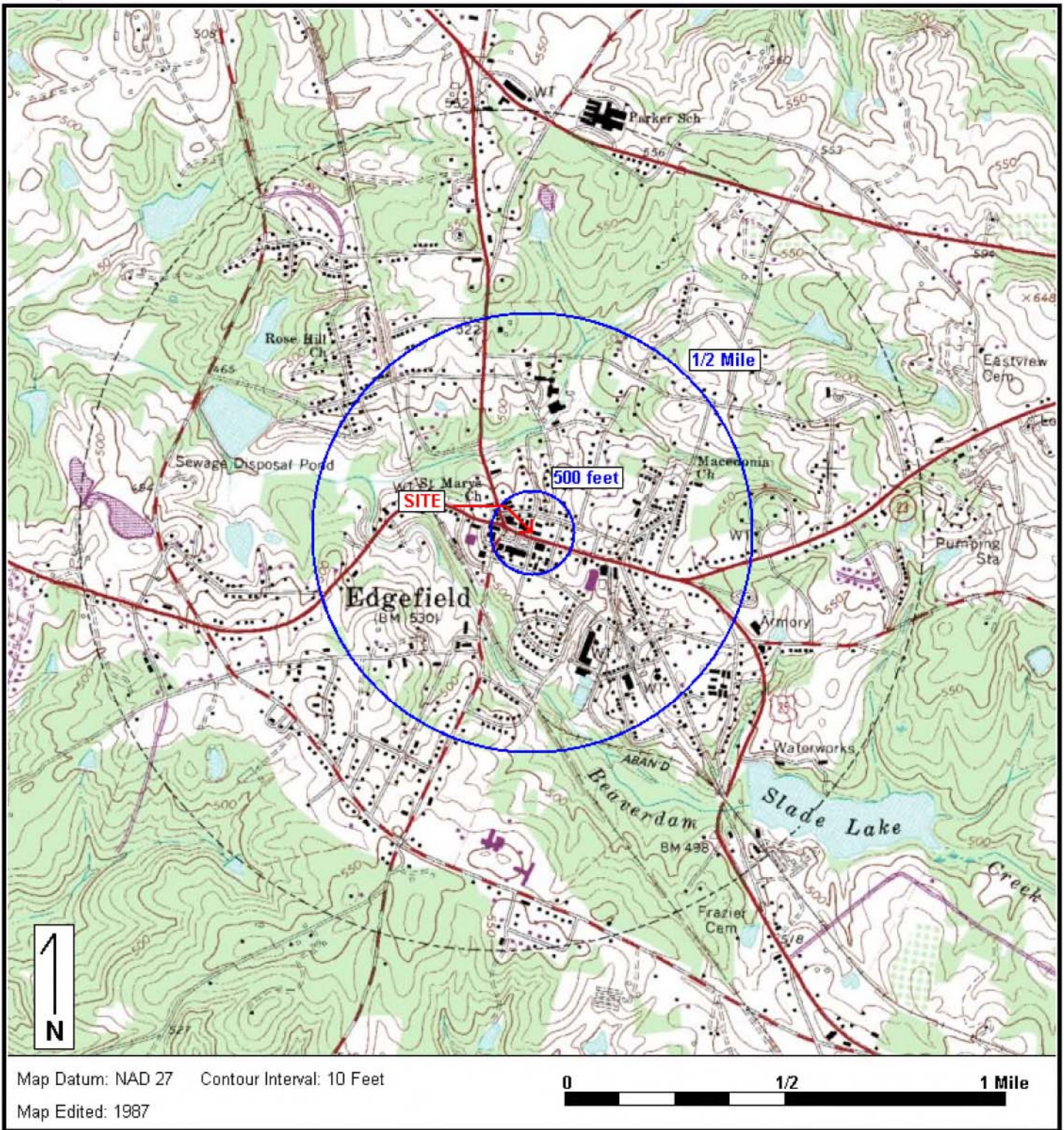
## **FIGURES**

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Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

Figure 1: SITE LOCUS

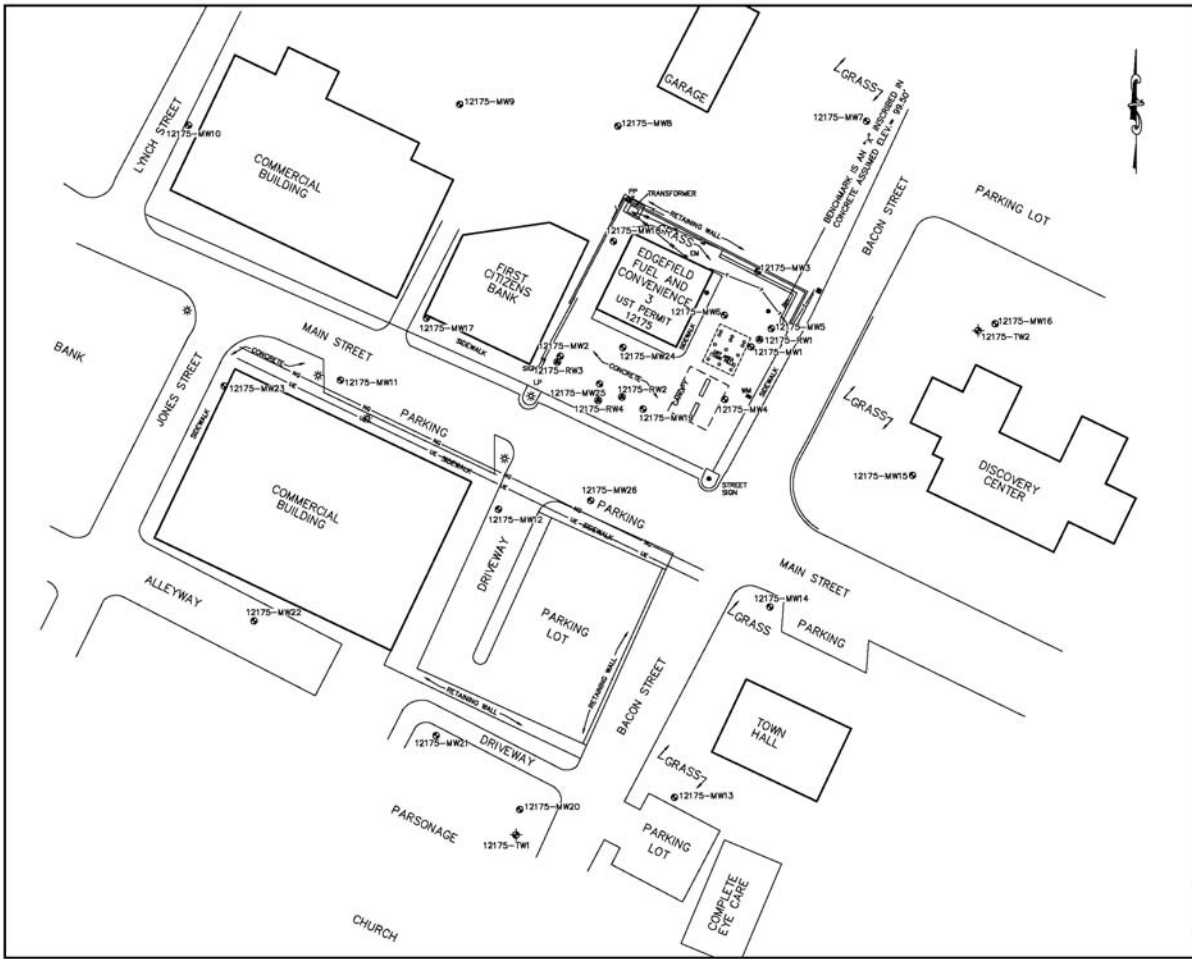


Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins





- Legend**
- UE— Underground Electric Line
  - X— Wood Fence Line
  - T— Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊕ Grate Top Drop Inlet
  - ⊕ Light Pole
  - ⊕ Light Pole
  - 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
  - 12175-RW1 ⊕ Recovery Well
  - 12175-TW1 ⊕ Telescoping Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATC**  
 7808 Whitehall Executive Center Drive, Suite 800  
 Charlotte, NC 28215  
 Phone: (704)343-8711 Fax: (704)343-8744

**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

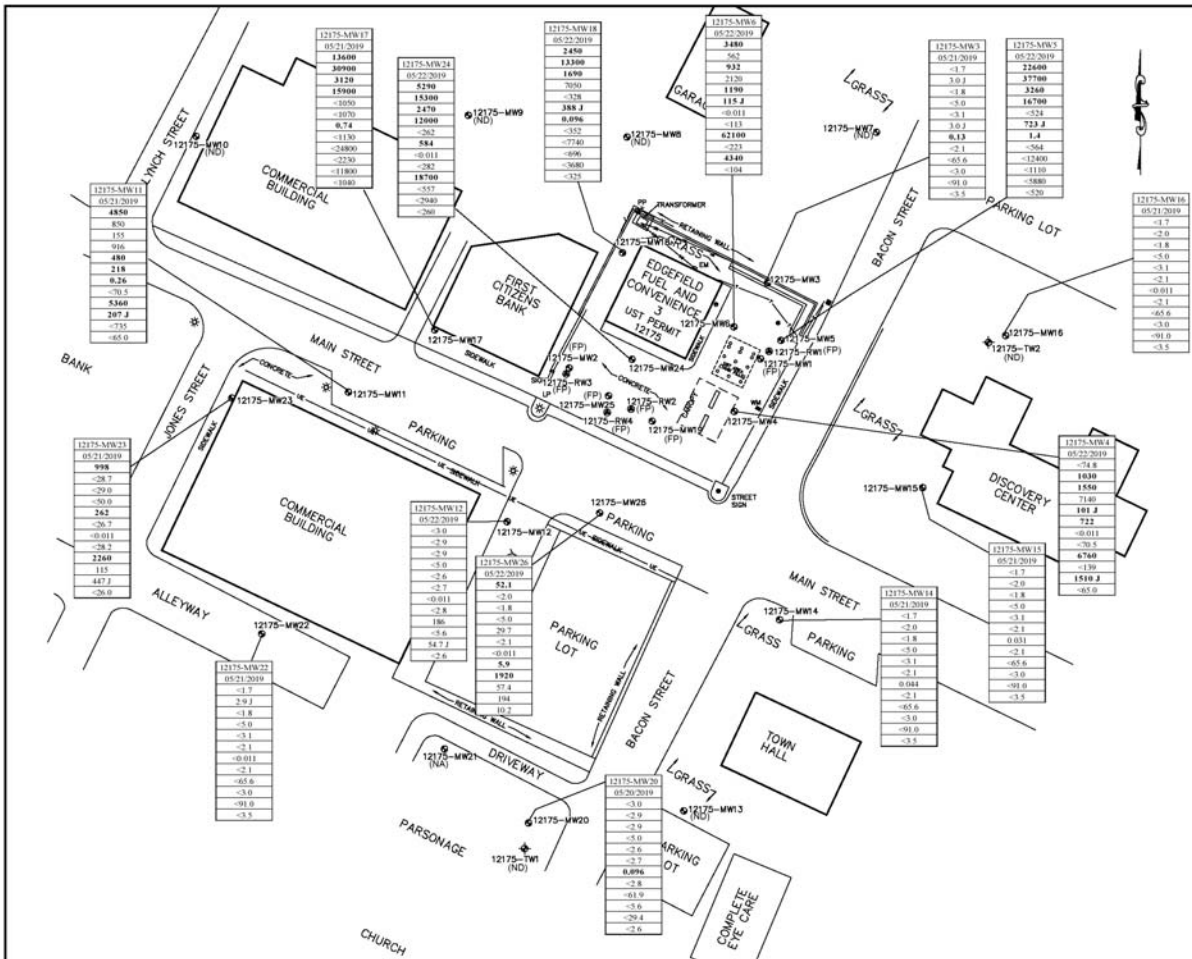
**TITLE:**  
 Site Plan

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

**SCALE:**  
 1"=50'

DESIGNED BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
KD	KD	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	6/18/19	EFC83	2





**Legend**

- Underground Electric Line
- X- Wood Fence Line
- T- Underground Telephone Line
- 12175-MW1 Shallow (Water Table) Monitoring Well
- 12175-RW1 Recovery Well
- 12175-TW1 Telescoping Well

Sample ID	Date	RBSLs/Ab
Benzene		5
Toluene		1000
Ethylbenzene		700
Xylene (Total)		10000
Methyl-tert-butyl ether		40
Naphthalene		25
1,2-Dibromochloroethane (EDB)		0.05
1,2-Dichloroethane		5
tert-Amyl Alcohol		240
tert-Butyl Alcohol		1400
Diisopropyl ether		150

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

All concentrations are measured in micrograms per liter (µg/L).

Below Concentration Represent RBSLs as defined in Programmatic QAPP, Revision 3.1, August 2016, Table D1 RBSLs for Groundwater and the Action Levels (ALs) as defined in Appendix D of ISCOMC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, Table D2: Action Levels for Groundwater (Organics).

<1.0 - Less than the laboratory specified reporting limit.

ND - CoC not detected.

NF - Not Found

FP - Free Phase Petroleum Product present

Samples collected 5/21/19-5/22/19



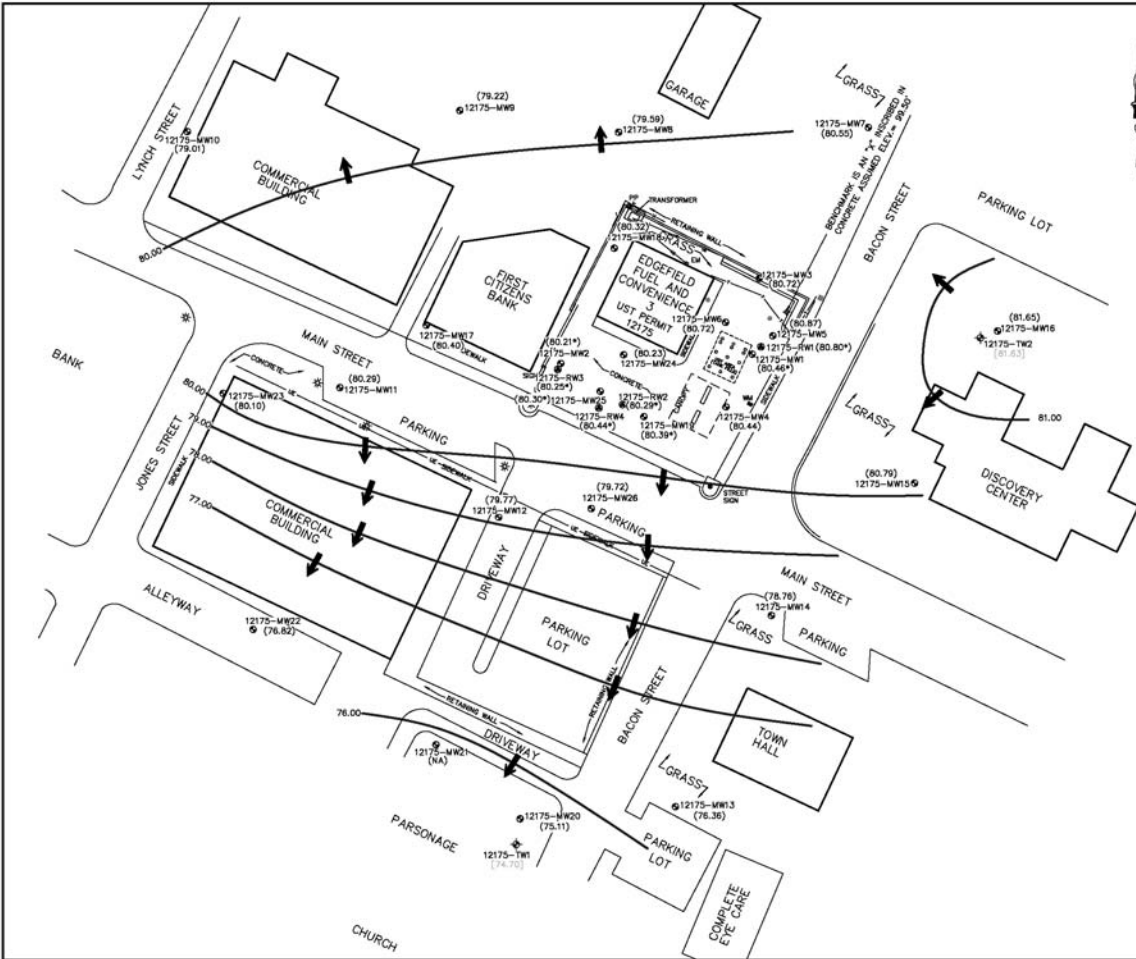
1704 Whitehall Executive Center Drive, Suite 800  
 Charlotte, NC 28203  
 Phone: (704)993-8711 Fax: (704)993-8714

**PROJECT:** Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:** Groundwater Quality Map

**CLIENT:** Edgefield Fuel & Convenience, LLC

COMPUTER SAMPLES COLLECTED	DESIGNED BY	CHECKED BY	APPROVED BY
KD	KD	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	6/10/19	EFC#3	4



**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- ⊗ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- PP Light Pole
- LP Light Pole
- 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
- 12175-RW1 ⊕ Recovery Well
- 12175-TW1 ⊕ Telescoping Well

- (80.46) Groundwater Elevation (ft)
- Water Table Contour (Dashed where inferred)
- Flow Direction Indicator
- [74.70] Groundwater Elevation not used to determine groundwater flow
- Groundwater elevation adjusted in the presence of Free Product

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes. Horizontal, and vertical locations of wells, and selected site features determined through measurements made by representatives of ATC.

Groundwater elevations are relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevations are based on measurements made on 5/20/19.



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 Charleston, SC 29405  
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**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
 Groundwater Elevation Map

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

**SCALE:** 1"=50'

DESIGNED BY:	PERMITTED BY:	CHECKED BY:	APPROVED BY:
KD	NF	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	6/10/19	EFC#3	5

**APPENDIX B**

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Sampling Logs, Laboratory Reports, COC Forms, QA/QC Evaluation



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5% <input type="radio"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TM05100	pH 4.00 ± 0.05: <input checked="" type="radio"/> Y or N at 22.44 °C	DO 8.78 mg/L ± 5% <input checked="" type="radio"/> Y or N
Comments:			

### Well Information

Sample ID: 12175-0001	Well Diameter (inches): 2" <sup>11</sup>	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Conversion Factor (C):	Screened Interval (ft): 20 - 35	Depth to Free Product (DTP) (ft.): 17.08	Free Product Thickness (ft): 0.01	
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>			Total Well Depth (TWD) (ft):	Length of water column (LWC = TWD - DGW) (ft.):	3 casing volumes (3 x CV) (gals.):	

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: AR HW	Sampling Time:	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time:
Notes: Well not sampled, well checked with bailor, free product contained			
Signature: ATK			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>75</i>

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>RH512L59/ TND E4N87</i>	pH 4.00 ± 0.05 <input checked="" type="radio"/> or N at <i>22.44</i> °C Specific Conductivity 4.49 mS/cm ± 5% <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5% <input checked="" type="radio"/> or N
Comments:		

## Well Information

Sample ID: 12175- <i>MW-2</i>	Well Diameter (inches): <i>2"</i>	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <i>19 - 34</i>	Depth to Free Product (DTP) (ft.): <i>19.66</i>				
Depth to Groundwater (DTW) (ft.): <i>21.38</i>		Total Well Depth (TWD) (ft.): <i>—</i>				Free Product Thickness (ft.): <i>1.72</i>
Length of water column (LWC = TWD - DGW) (ft.): <i>—</i>		1 casing volume (CV = LWC x C) (gals.): <i>—</i>				3 casing volumes (3 x CV) (gals.): <i>—</i>

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	<i>0</i>							<i>0</i>
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

## Sampling Data

Sampled By: <i>AR/HW</i>	Sampling Time: <i>—</i>	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: <i>—</i>
Notes: <i>well not sampled well checked with bailer, free product present</i>			
Signature: <i>AR</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: sunny	Ambient Air Temp (°F): 80.5

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSUK W14F	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 23 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- MW3	Well Diameter (inches): 2	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection ___Bailer ___Pump ___PDB
<input checked="" type="checkbox"/> MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): 14 - 34	Depth to Free Product (DTP) (ft.):				
Depth to Groundwater (DTW) (ft.): 14.72	Total Well Depth (TWD) (ft): 33.95	Free Product Thickness (ft):				
Length of water column (LWC = TWD - DGW) (ft.): 14.23	1 casing volume (CV = LWC x C) (gals.): 2.32	3 casing volumes (3 x CV) (gals.): 6.96				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.32	2.32		2.32				0
Time (military)	1325	1335	1345	1350	1355				1405
PH (s.u.)	5.89	6.01	5.92	5.93	5.95				5.84
Specific Conductivity (µS/cm)	0.295	0.323	0.274	0.280	0.277				0.264
Water Temperature (°C)	25.18	25.00	23.39	22.63	22.58				22.54
Turbidity (NTU)	33.0	193	1000	1000	1000				1000
Dissolved Oxygen (mg/L)	0.91	0.70	0.72	1.31	1.48				0.94

### Sampling Data

Sampled By: AR, RW	Sampling Time: 1405	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: ---
Notes: Purge water dispersed on site.			
Signature:			



# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 5/22/2019      Site ID #: 12175      Site Name: Edgefield Fuel & Convenience 3      Field Personnel: Austen R., Henry W.

County: Edgefield      Project Manager: N. France      General Weather Conditions: Sunny      Ambient Air Temp (°F): 75

## Quality Assurance

Meter Name:      Serial #:      Calibration:      Turbidity 0.0 NTU ± 5%: Y or N

Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      pH 4.00 ± 0.05: Y or N at 23.75°C      DO 8.78 mg/L ± 5%: Y or N

Comments:

## Well Information

Sample ID: 12175- MW 4      Well Diameter (inches): 2"      Conversion Factor (C):      1" Well: 0.047      2" Well: 0.163      4" Well: 0.652      6" Well: 1.469      Method of Purging/Sample Collection:  Bailer       Pump       PDB

MW       RW       Surface Water       Other      Screened Interval (ft.): 19 - 29      Depth to Free Product (DTP) (ft.): —

Depth to Groundwater (DTW) (ft.): 18.17      Total Well Depth (TWD) (ft.): 29.03      Free Product Thickness (ft.): —

Length of water column (LWC = TWD - DGW) (ft.): 10.86      1 casing volume (CV = LWC x C) (gals.): 1.27      3 casing volumes (3 x CV) (gals.): 5.31

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.27	3.54	5.31		7.08	8.85	0
Time (military)	10014	1047	1050					1100
PH (s.u.)	6.00	6.28	6.41					6.34
Specific Conductivity (µS/cm)	0.371	0.375	0.418					0.440
Water Temperature (°C)	24.18	23.64	23.47					23.98
Turbidity (NTU)	71000	71000	71000					71000
Dissolved Oxygen (mg/L)	1.97	2.22	2.90					0.95

## Sampling Data

Sampled By: ARY HW      Sampling Time: 1100      Duplicate: Y or N      If yes, Duplicate Time: —

Notes: private water contained well purged dry before 3rd well volume then sampled      Signature: ATK





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/22/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
	RH512LJ9V TANDEM87	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 23.75 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- MW 5	Well Diameter (inches): 2"	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 19 - 29	Depth to Free Product (DTP) (ft.): —				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 29.14	Free Product Thickness (ft): —				
Depth to Groundwater (DTW) (ft.): 17.18	1 casing volume (CV = LWC x C) (gals.): 1.74	3 casing volumes (3 x CV) (gals.): 5.82				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling				
Volume Purged (gallons)	0	1.94	3.88	/						0			
Time (military)	8:47	8:50	8:53							5.82	7.76	9.70	9:00
PH (s.u.)	5.29	5.77	6.00							8.56	5.90	5.81	0.610
Specific Conductivity (µS/cm)	6700	6587	6552							0.549	22.30	27.12	71000
Water Temperature (°C)	22.61	22.35	22.33							21000	251	1.67	
Turbidity (NTU)	43.9	71000	71000										
Dissolved Oxygen (mg/L)	3.81	3.12	3.80										

### Sampling Data

Sampled By: <input checked="" type="radio"/> ARJ HW	Sampling Time: 9:00	Duplicate <input checked="" type="radio"/> or N	If yes, Duplicate Time: 9:05
Notes: 17125 Dup 2 taken @ 9:05 well purged dry before 4th well volume, then sampled private water contained			
Signature: <i>ARJ</i>			



**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

**Site Information**

Date: 5/7/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): 75

**Quality Assurance**

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512L591 TNOE4N87	pH 4.00 ± 0.05 (Y) or N at 23.75 °C DO 8.78 mg/L ± 5% (Y) or N
Comments:		

**Well Information**

Sample ID: 12175-MU-6	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 19 - 29	Depth to Free Product (DTP) (ft.):	—				
Depth to Groundwater (DTW) (ft.): 19.10	Total Well Depth (TWD) (ft): 29.10	Free Product Thickness (ft):	—				
Length of water column (LWC = TWD - DGW) (ft.): 10.00	1 casing volume (CV = LWC x C) (gals.): 1.63	3 casing volumes (3 x CV) (gals.): 4.89					

**Purging Data**

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling					
Volume Purged (gallons)	0	1.63	3.26	/						8.15	0			
Time (military)	930	933	936							4.89	6.52	8.15	9.40	0
PH (s.u.)	6.25	6.33	6.41										6.43	
Specific Conductivity (µS/cm)	6605	6610	6590										6598	
Water Temperature (°C)	25.68	24.45	23.94										24.64	
Turbidity (NTU)	40.2	918	7000										7000	
Dissolved Oxygen (mg/L)	1.71	1.83	2.03										1.80	

**Sampling Data**

Sampled By: AR, HW	Sampling Time: 940	Duplicate: Y or N	If yes, Duplicate Time: —
Notes: <i>purge water contained well purged dry before 3rd well volume</i>			
Signature: <i>ATR</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 70j

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSVKW14F	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 23 °C Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- MW7	Well Diameter (inches): 2	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other <input type="checkbox"/>	Screened Interval (ft): 10 - 20	Depth to Free Product (DTP) (ft): —				
Depth to Groundwater (DTW) (ft): 12.77		Free Product Thickness (ft): —				
Length of water column (LWC = TWD - DGW) (ft.): 7.61		3 casing volumes (3 x CV) (gals.): 3.72				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.24	1.24		1.24				0
Time (military)	0849	0851	0853		0856				0900
PH (s.u.)	4.83	4.68	4.66		4.65				4.76
Specific Conductivity (µS/cm)	0.125	0.139	0.144		0.145				0.138
Water Temperature (°C)	20.18	20.13	20.24		20.14				20.39
Turbidity (NTU)	290	+1000	+1000		+1000				+1000
Dissolved Oxygen (mg/L)	4.04	3.83	3.88		3.97				3.90

### Sampling Data

Sampled By: AR, RW	Sampling Time: 0900	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: Purge water disposed on site.			
Signature:			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>80s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<b>SSUKW14F</b>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 23 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <b>MW8</b>	Well Diameter (inches): <b>2</b>	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <b>17 - 27</b>		Depth to Free Product (DTP) (ft): <b>---</b>				
Depth to Groundwater (DTW) (ft.): <b>21.06</b>		Total Well Depth (TWD) (ft): <b>26.96</b>		Free Product Thickness (ft): <b>---</b>			
Length of water column (LWC = TWD - DGW) (ft.): <b>5.90</b>		1 casing volume (CV = LWC x C) (gals.): <b>0.96</b>		3 casing volumes (3 x CV) (gals.): <b>2.88</b>			

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	0.96	0.96		0.96				0
Time (military)	1105	1110	1115		1120				1130
PH (s.u.)	5.96	5.88	5.84		5.87				5.98
Specific Conductivity (µS/cm)	0.407	0.477	0.468		0.472				0.428
Water Temperature (°C)	26.89	24.92	24.21		23.38				23.40
Turbidity (NTU)	23.7	589	624		756				429
Dissolved Oxygen (mg/L)	2.92	2.64	2.65		2.65				2.95

### Sampling Data

Sampled By: AR, HW	Sampling Time: 1130	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: <b>---</b>
Notes: <i>Purge water disposed on site.</i>			
Signature: <i>[Signature]</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>5 sunny</i>	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>RH512L79/ TND E4N87</i>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at <i>22.44</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW 9</i>	Well Diameter (Inches): <i>2"</i>	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Well Diameter (Inches): <i>2"</i>	Screened Interval (ft): <i>17 - 27</i>				Depth to Free Product (DTP) (ft.): <i>---</i>
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>		Total Well Depth (TWD) (ft): <i>27.07</i>		Free Product Thickness (ft): <i>---</i>		
Length of water column (LWC = TWD - DGW) (ft.): <i>8.74</i>		1 casing volume (CV = LWC x C) (gals.): <i>1.42</i>		3 casing volumes (3 x CV) (gals.): <i>4.26</i>		

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling	
Volume Purged (gallons)	0	<i>1.42</i>	<i>2.84</i>	/						0
Time (military)	<i>1037</i>	<del><i>5:30</i></del>	<i>1043</i>	/						<i>1600</i>
PH (s.u.)	<i>5.36</i>	<i>5.30</i>	<i>5.13</i>	/						<i>4.73</i>
Specific Conductivity (µS/cm)	<i>10.219</i>	<i>10.162</i>	<i>10.151</i>	/						<i>0.159</i>
Water Temperature (°C)	<i>25.47</i>	<i>23.14</i>	<i>22.02</i>	/						<i>20.25</i>
Turbidity (NTU)	<i>25.8</i>	<i>71000</i>	<i>&gt;1000</i>	/						<i>71000</i>
Dissolved Oxygen (mg/L)	<i>1.80</i>	<i>2.07</i>	<i>2.47</i>	/						<i>3.77</i>

### Sampling Data

Sampled By: <input checked="" type="radio"/> AR <input type="radio"/> HW	Sampling Time: <i>1600</i>	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: <i>---</i>
Notes: <i>well purged 5 well volumes large water disposed of on site</i>			
Signature: <i>AR</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>July</i>	Ambient Air Temp (°F): <i>76s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSVKWHF	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at 23 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N		
Comments:		

### Well Information

Sample ID: 12175- MW10	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> JW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): —					
Depth to Groundwater (DTW) (ft.): 22.30		Total Well Depth (TWD) (ft): 30.34					Free Product Thickness (ft): —
Length of water column (LWC = TWD - DGW) (ft.): 8.04		1 casing volume (CV = LWC x C) (gals.): 1.31					3 casing volumes (3 x CV) (gals.): 3.93

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.31	1.31	1.31	1.31				0
Time (military)	0813	0816	0820	0823	0823				0827
PH (s.u.)	5.50	5.46	5.43	5.44	5.44				5.50
Specific Conductivity (µS/cm)	0.091	0.092	0.091	0.091	0.091				0.093
Water Temperature (°C)	20.30	20.27	20.39	20.32	20.32				20.30
Turbidity (NTU)	87.2	+1000	+1000	+1000	+1000				+1000
Dissolved Oxygen (mg/L)	4.40	4.65	4.79	4.79	5.50				5.03

### Sampling Data

Sampled By: AR, <i>AW</i>	Sampling Time: 8:27	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: <i>Purge water dispersed on site</i>			
Signature: <i>[Signature]</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH 512159/ TNØ154N87	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 22.4°C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>mw1</i>	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 21 - 31	Depth to Free Product (DTP) (ft.): —				
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Total Well Depth (TWD) (ft): 30.84	Free Product Thickness (ft): —				
Depth to Groundwater (DTW) (ft.): 21.36	1 casing volume (CV = LWC x C) (gals.): 1.54	3 casing volumes (3 x CV) (gals.): 4.62				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling					
Volume Purged (gallons)	0	1.54	3.08	/						0				
Time (military)	1230	1233	1236							4.62	1239	1242	1245	1250
PH (s.u.)	5.87	6.13	6.47							6.35	6.42	6.42	6.52	6.40
Specific Conductivity (µS/cm)	25.24	0.634	0.639							0.662	0.676	0.689	0.689	0.700
Water Temperature (°C)	25.24	23.56	23.72							23.71	23.53	23.45	23.71	23.71
Turbidity (NTU)	741	203	777							7400	71000	71000	71000	>1000
Dissolved Oxygen (mg/L)	1.13	1.73	1.72							2.00	2.01	2.90	2.90	1.47

### Sampling Data

Sampled By: <input checked="" type="checkbox"/> AP, HW	Sampling Time: 1250	Duplicate: <input checked="" type="radio"/> or N	If yes, Duplicate Time: 1253
Notes: 12175 Dup 1 taken @ 1255 purge water contained			
Signature: <i>AP</i>			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/22/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: sunny	Ambient Air Temp (°F): 70

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSUKW14F	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 24 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175-#WJZ	Well Diameter (inches): 2	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): —				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW		Total Well Depth (TWD) (ft): 30.00	Free Product Thickness (ft.): —				
Depth to Groundwater (DTW) (ft.): 20.78		1 casing volume (CV = LWC x C) (gals.): 1.50	3 casing volumes (3 x CV) (gals.): 4.50				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.50	1.50		1.50				0
Time (military)	0930	0935	0940		0945				0955
PH (s.u.)	6.02	6.04	6.08		6.07				6.08
Specific Conductivity (µS/cm)	0.871	0.928	0.871		0.895				0.842
Water Temperature (°C)	24.85	23.82	23.27		23.10				23.28
Turbidity (NTU)	37.9	168	1000		1000				1000
Dissolved Oxygen (mg/L)	0.40	1.01	0.68		0.74				0.85

### Sampling Data

Sampled By: AR, RW	Sampling Time: 0955	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: Purge water contained.			
Signature:			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/2/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>5 windy</i>	Ambient Air Temp (°F): <i>80.5</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>SSUK W14F</i>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at <i>23 °C</i> Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW13</i>	Well Diameter (inches): <i>Z</i>	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <i>15 - 25</i>	Depth to Free Product (DTP) (ft.): <i>---</i>				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): <i>16.84</i>	Free Product Thickness (ft): <i>---</i>				
Length of water column (LWC = TWD - DGW) (ft.): <i>8.39</i>		3 casing volumes (3 x CV) (gals.): <i>4.14</i>				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.38</i>	<i>1.38</i>						0
Time (military)	<i>1150</i>	<i>1155</i>	<i>1200</i>						<i>1300</i>
PH (s.u.)	<i>4.99</i>	<i>4.90</i>	<i>4.95</i>						<i>5.02</i>
Specific Conductivity (µS/cm)	<i>0.229</i>	<i>0.251</i>	<i>0.251</i>						<i>0.260</i>
Water Temperature (°C)	<i>24.45</i>	<i>23.35</i>	<i>22.66</i>						<i>23.03</i>
Turbidity (NTU)	<i>27.9</i>	<i>194</i>	<i>+1000</i>						<i>558</i>
Dissolved Oxygen (mg/L)	<i>2.15</i>	<i>2.88</i>	<i>2.95</i>						<i>3.61</i>

### Sampling Data

Sampled By: AR, <i>AD</i>	Sampling Time: <i>1300</i>	Duplicate: Y or <input checked="" type="radio"/> N
Notes: <i>Purge water disposed on site. Will purge dry after 2 WWS</i>		
Signature: <i>AD</i>		If yes, Duplicate Time: <i>---</i>



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>80s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>JSUKW14F</i>	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at 23 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW14</i>	Well Diameter (inches): <i>2</i>	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): <i>20 - 30</i>	Depth to Free Product (DTP) (ft.): <i>—</i>					
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>	Total Well Depth (TWD) (ft.): <i>29.59</i>	Free Product Thickness (ft.): <i>—</i>					
Depth to Groundwater (DTW) (ft.): <i>21.29</i>	Length of water column (LWC = TWD - DGW) (ft.): <i>8.30</i>	1 casing volume (CV = LWC x C) (gals.): <i>1.35</i>	3 casing volumes (3 x CV) (gals.): <i>4.05</i>				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.35</i>	<i>1.35</i>		<i>1.35</i>				0
Time (military)	<i>1220</i>	<i>1225</i>	<i>1230</i>		<i>1235</i>				<i>1245</i>
PH (s.u.)	<i>5.12</i>	<i>5.19</i>	<i>5.18</i>		<i>5.22</i>				<i>5.26</i>
Specific Conductivity (µS/cm)	<i>0.158</i>	<i>0.152</i>	<i>0.151</i>		<i>0.152</i>				<i>0.151</i>
Water Temperature (°C)	<i>23.34</i>	<i>23.22</i>	<i>23.15</i>		<i>22.84</i>				<i>23.07</i>
Turbidity (NTU)	<i>291</i>	<i>268</i>	<i>331</i>		<i>1000</i>				<i>1000</i>
Dissolved Oxygen (mg/L)	<i>1.71</i>	<i>2.26</i>	<i>2.23</i>		<i>2.28</i>				<i>2.47</i>

### Sampling Data

Sampled By: AR, <i>HW</i>	Sampling Time: <i>1245</i>	Duplicate: <i>Y</i> or <i>N</i>
Notes: <i>Purge water disposed on site.</i>		
Signature: <i>[Signature]</i>		



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>74s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSUKW14F	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at 23 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- MW15	Well Diameter (inches): 2	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft): 17 - 27			Depth to Free Product (DTP) (ft.): —	
Depth to Groundwater (DTW) (ft.): 17.68		Total Well Depth (TWD) (ft.): 27.00		Free Product Thickness (ft.): —		
Length of water column (LWC = TWD - DGW) (ft.): 9.32		1 casing volume (CV = LWC x C) (gals.): 1.52		3 casing volumes (3 x CV) (gals.): 4.56		

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.52	1.52	1.52	1.52				0
Time (military)	0942	0945	0948	0952	0952				1000
PH (s.u.)	6.67	6.65	6.65	6.64	6.64				6.64
Specific Conductivity (µS/cm)	1.03	1.06	1.04	1.03	1.03				1.02
Water Temperature (°C)	19.58	19.40	19.39	19.24	19.24				19.41
Turbidity (NTU)	95.9	+1000	726	+1000	+1000				513
Dissolved Oxygen (mg/L)	0.92	0.94	1.14	1.33	1.33				1.30

### Sampling Data

Sampled By: AR, <i>AV</i>	Sampling Time: 1000	Duplicate: Y or <input checked="" type="radio"/> N
Notes: <i>Purge water dispersed on site. 12175 FB1 @ 1030</i>		

Signature: *[Signature]*



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>SUNNY</i>	Ambient Air Temp (°F): <i>70s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>SSVKW14F</i>	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at <i>23</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW16</i>	Well Diameter (inches): <i>Z</i>	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): <i>10 - 20</i>	Depth to Free Product (DTP) (ft.): <i>—</i>					
Depth to Groundwater (DTW) (ft.): <i>11.36</i>	Total Well Depth (TWD) (ft.): <i>14.34</i>	Free Product Thickness (ft.): <i>—</i>					
Length of water column (LWC = TWD - DGW) (ft.): <i>7.98</i>	1 casing volume (CV = LWC x C) (gals.): <i>1.30</i>	3 casing volumes (3 x CV) (gals.): <i>3.90</i>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.30</i>	<i>1.30</i>		<i>1.30</i>				0
Time (military)	<i>0917</i>	<i>0919</i>	<i>0922</i>		<i>0925</i>				<i>0930</i>
PH (s.u.)	<i>5.90</i>	<i>5.93</i>	<i>5.98</i>		<i>5.96</i>				<i>5.96</i>
Specific Conductivity (µS/cm)	<i>0.197</i>	<i>0.200</i>	<i>0.202</i>		<i>0.203</i>				<i>0.204</i>
Water Temperature (°C)	<i>19.90</i>	<i>19.45</i>	<i>19.16</i>		<i>18.87</i>				<i>19.02</i>
Turbidity (NTU)	<i>50.6</i>	<i>+1000</i>	<i>+1000</i>		<i>+1000</i>				<i>+1000</i>
Dissolved Oxygen (mg/L)	<i>1.77</i>	<i>1.62</i>	<i>2.08</i>		<i>2.185</i>				<i>1.90</i>

### Sampling Data

Sampled By: AR, <i>AW</i>	Sampling Time: <i>0930</i>	Duplicate: Y or <input checked="" type="radio"/> N
Notes: <i>Purge water dispersed on site.</i>		
Signature: <i>[Signature]</i>		



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 78

### Quality Assurance

Meter Name: Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: R H 512 L J 9 / T W 0 E H W 8 2	Calibration:	pH 4.00 ± 0.05 <input checked="" type="radio"/> Y or N at 22.54 °C
			Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or N
			Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> Y or N
Comments: --			

### Well Information

Sample ID: 12175- MV17	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other							Depth to Free Product (DTP) (ft.): --
							Free Product Thickness (ft.): --
							3 casing volumes (3 x CV) (gals.): 3.90

### Purging Data

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling			
Volume Purged (gallons)	0	1.30	2.60	/						0		
Time (military)	1340	1343	1346							3.90	6.50	1355
PH (s.u.)	6.28	6.23	6.27							6.30	5.93	0.208
Specific Conductivity (µS/cm)	0.270	0.279	0.241							0.218	25.59	7.000
Water Temperature (°C)	25.88	25.20	24.90							24.69	1.98	
Turbidity (NTU)	120	524	71000							213		
Dissolved Oxygen (mg/L)	1.94	2.12	2.03									

### Sampling Data

Sampled By: AR/HW	Sampling Time: 1355	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: --
Notes: purge water can fished well purged 4th well volume, then sampled			
			Signature: AFR



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/27/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>80s</i>

### Quality Assurance

Meter Name: <i>Horiba U-52</i> (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: <i>SSUKW14F</i>	Calibration:
		pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at <i>24</i> °C
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N
Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N		
DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N		
Comments:		

### Well Information

Sample ID: 12175- <i>AW18</i>	Well Diameter (inches): <i>Z</i>	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB	
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft): <i>18 - 28</i>	Depth to Free Product (DTP) (ft.): <i>—</i>					
Depth to Groundwater (DTW) (ft.): <i>21.14</i>		Total Well Depth (TWD) (ft): <i>28.58</i>	Free Product Thickness (ft): <i>—</i>					
Length of water column (LWC = TWD - DGW) (ft.): <i>7.39</i>		1 casing volume (CV = LWC x C) (gals.): <i>1.20</i>	3 casing volumes (3 x CV) (gals.): <i>3.60</i>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.20</i>	<i>1.20</i>		<i>1.20</i>				0
Time (military)	<i>1106</i>	<i>1105</i>	<i>1110</i>		<i>1115</i>				<i>1125</i>
PH (s.u.)	<i>6.28</i>	<i>6.13</i>	<i>6.15</i>		<i>6.11</i>				<i>6.14</i>
Specific Conductivity (µS/cm)	<i>0.328</i>	<i>0.267</i>	<i>0.268</i>		<i>0.244</i>				<i>0.276</i>
Water Temperature (°C)	<i>24.07</i>	<i>23.02</i>	<i>21.94</i>		<i>21.48</i>				<i>21.41</i>
Turbidity (NTU)	<i>43.1</i>	<i>206</i>	<i>988</i>		<i>+1000</i>				<i>+1000</i>
Dissolved Oxygen (mg/L)	<i>0.37</i>	<i>0.68</i>	<i>0.84</i>		<i>0.80</i>				<i>0.98</i>

### Sampling Data

Sampled By: <i>AR, KW</i>	Sampling Time: <i>1125</i>	Duplicate: <i>Y</i> or <i>N</i>	If yes, Duplicate Time: <i>—</i>
Notes: <i>Purge water contained</i>			
Signature: <i>[Signature]</i>			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/ TND1E4N87	pH 4.00 ± 0.05 (Y) or N at 22.44 °C Specific Conductivity 4.49 mS/cm ± 5% (Y) or N DO 8.78 mg/L ± 5% (Y) or N
Comments:		

## Well Information

Sample ID: 12175- MW19	Well Diameter (inches): 2"	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 18 - 28	Depth to Free Product (DTP) (ft.): 19.56				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): —	Free Product Thickness (ft): 1.05				
Depth to Groundwater (DTW) (ft.): 20.41	1 casing volume (CV = LWC x C) (gals.): —	3 casing volumes (3 x CV) (gals.): —				

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

## Sampling Data

Sampled By: AR/HW	Sampling Time: —	Duplicate: Y or (N)	If yes, Duplicate Time: —
Notes: well not sampled well checked with bailer, free product present			
Signature: AJR			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/20/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: sunny	Ambient Air Temp (°F): 80.5

### Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5%: <input type="radio"/> or N
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSUKW14 F	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 34 °C	DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:			

### Well Information

Sample ID: 12175- MW20	Well Diameter (inches): 2	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 17 - 27	Depth to Free Product (DTP) (ft.): —				
Depth to Groundwater (DTW) (ft.): 16.69		Total Well Depth (TWD) (ft): 26.25				Free Product Thickness (ft): —
Length of water column (LWC = TWD - DGW) (ft.): 9.56		1 casing volume (CV = LWC x C) (gals.): 1.56				3 casing volumes (3 x CV) (gals.): 4.68

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.56	1.56	1.56	1.56				0
- Time (military)	1523	1526	1529	1532	1532				1538
PH (s.u.)	4.87	4.85	4.77	4.75	4.47				4.70
Specific Conductivity (µS/cm)	4.47	4.47	4.47	4.47	4.47				4.47
Water Temperature (°C)	22.60	22.14	21.90	21.45	21.45				21.05
Turbidity (NTU)	MB 395	+1000	+1000	+1000	+1000				+1000
Dissolved Oxygen (mg/L)	0.61	1.02	1.02	1.92	1.92				2.75

### Sampling Data

Sampled By: AR, RW	Sampling Time: 1538	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: Purge water dispersed on site 12175 FBI @ 1600			
Signature:			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512L J9 / TN0EUN87	pH 4.00 ± 0.05 (Y or N) at 22.44 °C Turbidity 0.0 NTU ± 5% (Y or N)
Specific Conductivity 4.49 mS/cm ± 5% (Y or N)		DO 8.78 mg/L ± 5% (Y or N)
Comments:		

### Well Information

Sample ID: 12175- MW 21	Well Diameter (inches): 2"	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> JW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Conversion Factor (C):	Screened Interval (ft): 19 - 29		Depth to Free Product (DTP) (ft.):		
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft):	1 casing volume (CV = LWC x C) (gals.):		Free Product Thickness (ft):		
Depth to Groundwater (DTW) (ft.):	1 casing volume (CV = LWC x C) (gals.):		3 casing volumes (3 x CV) (gals.):			

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: ARJ HW	Sampling Time:	Duplicate: Y or (N)	If yes, Duplicate Time:
Notes: well unable to sample screws stripped, unable to open well to be sampled			
Signature: ARJ			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/24/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>70</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	SSUC W14F	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at <i>23</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- MW22	Well Diameter (inches): <i>2</i> "	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <i>20 - 30</i>	Depth to Free Product (DTP) (ft.): <i>---</i>					
Depth to Groundwater (DTW) (ft.): <i>23.00</i>		Total Well Depth (TWD) (ft): <i>29.91</i>	Free Product Thickness (ft): <i>---</i>				
Length of water column (LWC = TWD - DGW) (ft.): <i>6.91</i>		1 casing volume (CV = LWC x C) (gals.): <i>1.13</i>	3 casing volumes (3 x CV) (gals.): <i>3.39</i>				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.13</i>	<i>1.13</i>		<i>1.13</i>				0
Time (military)	<i>0743</i>	<i>0746</i>	<i>0749</i>		<i>0752</i>				<i>0757</i>
PH (s.u.)	<i>5.35</i>	<i>6.04</i>	<i>6.06</i>		<i>6.05</i>				<i>6.08</i>
Specific Conductivity (µS/cm)	<i>0.204</i>	<i>0.128</i>	<i>0.122</i>		<i>0.120</i>				<i>0.122</i>
Water Temperature (°C)	<i>21.00</i>	<i>20.47</i>	<i>20.41</i>		<i>20.24</i>				<i>20.27</i>
Turbidity (NTU)	<i>27.6</i>	<i>851</i>	<i>+1000</i>		<i>+1000</i>				<i>752</i>
Dissolved Oxygen (mg/L)	<i>4.40</i>	<i>4.43</i>	<i>4.60</i>		<i>4.50</i>				<i>4.58</i>

### Sampling Data

Sampled By: AR, <i>AW</i>	Sampling Time: <i>0757</i>	Duplicate: Y or <i>N</i>	If yes, Duplicate Time: <i>---</i>
Notes: <i>Purge water disposed on site.</i>			
Signature: <i>[Signature]</i>			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 5/1/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ91 TN0.EHN87	pH 4.00 ± 0.05 <input checked="" type="radio"/> or N at 22.4°C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Sample ID: 12175-ML23	Well Diameter (inches): 7"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 21 - 31		Depth to Free Product (DTP) (ft.): —		Free Product Thickness (ft.): —		
Depth to Groundwater (DTW) (ft.): 22.19		Total Well Depth (TWD) (ft): 31.27		Free Product Thickness (ft.): —			
Length of water column (LWC = TWD - DGW) (ft.): 9.08		1 casing volume (CV = LWC x C) (gals.): 1.48		3 casing volumes (3 x CV) (gals.): 4.44			

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.48	2.96	4.44	/			
Time (military)	1137	1140	1143	1146				
PH (s.u.)	5.09	5.31	5.26	5.39				
Specific Conductivity (µS/cm)	6.388	6.359	6.405	6.390				
Water Temperature (°C)	23.27	22.92	22.77	22.56				
Turbidity (NTU)	462	734	7000	7000				
Dissolved Oxygen (mg/L)	0.70	2.36	1.64	1.94				
			2.02	2.54				
			2.02	2.54				
			2.02	2.54				

## Sampling Data

Sampled By: (AR, HW)	Sampling Time: 1200	Duplicate: <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: <del>Not sampled</del> well purged 5 well volumes, purge water contained			
Signature: (AR)			Signature: ATR



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/22/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RHS126 J9 / TNOEUN87	pH 4.00 ± 0.05: (Y) or N at 23.75°C DO 8.78 mg/L ± 5%: (Y) or N Turbidity 0.0 NTU ± 5%: (Y) or N
Comments:		

### Well Information

Sample ID: 12175-MU2M	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.):	—				
Depth to Groundwater (DTW) (ft.): 20.00	Total Well Depth (TWD) (ft): 30.25	Free Product Thickness (ft):	—				
Length of water column (LWC = TWD - DGW) (ft.): 10.25	1 casing volume (CV = LWC x C) (gals.): 1.67	3 casing volumes (3 x CV) (gals.):	5.01				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.67	3.34	/					
Time (military)	955	958	1001	/					
PH (s.u.)	5.66	5.26	5.15	/					
Specific Conductivity (µS/cm)	0.339	0.324	0.320	/					
Water Temperature (°C)	25.35	24.52	24.15	/					
Turbidity (NTU)	0.74	200	335	/					
Dissolved Oxygen (mg/L)	1.90	200	1.81	/					

### Sampling Data

Sampled By: (AR) HW	Sampling Time: 1010	Duplicate: Y or (N)	If yes, Duplicate Time: —
Notes: Purge water contained well purged dry before the 4th well volume, then sampled			
Signature: (AR)			Signature: (AR)



## Underground Storage Tank Management Division Field Data Information Sheet - Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RHS12L591 TNOEM87	pH 4.00 ± 0.05 (Y or N) at 27.44 °C Turbidity 0.0 NTU ± 5% (Y or N)
Comments:	Specific Conductivity 4.49 mS/cm ± 5% (Y or N) DO 8.78 mg/L ± 5% (Y or N)	

### Well Information

Sample ID: 12175-MW 25	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): 20 - 30		Depth to Free Product (DTP) (ft.): 19.64		Free Product Thickness (ft): 0.04		
Private WSW <input type="checkbox"/> Public WSW <input type="checkbox"/>		Total Well Depth (TWD) (ft):		Length of water column (LWC = TWD - DGW) (ft.):		3 casing volumes (3 x CV) (gals.):	

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

### Sampling Data

Sampled By: AR HW	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:
Notes: well not sampled well checked with bailer, free product present			
Signature: ARK			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/24/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Seepy</i>	Ambient Air Temp (°F): <i>80s</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>55UKW14F</i>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at <i>24</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW26</i>	Well Diameter (inches): <i>2</i>	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Conversion Factor (C):	Screened Interval (ft): <i>20 - 30</i>		Depth to Free Product (DTP) (ft.): <i>---</i>		
Depth to Groundwater (DTW) (ft.): <i>20.17</i>		Total Well Depth (TWD) (ft): <i>30.08</i>		Free Product Thickness (ft): <i>---</i>		
Length of water column (LWC = TWD - DGW) (ft.): <i>9.91</i>		1 casing volume (CV = LWC x C) (gals.): <i>1.62</i>		3 casing volumes (3 x CV) (gals.): <i>4.86</i>		

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.62</i>	<i>1.62</i>		<i>1.62</i>				0
Time (military)	<i>1015</i>	<i>1020</i>	<i>1025</i>		<i>1030</i>				<i>1040</i>
PH (s.u.)	<i>6.33</i>	<i>6.28</i>	<i>6.33</i>		<i>6.35</i>				<i>6.39</i>
Specific Conductivity (µS/cm)	<i>6.925</i>	<i>1.02</i>	<i>1.03</i>		<i>0.957</i>				<i>0.953</i>
Water Temperature (°C)	<i>25.24</i>	<i>24.96</i>	<i>24.11</i>		<i>23.94</i>				<i>24.15</i>
Turbidity (NTU)	<i>192</i>	<i>103</i>	<i>371</i>		<i>601</i>				<i>+1000</i>
Dissolved Oxygen (mg/L)	<i>5.15</i>	<i>0.94</i>	<i>2.11</i>		<i>1.04</i>				<i>0.94</i>

### Sampling Data

Sampled By: AR, <i>AW</i>	Sampling Time: <i>1040</i>	Duplicate: Y or <input checked="" type="radio"/> If yes, Duplicate Time: <i>---</i>
Notes: <i>Purge water retained.</i>		

Signature: *[Signature]*



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>75</i>

### Quality Assurance

Meter Name: Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: <i>RH51249</i> <i>TNDEUN87</i>	Calibration:	Turbidity 0.0 NTU ± 5% <input checked="" type="radio"/> or N
			DO 8.78 mg/L ± 5% <input checked="" type="radio"/> or N
Comments:			

### Well Information

Sample ID: 12175- <i>RW1</i>	Well Diameter (inches): <i>4"</i>	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input checked="" type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <i>20 - 30</i>	Depth to Free Product (DTP) (ft.): <i>17.25</i>		Free Product Thickness (ft): <i>0.01</i>		
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): <i>17.26</i>	Length of water column (LWC = TWD - DGW) (ft.): <i>—</i>		3 casing volumes (3 x CV) (gals.): <i>—</i>		

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: <i>(AR) HW</i>	Sampling Time: <i>—</i>	Duplicate: Y or <i>N</i>	If yes, Duplicate Time: <i>—</i>
Notes: <i>well not sampled</i> <i>well checked with bailer, free product present</i>			
Signature: <i>AJR</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512 L591 T 000EUN87	pH 4.00 ± 0.05 <input checked="" type="radio"/> or N at 22.44 °C Turbidity 0.0 NTU ± 5% <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5% <input checked="" type="radio"/> Y or N DO 8.78 mg/L ± 5% <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- RW 2	Well Diameter (inches): 4"	Conversion Factor (C):	1" Well: 0.047	4" Well: 0.163	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
MW <input type="checkbox"/> IW <input checked="" type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): 19.67				
Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 20.03	Free Product Thickness (ft): 0.39				
Depth to Groundwater (DTW) (ft.): 20.03	Length of water column (LWC = TWD - DGW) (ft.): —	3 casing volumes (3 x CV) (gals.): —				

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: AR HW	Sampling Time: —	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: well not sampled well checked with bailer, free product present			
Signature: ARK			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>Sunny</i>	Ambient Air Temp (°F): <i>75</i>

### Quality Assurance

Meter Name: <i>Horiba U-52</i> (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: <i>RH512L591</i> <i>TND E4 N87</i>	Calibration:	pH $4.00 \pm 0.05$ : <input checked="" type="radio"/> Y or N at <i>22.44</i> °C
			Turbidity 0.0 NTU $\pm 5\%$ : <input checked="" type="radio"/> Y or N
			Specific Conductivity 4.49 mS/cm $\pm 5\%$ : <input checked="" type="radio"/> Y or N
Comments:			

### Well Information

Sample ID: 12175- <i>RW3</i>	Well Diameter (inches): <i>4"</i>	Conversion Factor (C):	1" Well: 0.047	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input checked="" type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW						
Depth to Groundwater (DTW) (ft.): <i>20.20</i>	Screened Interval (ft.): <i>20 - 30</i>	Depth to Free Product (DTP) (ft.): <i>19.67</i>	Free Product Thickness (ft.): <i>0.53</i>			
Length of water column (LWC = TWD - DGW) (ft.): <i>—</i>	1 casing volume (CV = LWC x C) (gals.): <i>—</i>	3 casing volumes (3 x CV) (gals.): <i>—</i>				

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	<i>0</i>							<i>0</i>
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: <i>AR, HW</i>	Sampling Time: <i>—</i>	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: <i>—</i>
Notes: <i>well not sampled well checked with bailer, free product present</i>			
Signature: <i>AJR</i>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/21/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 75

### Quality Assurance

Meter Name:	Serial #:	Calibration:
	RH52LJ91 TN0EUN87	
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)		
pH 4.00 ± 0.05: (Y) or N at 22.4 °C		Turbidity 0.0 NTU ± 5%: (Y) or N
Specific Conductivity 4.49 mS/cm ± 5%: (Y) or N		DO 8.78 mg/L ± 5%: (Y) or N
Comments:		

### Well Information

Sample ID: 12175- RW-4	Well Diameter (inches):	1" Well	2" Well	4" Well	6" Well	Method of Purging/Sample Collection
		0.047	0.163	0.652	1.469	<input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other <input type="checkbox"/>	Well Diameter (inches):	Screened Interval (ft): 15 - 35				Depth to Free Product (DTP) (ft.): 19.80
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Well Diameter (inches):	Total Well Depth (TWD) (ft): —				Free Product Thickness (ft): 0.01
Depth to Groundwater (DTW) (ft.): 19.81	Well Diameter (inches):	1 casing volume (CV = LWC x C) (gals.): —				3 casing volumes (3 x CV) (gals.): —
Length of water column (LWC = TWD - DGW) (ft.): —	Well Diameter (inches):					

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: ARHW	Sampling Time: —	Duplicate: Y or (N)	If yes, Duplicate Time: —
Notes:			
well not sampled			
will checked with bailer, Fuel product present			
			Signature: AR



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 5/20/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>sunny</i>	Ambient Air Temp (°F): <i>80.5</i>

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<b>SSUKW14F</b>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at <i>34</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- TW1	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input checked="" type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): <i>33 - 38</i>	Depth to Free Product (DTP) (ft.): <i>---</i>					
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft.): <i>16.82</i>	Free Product Thickness (ft.): <i>---</i>					
Length of water column (LWC = TWD - DGW) (ft.): <i>21.97</i>	1 casing volume (CV = LWC x C) (gals.): <i>3.58</i>	3 casing volumes (3 x CV) (gals.): <i>10.74</i>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	3.58	3.58		3.58				0
Time (military)	<i>1443</i>	<i>1448</i>	<i>1456</i>		<i>1504</i>				<i>1510</i>
PH (s.u.)	<i>5.31</i>	<i>5.56</i>	<i>5.52</i>		<i>5.49</i>				<i>5.40</i>
Specific Conductivity (µS/cm)	<i>4.47</i>	<i>4.47</i>	<i>4.47</i>		<i>4.47</i>				<i>4.47</i>
Water Temperature (°C)	<i>27.16</i>	<i>25.22</i>	<i>23.13</i>		<i>22.81</i>				<i>22.49</i>
Turbidity (NTU)	<i>71.1</i>	<i>980</i>	<i>+1000</i>		<i>+1000</i>				<i>+1000</i>
Dissolved Oxygen (mg/L)	<i>1.08</i>	<i>1.61</i>	<i>1.36</i>		<i>1.89</i>				<i>2.52</i>

### Sampling Data

Sampled By: AR, <i>AW</i>	Sampling Time: <i>1510</i>	Duplicate: Y or <input checked="" type="radio"/> N
Notes: <i>Purge water contained</i>		
Signature: <i>[Signature]</i>		



**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

**Site Information**

Date: 5/22/2019	Site ID #: 12175	Site Name: Edgefield Fuel & Convenience 3	Field Personnel: Austen R., Henry W.
County: Edgefield	Project Manager: N. France	General Weather Conditions: <i>junny</i>	Ambient Air Temp (°F): <i>70.3</i>

**Quality Assurance**

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	<i>SSUKW14F</i>	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at <i>24</i> °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

**Well Information**

Sample ID: 12175- <i>TW2</i>	Well Diameter (inches): <i>2</i>	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input type="checkbox"/> MW <input type="checkbox"/> RW <input checked="" type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <i>25 - 30</i>	Depth to Free Product (DTP) (ft.):	—				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): <i>29.50</i>	Free Product Thickness (ft):	—				
Length of water column (LWC = TWD - DGW) (ft.): <i>17.84</i>	1 casing volume (CV = LWC x C) (gals.): <i>2.91</i>	3 casing volumes (3 x CV) (gals.):	<i>8.73</i>				

**Purging Data**

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>2.91</i>	<i>2.91</i>		<i>2.91</i>				0
Time (military)	<i>0836</i>	<i>0840</i>	<i>0850</i>		<i>0900</i>				<i>0910</i>
PH (s.u.)	<i>5.45</i>	<i>6.03</i>	<i>6.02</i>		<i>6.05</i>				<i>6.02</i>
Specific Conductivity (µS/cm)	<i>0.229</i>	<i>0.164</i>	<i>0.165</i>		<i>0.168</i>				<i>0.169</i>
Water Temperature (°C)	<i>22.71</i>	<i>21.96</i>	<i>21.04</i>		<i>20.74</i>				<i>20.98</i>
Turbidity (NTU)	<i>2.1</i>	<i>1000</i>	<i>1000</i>		<i>861</i>				<i>469</i>
Dissolved Oxygen (mg/L)	<i>2.54</i>	<i>3.50</i>	<i>3.22</i>		<i>3.54</i>				<i>3.93</i>

**Sampling Data**

Sampled By: AR, <i>HW</i>	Sampling Time: <i>0910</i>	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time: —
Notes: <i>Purge water contained.</i>			
Signature: <i>[Signature]</i>			



May 31, 2019

Noelle France  
ATC Group Services LLC- South Charlotte  
7606 Whitehall Exe Center Dr  
Suite 800  
Charlotte, NC 28273

RE: Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Dear Noelle France:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Taylor Ezell  
taylor.ezell@pacelabs.com  
(704)875-9092  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

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### Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92430426001	12175 MW-3	Water	05/21/19 14:05	05/23/19 07:46
92430426002	12175 MW-4	Water	05/22/19 11:00	05/23/19 07:46
92430426003	12175 MW-5	Water	05/22/19 09:00	05/23/19 07:46
92430426004	12175 MW-6	Water	05/22/19 09:40	05/23/19 07:46
92430426005	12175 MW-7	Water	05/21/19 09:00	05/23/19 07:46
92430426006	12175 MW-8	Water	05/21/19 11:30	05/23/19 07:46
92430426007	12175 MW-9	Water	05/21/19 11:00	05/23/19 07:46
92430426008	12175 MW-10	Water	05/21/19 08:27	05/23/19 07:46
92430426009	12175 MW-11	Water	05/21/19 12:50	05/23/19 07:46
92430426010	12175 MW-12	Water	05/22/19 09:55	05/23/19 07:46
92430426011	12175 MW-13	Water	05/21/19 13:00	05/23/19 07:46
92430426012	12175 MW-14	Water	05/21/19 13:45	05/23/19 07:46
92430426013	12175 MW-15	Water	05/21/19 10:00	05/23/19 07:46
92430426014	12175 MW-16	Water	05/21/19 09:30	05/23/19 07:46
92430426015	12175 MW-17	Water	05/21/19 13:55	05/23/19 07:46
92430426016	12175 MW-18	Water	05/22/19 11:25	05/23/19 07:46
92430426017	12175 MW-20	Water	05/20/19 15:38	05/23/19 07:46
92430426018	12175 MW-22	Water	05/21/19 07:57	05/23/19 07:46
92430426019	12175 MW-23	Water	05/21/19 12:00	05/23/19 07:46
92430426020	12175 MW-24	Water	05/22/19 10:10	05/23/19 07:46
92430426021	12175 MW-26	Water	05/22/19 10:40	05/23/19 07:46
92430426022	12175 TW-1	Water	05/20/19 15:10	05/23/19 07:46
92430426023	12175 TW-2	Water	05/22/19 09:10	05/23/19 07:46
92430426024	12175 Dup-1	Water	05/21/19 00:00	05/23/19 07:46
92430426025	12175 Dup-2	Water	05/22/19 00:00	05/23/19 07:46
92430426026	12175 FB-1	Water	05/20/19 16:00	05/23/19 07:46
92430426027	12175 FB-2	Water	05/21/19 10:30	05/23/19 07:46
92430426028	12175 FB-3	Water	05/22/19 11:50	05/23/19 07:46
92430426029	12175 Trip Blank 1	Water	05/22/19 00:00	05/23/19 07:46
92430426030	12175 Trip Blank 2	Water	05/22/19 00:00	05/23/19 07:46

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92430426001	12175 MW-3	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426002	12175 MW-4	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426003	12175 MW-5	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	GAW	18	PASI-C
92430426004	12175 MW-6	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	GAW	18	PASI-C
92430426005	12175 MW-7	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426006	12175 MW-8	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426007	12175 MW-9	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426008	12175 MW-10	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426009	12175 MW-11	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	GAW	18	PASI-C
92430426010	12175 MW-12	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	GAW	18	PASI-C
92430426011	12175 MW-13	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426012	12175 MW-14	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426013	12175 MW-15	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426014	12175 MW-16	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426015	12175 MW-17	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426016	12175 MW-18	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426017	12175 MW-20	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426018	12175 MW-22	EPA 8011	BAJ	2	PASI-C
		EPA 8260B	CL	18	PASI-C
92430426019	12175 MW-23	EPA 8011	BAJ	2	PASI-C

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### SAMPLE ANALYTE COUNT

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92430426020	12175 MW-24	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426021	12175 MW-26	EPA 8260B	GAW	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426022	12175 TW-1	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426023	12175 TW-2	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426024	12175 Dup-1	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426025	12175 Dup-2	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426026	12175 FB-1	EPA 8260B	CL	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426027	12175 FB-2	EPA 8260B	GAW	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426028	12175 FB-3	EPA 8260B	GAW	18	PASI-C
		EPA 8011	BAJ	2	PASI-C
92430426029	12175 Trip Blank 1	EPA 8260B	GAW	18	PASI-C
		EPA 8260B	GAW	18	PASI-C
92430426030	12175 Trip Blank 2	EPA 8260B	GAW	18	PASI-C

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 MW-3      Lab ID: 92430426001      Collected: 05/21/19 14:05      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.13	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 18:18	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/24/19 09:42	05/24/19 18:18	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 17:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 17:54	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 17:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 17:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 17:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 17:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 17:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 17:54	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 17:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 17:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 17:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 17:54	1634-04-4	
Naphthalene	3.0J	ug/L	5.0	2.1	1		05/24/19 17:54	91-20-3	
Toluene	3.0J	ug/L	5.0	2.0	1		05/24/19 17:54	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 17:54	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		05/24/19 17:54	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		05/24/19 17:54	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/24/19 17:54	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 MW-4      Lab ID: 92430426002      Collected: 05/22/19 11:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 18:56	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	118	%	60-140		1	05/24/19 09:42	05/24/19 18:56	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>6760</b>	ug/L	2500	1550	25		05/29/19 07:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	139	25		05/29/19 07:46	994-05-8	
Benzene	ND	ug/L	125	74.8	25		05/29/19 07:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	1640	25		05/29/19 07:46	624-95-3	L1
tert-Butyl Alcohol	<b>1510J</b>	ug/L	2500	735	25		05/29/19 07:46	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	585	25		05/29/19 07:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	70.5	25		05/29/19 07:46	107-06-2	
Diisopropyl ether	ND	ug/L	125	65.0	25		05/29/19 07:46	108-20-3	
Ethanol	ND	ug/L	5000	3200	25		05/29/19 07:46	64-17-5	
Ethylbenzene	<b>1550</b>	ug/L	125	72.5	25		05/29/19 07:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	134	25		05/29/19 07:46	637-92-3	
Methyl-tert-butyl ether	<b>101J</b>	ug/L	125	65.5	25		05/29/19 07:46	1634-04-4	
Naphthalene	<b>722</b>	ug/L	125	66.8	25		05/29/19 07:46	91-20-3	
Toluene	<b>1030</b>	ug/L	125	71.8	25		05/29/19 07:46	108-88-3	
Xylene (Total)	<b>7140</b>	ug/L	125	125	25		05/29/19 07:46	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		25		05/29/19 07:46	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		25		05/29/19 07:46	17060-07-0	
Toluene-d8 (S)	101	%	70-130		25		05/29/19 07:46	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-5      Lab ID: 92430426003      Collected: 05/22/19 09:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	1.4	ug/L	0.078	0.045	4	05/28/19 10:04	05/28/19 19:28	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	199	%	60-140		4	05/28/19 10:04	05/28/19 19:28	301-79-56	S5
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	20000	12400	200		05/25/19 15:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	1110	200		05/25/19 15:56	994-05-8	M1
Benzene	22600	ug/L	1000	598	200		05/25/19 15:56	71-43-2	M1
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	13100	200		05/25/19 15:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5880	200		05/25/19 15:56	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	4680	200		05/25/19 15:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	564	200		05/25/19 15:56	107-06-2	
Diisopropyl ether	ND	ug/L	1000	520	200		05/25/19 15:56	108-20-3	M1
Ethanol	ND	ug/L	40000	25600	200		05/25/19 15:56	64-17-5	
Ethylbenzene	3260	ug/L	1000	580	200		05/25/19 15:56	100-41-4	M1
Ethyl-tert-butyl ether	ND	ug/L	2000	1070	200		05/25/19 15:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1000	524	200		05/25/19 15:56	1634-04-4	M1
Naphthalene	723J	ug/L	1000	534	200		05/25/19 15:56	91-20-3	M1
Toluene	37700	ug/L	1000	574	200		05/25/19 15:56	108-88-3	
Xylene (Total)	16700	ug/L	1000	1000	200		05/25/19 15:56	1330-20-7	MS
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	70-130		200		05/25/19 15:56	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		200		05/25/19 15:56	17060-07-0	
Toluene-d8 (S)	99	%	70-130		200		05/25/19 15:56	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-6      Lab ID: 92430426004      Collected: 05/22/19 09:40      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 20:15	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	122	%	60-140		1	05/24/19 09:42	05/24/19 20:15	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>62100</b>	ug/L	4000	2480	40		05/25/19 15:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	400	223	40		05/25/19 15:22	994-05-8	
Benzene	<b>3480</b>	ug/L	200	120	40		05/25/19 15:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	4000	2620	40		05/25/19 15:22	624-95-3	
tert-Butyl Alcohol	<b>4340</b>	ug/L	4000	1180	40		05/25/19 15:22	75-65-0	
tert-Butyl Formate	ND	ug/L	2000	936	40		05/25/19 15:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	113	40		05/25/19 15:22	107-06-2	
Diisopropyl ether	ND	ug/L	200	104	40		05/25/19 15:22	108-20-3	
Ethanol	ND	ug/L	8000	5120	40		05/25/19 15:22	64-17-5	
Ethylbenzene	<b>932</b>	ug/L	200	116	40		05/25/19 15:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	400	215	40		05/25/19 15:22	637-92-3	
Methyl-tert-butyl ether	<b>1190</b>	ug/L	200	105	40		05/25/19 15:22	1634-04-4	
Naphthalene	<b>115J</b>	ug/L	200	107	40		05/25/19 15:22	91-20-3	
Toluene	<b>562</b>	ug/L	200	115	40		05/25/19 15:22	108-88-3	
Xylene (Total)	<b>2120</b>	ug/L	200	200	40		05/25/19 15:22	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98	%	70-130		40		05/25/19 15:22	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		40		05/25/19 15:22	17060-07-0	
Toluene-d8 (S)	101	%	70-130		40		05/25/19 15:22	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 MW-7      Lab ID: 92430426005      Collected: 05/21/19 09:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 20:33	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/24/19 09:42	05/24/19 20:33	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 18:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 18:13	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 18:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 18:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 18:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 18:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 18:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 18:13	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 18:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 18:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 18:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 18:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 18:13	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 18:13	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 18:13	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		05/24/19 18:13	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/24/19 18:13	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		05/24/19 18:13	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-8      Lab ID: 92430426006      Collected: 05/21/19 11:30      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 20:52	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	05/24/19 09:42	05/24/19 20:52	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 18:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 18:31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 18:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 18:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 18:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 18:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 18:31	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 18:31	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 18:31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 18:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 18:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 18:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 18:31	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 18:31	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 18:31	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/24/19 18:31	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/24/19 18:31	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/24/19 18:31	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-9      Lab ID: 92430426007      Collected: 05/21/19 11:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.018J	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 21:13	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	05/24/19 09:42	05/24/19 21:13	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 18:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 18:50	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 18:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 18:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 18:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 18:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 18:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 18:50	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 18:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 18:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 18:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 18:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 18:50	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 18:50	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 18:50	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/24/19 18:50	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/24/19 18:50	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/24/19 18:50	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-10      Lab ID: 92430426008      Collected: 05/21/19 08:27      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 21:31	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/24/19 09:42	05/24/19 21:31	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 19:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 19:08	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 19:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 19:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 19:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 19:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 19:08	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 19:08	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 19:08	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 19:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 19:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 19:08	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 19:08	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 19:08	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 19:08	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/24/19 19:08	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		05/24/19 19:08	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/24/19 19:08	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-11      Lab ID: 92430426009      Collected: 05/21/19 12:50      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.26	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 21:50	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	05/24/19 09:42	05/24/19 21:50	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	5360	ug/L	2500	1550	25		05/25/19 15:05	75-85-4	
tert-Amylmethyl ether	207J	ug/L	250	139	25		05/25/19 15:05	994-05-8	
Benzene	4850	ug/L	125	74.8	25		05/25/19 15:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	1640	25		05/25/19 15:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	735	25		05/25/19 15:05	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	585	25		05/25/19 15:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	70.5	25		05/25/19 15:05	107-06-2	
Diisopropyl ether	ND	ug/L	125	65.0	25		05/25/19 15:05	108-20-3	
Ethanol	ND	ug/L	5000	3200	25		05/25/19 15:05	64-17-5	
Ethylbenzene	155	ug/L	125	72.5	25		05/25/19 15:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	134	25		05/25/19 15:05	637-92-3	
Methyl-tert-butyl ether	480	ug/L	125	65.5	25		05/25/19 15:05	1634-04-4	
Naphthalene	218	ug/L	125	66.8	25		05/25/19 15:05	91-20-3	
Toluene	850	ug/L	125	71.8	25		05/25/19 15:05	108-88-3	
Xylene (Total)	916	ug/L	125	125	25		05/25/19 15:05	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91	%	70-130		25		05/25/19 15:05	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		25		05/25/19 15:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		25		05/25/19 15:05	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 MW-12      Lab ID: 92430426010      Collected: 05/22/19 09:55      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 22:10	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	05/24/19 09:42	05/24/19 22:10	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>186</b>	ug/L	100	61.9	1		05/25/19 13:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/25/19 13:23	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/25/19 13:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/25/19 13:23	624-95-3	
tert-Butyl Alcohol	<b>54.7J</b>	ug/L	100	29.4	1		05/25/19 13:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/25/19 13:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/25/19 13:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/25/19 13:23	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/25/19 13:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/25/19 13:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/25/19 13:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/25/19 13:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/25/19 13:23	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/25/19 13:23	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/25/19 13:23	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94	%	70-130		1		05/25/19 13:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		05/25/19 13:23	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/25/19 13:23	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-13      Lab ID: 92430426011      Collected: 05/21/19 13:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 22:28	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/24/19 09:42	05/24/19 22:28	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 19:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 19:26	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 19:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 19:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 19:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 19:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 19:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 19:26	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 19:26	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 19:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 19:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 19:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 19:26	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 19:26	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 19:26	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/24/19 19:26	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		05/24/19 19:26	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/24/19 19:26	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-14		Lab ID: 92430426012		Collected: 05/21/19 13:45		Received: 05/23/19 07:46		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	0.044	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 22:47	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	05/24/19 09:42	05/24/19 22:47	301-79-56	
<b>8260 MSV</b>		Analytical Method: EPA 8260B							
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 19:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 19:45	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 19:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 19:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 19:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 19:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 19:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 19:45	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 19:45	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 19:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 19:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 19:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 19:45	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 19:45	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 19:45	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/24/19 19:45	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		05/24/19 19:45	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/24/19 19:45	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-15      Lab ID: 92430426013      Collected: 05/21/19 10:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.031	ug/L	0.019	0.011	1	05/24/19 09:42	05/24/19 23:07	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/24/19 09:42	05/24/19 23:07	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 20:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 20:03	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 20:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 20:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 20:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 20:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 20:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 20:03	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 20:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 20:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 20:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 20:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 20:03	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 20:03	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 20:03	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98	%	70-130		1		05/24/19 20:03	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		05/24/19 20:03	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/24/19 20:03	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-16      Lab ID: 92430426014      Collected: 05/21/19 09:30      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 23:26	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	05/24/19 09:42	05/24/19 23:26	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 20:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 20:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 20:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 20:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 20:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 20:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 20:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 20:21	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 20:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 20:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 20:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 20:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 20:21	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 20:21	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 20:21	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/24/19 20:21	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		05/24/19 20:21	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/24/19 20:21	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 MW-17      Lab ID: 92430426015      Collected: 05/21/19 13:55      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.74	ug/L	0.020	0.011	1	05/24/19 09:42	05/24/19 23:44	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	05/24/19 09:42	05/24/19 23:44	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	40000	24800	400		05/29/19 16:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	4000	2230	400		05/29/19 16:30	994-05-8	
Benzene	13600	ug/L	2000	1200	400		05/29/19 16:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	40000	26200	400		05/29/19 16:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	40000	11800	400		05/29/19 16:30	75-65-0	
tert-Butyl Formate	ND	ug/L	20000	9360	400		05/29/19 16:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	2000	1130	400		05/29/19 16:30	107-06-2	
Diisopropyl ether	ND	ug/L	2000	1040	400		05/29/19 16:30	108-20-3	
Ethanol	ND	ug/L	80000	51200	400		05/29/19 16:30	64-17-5	
Ethylbenzene	3120	ug/L	2000	1160	400		05/29/19 16:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	4000	2150	400		05/29/19 16:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	2000	1050	400		05/29/19 16:30	1634-04-4	
Naphthalene	ND	ug/L	2000	1070	400		05/29/19 16:30	91-20-3	
Toluene	30900	ug/L	2000	1150	400		05/29/19 16:30	108-88-3	M1
Xylene (Total)	15900	ug/L	2000	2000	400		05/29/19 16:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95	%	70-130		400		05/29/19 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		400		05/29/19 16:30	17060-07-0	
Toluene-d8 (S)	88	%	70-130		400		05/29/19 16:30	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-18      Lab ID: 92430426016      Collected: 05/22/19 11:25      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.096	ug/L	0.020	0.011	1	05/24/19 09:42	05/25/19 00:03	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	05/24/19 09:42	05/25/19 00:03	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	12500	7740	125		05/28/19 20:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	696	125		05/28/19 20:24	994-05-8	
Benzene	2450	ug/L	625	374	125		05/28/19 20:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	8200	125		05/28/19 20:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	3680	125		05/28/19 20:24	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	2920	125		05/28/19 20:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	352	125		05/28/19 20:24	107-06-2	
Diisopropyl ether	ND	ug/L	625	325	125		05/28/19 20:24	108-20-3	
Ethanol	ND	ug/L	25000	16000	125		05/28/19 20:24	64-17-5	
Ethylbenzene	1690	ug/L	625	362	125		05/28/19 20:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	671	125		05/28/19 20:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	328	125		05/28/19 20:24	1634-04-4	
Naphthalene	388J	ug/L	625	334	125		05/28/19 20:24	91-20-3	
Toluene	13300	ug/L	625	359	125		05/28/19 20:24	108-88-3	
Xylene (Total)	7050	ug/L	625	625	125		05/28/19 20:24	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	70-130		125		05/28/19 20:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		125		05/28/19 20:24	17060-07-0	
Toluene-d8 (S)	102	%	70-130		125		05/28/19 20:24	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-20      Lab ID: 92430426017      Collected: 05/20/19 15:38      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.096	ug/L	0.020	0.011	1	05/24/19 09:42	05/25/19 00:21	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	05/24/19 09:42	05/25/19 00:21	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/28/19 12:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/28/19 12:44	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/28/19 12:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/28/19 12:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/28/19 12:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/28/19 12:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/28/19 12:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/28/19 12:44	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/28/19 12:44	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/28/19 12:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/28/19 12:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/28/19 12:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/28/19 12:44	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/28/19 12:44	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/28/19 12:44	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96	%	70-130		1		05/28/19 12:44	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		05/28/19 12:44	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		05/28/19 12:44	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-22      Lab ID: 92430426018      Collected: 05/21/19 07:57      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/25/19 00:39	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	05/24/19 09:42	05/25/19 00:39	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 21:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 21:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 21:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 21:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 21:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 21:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 21:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 21:35	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 21:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 21:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 21:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 21:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 21:35	91-20-3	
Toluene	<b>2.9J</b>	ug/L	5.0	2.0	1		05/24/19 21:35	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 21:35	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		05/24/19 21:35	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130		1		05/24/19 21:35	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/24/19 21:35	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-23      Lab ID: 92430426019      Collected: 05/21/19 12:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/24/19 09:42	05/25/19 00:58	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	84	%	60-140		1	05/24/19 09:42	05/25/19 00:58	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>2260</b>	ug/L	1000	619	10		05/28/19 18:42	75-85-4	
tert-Amylmethyl ether	<b>115</b>	ug/L	100	55.7	10		05/28/19 18:42	994-05-8	
Benzene	<b>998</b>	ug/L	50.0	29.9	10		05/28/19 18:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	656	10		05/28/19 18:42	624-95-3	
tert-Butyl Alcohol	<b>447J</b>	ug/L	1000	294	10		05/28/19 18:42	75-65-0	
tert-Butyl Formate	ND	ug/L	500	234	10		05/28/19 18:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	28.2	10		05/28/19 18:42	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	26.0	10		05/28/19 18:42	108-20-3	
Ethanol	ND	ug/L	2000	1280	10		05/28/19 18:42	64-17-5	
Ethylbenzene	ND	ug/L	50.0	29.0	10		05/28/19 18:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	53.7	10		05/28/19 18:42	637-92-3	
Methyl-tert-butyl ether	<b>262</b>	ug/L	50.0	26.2	10		05/28/19 18:42	1634-04-4	
Naphthalene	ND	ug/L	50.0	26.7	10		05/28/19 18:42	91-20-3	
Toluene	ND	ug/L	50.0	28.7	10		05/28/19 18:42	108-88-3	
Xylene (Total)	ND	ug/L	50.0	50.0	10		05/28/19 18:42	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	92	%	70-130		10		05/28/19 18:42	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		10		05/28/19 18:42	17060-07-0	
Toluene-d8 (S)	104	%	70-130		10		05/28/19 18:42	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-24      Lab ID: 92430426020      Collected: 05/22/19 10:10      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 19:48	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	134	%	60-140		1	05/28/19 10:04	05/28/19 19:48	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>18700</b>	ug/L	10000	6190	100		05/25/19 16:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	557	100		05/25/19 16:30	994-05-8	
Benzene	<b>5290</b>	ug/L	500	299	100		05/25/19 16:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	6560	100		05/25/19 16:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2940	100		05/25/19 16:30	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	2340	100		05/25/19 16:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	282	100		05/25/19 16:30	107-06-2	
Diisopropyl ether	ND	ug/L	500	260	100		05/25/19 16:30	108-20-3	
Ethanol	ND	ug/L	20000	12800	100		05/25/19 16:30	64-17-5	
Ethylbenzene	<b>2470</b>	ug/L	500	290	100		05/25/19 16:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	537	100		05/25/19 16:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	262	100		05/25/19 16:30	1634-04-4	
Naphthalene	<b>584</b>	ug/L	500	267	100		05/25/19 16:30	91-20-3	
Toluene	<b>15300</b>	ug/L	500	287	100		05/25/19 16:30	108-88-3	
Xylene (Total)	<b>12000</b>	ug/L	500	500	100		05/25/19 16:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	93	%	70-130		100		05/25/19 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		100		05/25/19 16:30	17060-07-0	
Toluene-d8 (S)	99	%	70-130		100		05/25/19 16:30	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 MW-26      Lab ID: 92430426021      Collected: 05/22/19 10:40      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 20:09	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	05/28/19 10:04	05/28/19 20:09	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	<b>1920</b>	ug/L	100	65.6	1		05/24/19 22:11	75-85-4	
tert-Amylmethyl ether	<b>57.4</b>	ug/L	10.0	3.0	1		05/24/19 22:11	994-05-8	
Benzene	<b>52.1</b>	ug/L	5.0	1.7	1		05/24/19 22:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 22:11	624-95-3	
tert-Butyl Alcohol	<b>194</b>	ug/L	100	91.0	1		05/24/19 22:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 22:11	762-75-4	
1,2-Dichloroethane	<b>5.9</b>	ug/L	5.0	2.1	1		05/24/19 22:11	107-06-2	
Diisopropyl ether	<b>10.2</b>	ug/L	5.0	3.5	1		05/24/19 22:11	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 22:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 22:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 22:11	637-92-3	
Methyl-tert-butyl ether	<b>29.7</b>	ug/L	5.0	3.1	1		05/24/19 22:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 22:11	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 22:11	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 22:11	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/24/19 22:11	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/24/19 22:11	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		05/24/19 22:11	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 TW-1      Lab ID: 92430426022      Collected: 05/20/19 15:10      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 20:49	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	05/28/19 10:04	05/28/19 20:49	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 22:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 22:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 22:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 22:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 22:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 22:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 22:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 22:30	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 22:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 22:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 22:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 22:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 22:30	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 22:30	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 22:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/24/19 22:30	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		05/24/19 22:30	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/24/19 22:30	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 TW-2      Lab ID: 92430426023      Collected: 05/22/19 09:10      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 21:09	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	05/28/19 10:04	05/28/19 21:09	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		05/24/19 22:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		05/24/19 22:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/24/19 22:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		05/24/19 22:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		05/24/19 22:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		05/24/19 22:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		05/24/19 22:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		05/24/19 22:48	108-20-3	
Ethanol	ND	ug/L	200	144	1		05/24/19 22:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		05/24/19 22:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		05/24/19 22:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		05/24/19 22:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		05/24/19 22:48	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		05/24/19 22:48	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 22:48	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/24/19 22:48	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		05/24/19 22:48	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/24/19 22:48	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 Dup-1      Lab ID: 92430426024      Collected: 05/21/19 00:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.011	1	05/28/19 10:04	05/28/19 22:09	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	05/28/19 10:04	05/28/19 22:09	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	4960	ug/L	2500	1550	25		05/28/19 19:50	75-85-4	
tert-Amylmethyl ether	198J	ug/L	250	139	25		05/28/19 19:50	994-05-8	
Benzene	4950	ug/L	125	74.8	25		05/28/19 19:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	1640	25		05/28/19 19:50	624-95-3	
tert-Butyl Alcohol	1070J	ug/L	2500	735	25		05/28/19 19:50	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	585	25		05/28/19 19:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	70.5	25		05/28/19 19:50	107-06-2	
Diisopropyl ether	ND	ug/L	125	65.0	25		05/28/19 19:50	108-20-3	
Ethanol	ND	ug/L	5000	3200	25		05/28/19 19:50	64-17-5	
Ethylbenzene	150	ug/L	125	72.5	25		05/28/19 19:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	134	25		05/28/19 19:50	637-92-3	
Methyl-tert-butyl ether	373	ug/L	125	65.5	25		05/28/19 19:50	1634-04-4	
Naphthalene	214	ug/L	125	66.8	25		05/28/19 19:50	91-20-3	
Toluene	827	ug/L	125	71.8	25		05/28/19 19:50	108-88-3	
Xylene (Total)	851	ug/L	125	125	25		05/28/19 19:50	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94	%	70-130		25		05/28/19 19:50	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		25		05/28/19 19:50	17060-07-0	
Toluene-d8 (S)	104	%	70-130		25		05/28/19 19:50	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 Dup-2      Lab ID: 92430426025      Collected: 05/22/19 00:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	1.6	ug/L	0.049	0.028	2.5	05/28/19 10:04	05/29/19 21:41	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	112	%	60-140		2.5	05/28/19 10:04	05/29/19 21:41	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	16700J	ug/L	20000	12400	200		05/29/19 03:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	1110	200		05/29/19 03:47	994-05-8	
Benzene	22300	ug/L	1000	598	200		05/29/19 03:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	13100	200		05/29/19 03:47	624-95-3	L1
tert-Butyl Alcohol	ND	ug/L	20000	5880	200		05/29/19 03:47	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	4680	200		05/29/19 03:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	564	200		05/29/19 03:47	107-06-2	
Diisopropyl ether	ND	ug/L	1000	520	200		05/29/19 03:47	108-20-3	
Ethanol	ND	ug/L	40000	25600	200		05/29/19 03:47	64-17-5	
Ethylbenzene	3130	ug/L	1000	580	200		05/29/19 03:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	1070	200		05/29/19 03:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1000	524	200		05/29/19 03:47	1634-04-4	
Naphthalene	675J	ug/L	1000	534	200		05/29/19 03:47	91-20-3	
Toluene	36900	ug/L	1000	574	200		05/29/19 03:47	108-88-3	
Xylene (Total)	15400	ug/L	1000	1000	200		05/29/19 03:47	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	93	%	70-130		200		05/29/19 03:47	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		200		05/29/19 03:47	17060-07-0	
Toluene-d8 (S)	98	%	70-130		200		05/29/19 03:47	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 FB-1      Lab ID: 92430426026      Collected: 05/20/19 16:00      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 22:49	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	05/28/19 10:04	05/28/19 22:49	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/24/19 15:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/24/19 15:15	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/24/19 15:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/24/19 15:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/24/19 15:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/24/19 15:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/24/19 15:15	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:15	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/24/19 15:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/24/19 15:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/24/19 15:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/24/19 15:15	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/24/19 15:15	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 15:15	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	70-130		1		05/24/19 15:15	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		05/24/19 15:15	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		05/24/19 15:15	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Sample: 12175 FB-2      Lab ID: 92430426027      Collected: 05/21/19 10:30      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 23:09	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	05/28/19 10:04	05/28/19 23:09	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/24/19 15:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/24/19 15:32	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/24/19 15:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/24/19 15:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/24/19 15:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/24/19 15:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/24/19 15:32	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:32	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/24/19 15:32	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/24/19 15:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/24/19 15:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/24/19 15:32	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/24/19 15:32	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 15:32	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	77	%	70-130		1		05/24/19 15:32	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		05/24/19 15:32	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/24/19 15:32	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Sample: 12175 FB-3      Lab ID: 92430426028      Collected: 05/22/19 11:50      Received: 05/23/19 07:46      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b> Analytical Method: EPA 8011      Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.011	1	05/28/19 10:04	05/28/19 23:29	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	05/28/19 10:04	05/28/19 23:29	301-79-56	
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/24/19 15:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/24/19 15:49	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/24/19 15:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/24/19 15:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/24/19 15:49	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/24/19 15:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/24/19 15:49	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:49	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/24/19 15:49	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/24/19 15:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/24/19 15:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/24/19 15:49	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/24/19 15:49	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/24/19 15:49	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 15:49	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	106	%	70-130		1		05/24/19 15:49	460-00-4	
1,2-Dichloroethane-d4 (S)	83	%	70-130		1		05/24/19 15:49	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/24/19 15:49	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

**Sample: 12175 Trip Blank 1**      **Lab ID: 92430426029**      Collected: 05/22/19 00:00      Received: 05/23/19 07:46      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/24/19 16:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/24/19 16:06	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/24/19 16:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/24/19 16:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/24/19 16:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/24/19 16:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/24/19 16:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/24/19 16:06	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/24/19 16:06	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/24/19 16:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/24/19 16:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/24/19 16:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/24/19 16:06	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/24/19 16:06	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 16:06	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91	%	70-130		1		05/24/19 16:06	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		05/24/19 16:06	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		05/24/19 16:06	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

**Sample:** 12175 Trip Blank 2      **Lab ID:** 92430426030      **Collected:** 05/22/19 00:00      **Received:** 05/23/19 07:46      **Matrix:** Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260B									
tert-Amyl Alcohol	ND	ug/L	100	61.9	1		05/24/19 16:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	5.6	1		05/24/19 16:23	994-05-8	
Benzene	ND	ug/L	5.0	3.0	1		05/24/19 16:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	65.6	1		05/24/19 16:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	29.4	1		05/24/19 16:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	23.4	1		05/24/19 16:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.8	1		05/24/19 16:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.6	1		05/24/19 16:23	108-20-3	
Ethanol	ND	ug/L	200	128	1		05/24/19 16:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	2.9	1		05/24/19 16:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	5.4	1		05/24/19 16:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.6	1		05/24/19 16:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.7	1		05/24/19 16:23	91-20-3	
Toluene	ND	ug/L	5.0	2.9	1		05/24/19 16:23	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		05/24/19 16:23	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	70-130		1		05/24/19 16:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		05/24/19 16:23	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		05/24/19 16:23	2037-26-5	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477379 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426026, 92430426027, 92430426028, 92430426029, 92430426030

METHOD BLANK: 2585277 Matrix: Water  
Associated Lab Samples: 92430426026, 92430426027, 92430426028, 92430426029, 92430426030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.8	05/24/19 11:34	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	65.6	05/24/19 11:34	
Benzene	ug/L	ND	5.0	3.0	05/24/19 11:34	
Diisopropyl ether	ug/L	ND	5.0	2.6	05/24/19 11:34	
Ethanol	ug/L	ND	200	128	05/24/19 11:34	
Ethyl-tert-butyl ether	ug/L	ND	10.0	5.4	05/24/19 11:34	
Ethylbenzene	ug/L	ND	5.0	2.9	05/24/19 11:34	
Methyl-tert-butyl ether	ug/L	ND	5.0	2.6	05/24/19 11:34	
Naphthalene	ug/L	ND	5.0	2.7	05/24/19 11:34	
tert-Amyl Alcohol	ug/L	ND	100	61.9	05/24/19 11:34	
tert-Amylmethyl ether	ug/L	ND	10.0	5.6	05/24/19 11:34	
tert-Butyl Alcohol	ug/L	ND	100	29.4	05/24/19 11:34	
tert-Butyl Formate	ug/L	ND	50.0	23.4	05/24/19 11:34	
Toluene	ug/L	ND	5.0	2.9	05/24/19 11:34	
Xylene (Total)	ug/L	ND	5.0	5.0	05/24/19 11:34	
1,2-Dichloroethane-d4 (S)	%	91	70-130		05/24/19 11:34	
4-Bromofluorobenzene (S)	%	98	70-130		05/24/19 11:34	
Toluene-d8 (S)	%	108	70-130		05/24/19 11:34	

LABORATORY CONTROL SAMPLE: 2585278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.0	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1130	113	70-130	
Benzene	ug/L	50	48.7	97	70-130	
Diisopropyl ether	ug/L	50	56.6	113	70-130	
Ethanol	ug/L	2000	1890	95	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	48.0	96	70-130	
Methyl-tert-butyl ether	ug/L	50	57.4	115	70-130	
Naphthalene	ug/L	50	50.2	100	70-130	
tert-Amyl Alcohol	ug/L	1000	991	99	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	517	103	70-130	
tert-Butyl Formate	ug/L	400	441	110	70-130	
Toluene	ug/L	50	47.0	94	70-130	
Xylene (Total)	ug/L	150	154	103	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			98	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

MATRIX SPIKE SAMPLE: 2585280		92430324006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	26.2	131	70-130	M1
3,3-Dimethyl-1-Butanol	ug/L	ND	400	415	104	70-130	
Benzene	ug/L	ND	20	21.2	106	70-130	
Diisopropyl ether	ug/L	ND	20	17.6	88	70-130	
Ethanol	ug/L	ND	800	766	96	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	38.7	97	70-130	
Ethylbenzene	ug/L	ND	20	22.5	112	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.1	98	70-130	
Naphthalene	ug/L	ND	20	22.1	107	70-130	
tert-Amyl Alcohol	ug/L	ND	400	404	101	70-130	
tert-Amylmethyl ether	ug/L	ND	40	43.1	108	70-130	
tert-Butyl Alcohol	ug/L	ND	200	242	121	70-130	
tert-Butyl Formate	ug/L	ND	160	97.3	61	70-130	M1
Toluene	ug/L	ND	20	21.3	106	70-130	
Xylene (Total)	ug/L	ND	60	68.3	114	70-130	
1,2-Dichloroethane-d4 (S)	%				117	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 2585279

Parameter	Units	92430324005	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	36.9J	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	98	104			
4-Bromofluorobenzene (S)	%	101	103			
Toluene-d8 (S)	%	110	101			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477386 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426001, 92430426005, 92430426006, 92430426007, 92430426008, 92430426011, 92430426012, 92430426013, 92430426014, 92430426018, 92430426021, 92430426022, 92430426023

METHOD BLANK: 2585313 Matrix: Water  
Associated Lab Samples: 92430426001, 92430426005, 92430426006, 92430426007, 92430426008, 92430426011, 92430426012, 92430426013, 92430426014, 92430426018, 92430426021, 92430426022, 92430426023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	05/24/19 16:59	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	05/24/19 16:59	
Benzene	ug/L	ND	5.0	1.7	05/24/19 16:59	
Diisopropyl ether	ug/L	ND	5.0	3.5	05/24/19 16:59	
Ethanol	ug/L	ND	200	144	05/24/19 16:59	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	05/24/19 16:59	
Ethylbenzene	ug/L	ND	5.0	1.8	05/24/19 16:59	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	05/24/19 16:59	
Naphthalene	ug/L	ND	5.0	2.1	05/24/19 16:59	
tert-Amyl Alcohol	ug/L	ND	100	65.6	05/24/19 16:59	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	05/24/19 16:59	
tert-Butyl Alcohol	ug/L	ND	100	91.0	05/24/19 16:59	
tert-Butyl Formate	ug/L	ND	50.0	24.1	05/24/19 16:59	
Toluene	ug/L	ND	5.0	2.0	05/24/19 16:59	
Xylene (Total)	ug/L	ND	5.0	5.0	05/24/19 16:59	
1,2-Dichloroethane-d4 (S)	%	96	70-130		05/24/19 16:59	
4-Bromofluorobenzene (S)	%	103	70-130		05/24/19 16:59	
Toluene-d8 (S)	%	105	70-130		05/24/19 16:59	

LABORATORY CONTROL SAMPLE: 2585314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.8	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	946	95	70-130	
Benzene	ug/L	50	47.4	95	70-130	
Diisopropyl ether	ug/L	50	43.8	88	70-130	
Ethanol	ug/L	2000	1760	88	70-130	
Ethyl-tert-butyl ether	ug/L	100	90.2	90	70-130	
Ethylbenzene	ug/L	50	49.4	99	70-130	
Methyl-tert-butyl ether	ug/L	50	49.3	99	70-130	
Naphthalene	ug/L	50	53.5	107	70-130	
tert-Amyl Alcohol	ug/L	1000	969	97	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	442	88	70-130	
tert-Butyl Formate	ug/L	400	455	114	70-130	
Toluene	ug/L	50	45.4	91	70-130	
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

LABORATORY CONTROL SAMPLE: 2585314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 2585316

Parameter	Units	92430426001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.9	115	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	413	103	70-130	
Benzene	ug/L	ND	20	23.4	115	70-130	
Diisopropyl ether	ug/L	ND	20	24.0	120	70-130	
Ethanol	ug/L	ND	800	892	112	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	45.3	113	70-130	
Ethylbenzene	ug/L	ND	20	22.4	107	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	23.6	118	70-130	
Naphthalene	ug/L	3.0J	20	19.7	84	70-130	
tert-Amyl Alcohol	ug/L	ND	400	431	108	70-130	
tert-Amylmethyl ether	ug/L	ND	40	46.9	117	70-130	
tert-Butyl Alcohol	ug/L	ND	200	230	115	70-130	
tert-Butyl Formate	ug/L	ND	160	169	106	70-130	
Toluene	ug/L	3.0J	20	22.7	99	70-130	
Xylene (Total)	ug/L	ND	60	67.5	113	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 2585315

Parameter	Units	92430426005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	94	111			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

SAMPLE DUPLICATE: 2585315

Parameter	Units	92430426005 Result	Dup Result	RPD	Max RPD	Qualifiers
4-Bromofluorobenzene (S)	%	101	99			
Toluene-d8 (S)	%	102	103			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477528 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426003, 92430426004, 92430426009, 92430426010, 92430426020

METHOD BLANK: 2586058 Matrix: Water  
Associated Lab Samples: 92430426003, 92430426004, 92430426009, 92430426010, 92430426020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.8	05/25/19 10:33	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	65.6	05/25/19 10:33	
Benzene	ug/L	ND	5.0	3.0	05/25/19 10:33	
Diisopropyl ether	ug/L	ND	5.0	2.6	05/25/19 10:33	
Ethanol	ug/L	ND	200	128	05/25/19 10:33	
Ethyl-tert-butyl ether	ug/L	ND	10.0	5.4	05/25/19 10:33	
Ethylbenzene	ug/L	ND	5.0	2.9	05/25/19 10:33	
Methyl-tert-butyl ether	ug/L	ND	5.0	2.6	05/25/19 10:33	
Naphthalene	ug/L	ND	5.0	2.7	05/25/19 10:33	
tert-Amyl Alcohol	ug/L	ND	100	61.9	05/25/19 10:33	
tert-Amylmethyl ether	ug/L	ND	10.0	5.6	05/25/19 10:33	
tert-Butyl Alcohol	ug/L	ND	100	29.4	05/25/19 10:33	
tert-Butyl Formate	ug/L	ND	50.0	23.4	05/25/19 10:33	
Toluene	ug/L	ND	5.0	2.9	05/25/19 10:33	
Xylene (Total)	ug/L	ND	5.0	5.0	05/25/19 10:33	
1,2-Dichloroethane-d4 (S)	%	102	70-130		05/25/19 10:33	
4-Bromofluorobenzene (S)	%	95	70-130		05/25/19 10:33	
Toluene-d8 (S)	%	108	70-130		05/25/19 10:33	

LABORATORY CONTROL SAMPLE: 2586059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.3	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1100	110	70-130	
Benzene	ug/L	50	48.7	97	70-130	
Diisopropyl ether	ug/L	50	49.8	100	70-130	
Ethanol	ug/L	2000	1700	85	70-130	
Ethyl-tert-butyl ether	ug/L	100	94.2	94	70-130	
Ethylbenzene	ug/L	50	52.4	105	70-130	
Methyl-tert-butyl ether	ug/L	50	52.8	106	70-130	
Naphthalene	ug/L	50	55.2	110	70-130	
tert-Amyl Alcohol	ug/L	1000	879	88	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	454	91	70-130	
tert-Butyl Formate	ug/L	400	406	101	70-130	
Toluene	ug/L	50	46.2	92	70-130	
Xylene (Total)	ug/L	150	158	106	70-130	
1,2-Dichloroethane-d4 (S)	%			109	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			96	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Parameter	Units	2586060		2586061		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92430426003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,2-Dichloroethane	ug/L	ND	20	20	18.4	19.6	92	98	70-130	6	30		
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	407	426	102	107	70-130	5	30		
Benzene	ug/L	22600	20	20	136	137	-112000	-112000	70-130	1	30	M1	
Diisopropyl ether	ug/L	ND	20	20	18.7	18.8	-189	-189	70-130	1	30	M1	
Ethanol	ug/L	ND	800	800	677	658	85	82	70-130	3	30		
Ethyl-tert-butyl ether	ug/L	ND	40	40	34.2	34.6	85	87	70-130	1	30		
Ethylbenzene	ug/L	3260	20	20	38.9	37.9	-16100	-16100	70-130	2	30	M1	
Methyl-tert-butyl ether	ug/L	ND	20	20	23.5	23.4	-2240	-2240	70-130	0	30	M1	
Naphthalene	ug/L	723J	20	20	25.8	26.6	-3490	-3480	70-130	3	30	M1	
tert-Amyl Alcohol	ug/L	ND	400	400	393	394	98	98	70-130	0	30		
tert-Amylmethyl ether	ug/L	ND	40	40	43.7	44.4	-2310	-2300	70-130	2	30	M1	
tert-Butyl Alcohol	ug/L	ND	200	200	183	179	91	90	70-130	2	30		
tert-Butyl Formate	ug/L	ND	160	160	151	149	94	93	70-130	1	30		
Toluene	ug/L	37700	20	20	207	211	-188000	-188000	70-130	2	30	E	
Xylene (Total)	ug/L	16700	60	60	153	148	-27500	-27600	70-130	4	30	MS	
1,2-Dichloroethane-d4 (S)	%						106	105	70-130				
4-Bromofluorobenzene (S)	%						97	94	70-130				
Toluene-d8 (S)	%						97	99	70-130				

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477669 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426016, 92430426017, 92430426019, 92430426024

METHOD BLANK: 2586542 Matrix: Water  
Associated Lab Samples: 92430426016, 92430426017, 92430426019, 92430426024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.8	05/28/19 12:10	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	65.6	05/28/19 12:10	
Benzene	ug/L	ND	5.0	3.0	05/28/19 12:10	
Diisopropyl ether	ug/L	ND	5.0	2.6	05/28/19 12:10	
Ethanol	ug/L	ND	200	128	05/28/19 12:10	
Ethyl-tert-butyl ether	ug/L	ND	10.0	5.4	05/28/19 12:10	
Ethylbenzene	ug/L	ND	5.0	2.9	05/28/19 12:10	
Methyl-tert-butyl ether	ug/L	ND	5.0	2.6	05/28/19 12:10	
Naphthalene	ug/L	ND	5.0	2.7	05/28/19 12:10	
tert-Amyl Alcohol	ug/L	ND	100	61.9	05/28/19 12:10	
tert-Amylmethyl ether	ug/L	ND	10.0	5.6	05/28/19 12:10	
tert-Butyl Alcohol	ug/L	ND	100	29.4	05/28/19 12:10	
tert-Butyl Formate	ug/L	ND	50.0	23.4	05/28/19 12:10	
Toluene	ug/L	ND	5.0	2.9	05/28/19 12:10	
Xylene (Total)	ug/L	ND	5.0	5.0	05/28/19 12:10	
1,2-Dichloroethane-d4 (S)	%	104	70-130		05/28/19 12:10	
4-Bromofluorobenzene (S)	%	98	70-130		05/28/19 12:10	
Toluene-d8 (S)	%	105	70-130		05/28/19 12:10	

LABORATORY CONTROL SAMPLE: 2586543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.8	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1150	115	70-130	
Benzene	ug/L	50	49.1	98	70-130	
Diisopropyl ether	ug/L	50	53.9	108	70-130	
Ethanol	ug/L	2000	1760	88	70-130	
Ethyl-tert-butyl ether	ug/L	100	98.6	99	70-130	
Ethylbenzene	ug/L	50	50.8	102	70-130	
Methyl-tert-butyl ether	ug/L	50	55.4	111	70-130	
Naphthalene	ug/L	50	57.2	114	70-130	
tert-Amyl Alcohol	ug/L	1000	905	90	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	478	96	70-130	
tert-Butyl Formate	ug/L	400	426	107	70-130	
Toluene	ug/L	50	45.9	92	70-130	
Xylene (Total)	ug/L	150	159	106	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			97	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2586544												2586545											
Parameter	Units	92430324007		MS		MSD		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual					
		Result		Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec														
1,2-Dichloroethane	ug/L	ND		500	500	533	497	107	99	70-130	7	30											
3,3-Dimethyl-1-Butanol	ug/L	ND		10000	10000	10500	11600	105	116	70-130	10	30											
Benzene	ug/L	ND		500	500	561	582	103	107	70-130	4	30											
Diisopropyl ether	ug/L	ND		500	500	516	505	99	97	70-130	2	30											
Ethanol	ug/L	ND		20000	20000	18100	17200	90	86	70-130	5	30											
Ethyl-tert-butyl ether	ug/L	ND		1000	1000	939	891	94	89	70-130	5	30											
Ethylbenzene	ug/L	ND		500	500	639	636	113	113	70-130	0	30											
Methyl-tert-butyl ether	ug/L	2930		500	500	4110	3860	236	187	70-130	6	30	M1										
Naphthalene	ug/L	159		500	500	680	706	104	110	70-130	4	30											
tert-Amyl Alcohol	ug/L	ND		10000	10000	9030	9190	77	79	70-130	2	30											
tert-Amylmethyl ether	ug/L	ND		1000	1000	1020	1030	99	100	70-130	1	30											
tert-Butyl Alcohol	ug/L	1570J		5000	5000	6200	5970	93	88	70-130	4	30											
tert-Butyl Formate	ug/L	ND		4000	4000	3060	2930	76	73	70-130	4	30											
Toluene	ug/L	111J		500	500	607	618	99	101	70-130	2	30											
Xylene (Total)	ug/L	1810		1500	1500	3490	3420	112	108	70-130	2	30											
1,2-Dichloroethane-d4 (S)	%							113	107	70-130													
4-Bromofluorobenzene (S)	%							98	96	70-130													
Toluene-d8 (S)	%							98	98	70-130													

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477671 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426002, 92430426025

METHOD BLANK: 2586553 Matrix: Water  
Associated Lab Samples: 92430426002, 92430426025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.8	05/28/19 23:48	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	65.6	05/28/19 23:48	
Benzene	ug/L	ND	5.0	3.0	05/28/19 23:48	
Diisopropyl ether	ug/L	ND	5.0	2.6	05/28/19 23:48	
Ethanol	ug/L	ND	200	128	05/28/19 23:48	
Ethyl-tert-butyl ether	ug/L	ND	10.0	5.4	05/28/19 23:48	
Ethylbenzene	ug/L	ND	5.0	2.9	05/28/19 23:48	
Methyl-tert-butyl ether	ug/L	ND	5.0	2.6	05/28/19 23:48	
Naphthalene	ug/L	ND	5.0	2.7	05/28/19 23:48	
tert-Amyl Alcohol	ug/L	ND	100	61.9	05/28/19 23:48	
tert-Amylmethyl ether	ug/L	ND	10.0	5.6	05/28/19 23:48	
tert-Butyl Alcohol	ug/L	ND	100	29.4	05/28/19 23:48	
tert-Butyl Formate	ug/L	ND	50.0	23.4	05/28/19 23:48	
Toluene	ug/L	ND	5.0	2.9	05/28/19 23:48	
Xylene (Total)	ug/L	ND	5.0	5.0	05/28/19 23:48	
1,2-Dichloroethane-d4 (S)	%	103	70-130		05/28/19 23:48	
4-Bromofluorobenzene (S)	%	95	70-130		05/28/19 23:48	
Toluene-d8 (S)	%	108	70-130		05/28/19 23:48	

LABORATORY CONTROL SAMPLE: 2586554

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.6	91	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1320	132	70-130	L1
Benzene	ug/L	50	41.3	83	70-130	
Diisopropyl ether	ug/L	50	48.3	97	70-130	
Ethanol	ug/L	2000	2230	111	70-130	
Ethyl-tert-butyl ether	ug/L	100	94.9	95	70-130	
Ethylbenzene	ug/L	50	56.7	113	70-130	
Methyl-tert-butyl ether	ug/L	50	56.7	113	70-130	
Naphthalene	ug/L	50	60.1	120	70-130	
tert-Amyl Alcohol	ug/L	1000	989	99	70-130	
tert-Amylmethyl ether	ug/L	100	83.9	84	70-130	
tert-Butyl Alcohol	ug/L	500	469	94	70-130	
tert-Butyl Formate	ug/L	400	401	100	70-130	
Toluene	ug/L	50	48.5	97	70-130	
Xylene (Total)	ug/L	150	174	116	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			94	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

MATRIX SPIKE SAMPLE: 2587349		92430615027	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.0	90	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	421	105	70-130	
Benzene	ug/L	ND	20	19.9	100	70-130	
Diisopropyl ether	ug/L	ND	20	16.7	83	70-130	
Ethanol	ug/L	ND	800	827	103	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	32.4	81	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.0	99	70-130	
Naphthalene	ug/L	ND	20	22.0	110	70-130	
tert-Amyl Alcohol	ug/L	ND	400	303	76	70-130	
tert-Amylmethyl ether	ug/L	ND	40	34.4	86	70-130	
tert-Butyl Alcohol	ug/L	ND	200	216	108	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	14	70-130	P5
Toluene	ug/L	ND	20	23.5	117	70-130	
Xylene (Total)	ug/L	ND	60	66.0	110	70-130	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				115	70-130	

SAMPLE DUPLICATE: 2587350

Parameter	Units	92430615003	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	104	103			
4-Bromofluorobenzene (S)	%	94	92			
Toluene-d8 (S)	%	107	108			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477949 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC  
Associated Lab Samples: 92430426015

METHOD BLANK: 2587637 Matrix: Water  
Associated Lab Samples: 92430426015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.8	05/29/19 11:58	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	65.6	05/29/19 11:58	
Benzene	ug/L	ND	5.0	3.0	05/29/19 11:58	
Diisopropyl ether	ug/L	ND	5.0	2.6	05/29/19 11:58	
Ethanol	ug/L	ND	200	128	05/29/19 11:58	
Ethyl-tert-butyl ether	ug/L	ND	10.0	5.4	05/29/19 11:58	
Ethylbenzene	ug/L	ND	5.0	2.9	05/29/19 11:58	
Methyl-tert-butyl ether	ug/L	ND	5.0	2.6	05/29/19 11:58	
Naphthalene	ug/L	ND	5.0	2.7	05/29/19 11:58	
tert-Amyl Alcohol	ug/L	ND	100	61.9	05/29/19 11:58	
tert-Amylmethyl ether	ug/L	ND	10.0	5.6	05/29/19 11:58	
tert-Butyl Alcohol	ug/L	ND	100	29.4	05/29/19 11:58	
tert-Butyl Formate	ug/L	ND	50.0	23.4	05/29/19 11:58	
Toluene	ug/L	ND	5.0	2.9	05/29/19 11:58	
Xylene (Total)	ug/L	ND	5.0	5.0	05/29/19 11:58	
1,2-Dichloroethane-d4 (S)	%	101	70-130		05/29/19 11:58	
4-Bromofluorobenzene (S)	%	93	70-130		05/29/19 11:58	
Toluene-d8 (S)	%	109	70-130		05/29/19 11:58	

LABORATORY CONTROL SAMPLE: 2587638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.0	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1110	111	70-130	
Benzene	ug/L	50	48.6	97	70-130	
Diisopropyl ether	ug/L	50	51.1	102	70-130	
Ethanol	ug/L	2000	1630	81	70-130	
Ethyl-tert-butyl ether	ug/L	100	95.7	96	70-130	
Ethylbenzene	ug/L	50	50.9	102	70-130	
Methyl-tert-butyl ether	ug/L	50	54.7	109	70-130	
Naphthalene	ug/L	50	57.8	116	70-130	
tert-Amyl Alcohol	ug/L	1000	925	93	70-130	
tert-Amylmethyl ether	ug/L	100	107	107	70-130	
tert-Butyl Alcohol	ug/L	500	459	92	70-130	
tert-Butyl Formate	ug/L	400	411	103	70-130	
Toluene	ug/L	50	48.3	97	70-130	
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			93	70-130	
Toluene-d8 (S)	%			101	70-130	

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587639 2587640												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92430426015 Result	Spike Conc.	Spike Conc.	MS Result							
1,2-Dichloroethane	ug/L	ND	8000	8000	7700	7810	96	98	70-130	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	160000	160000	164000	165000	102	103	70-130	1	30	
Benzene	ug/L	13600	8000	8000	22500	22600	111	113	70-130	1	30	
Diisopropyl ether	ug/L	ND	8000	8000	7310	7360	91	92	70-130	1	30	
Ethanol	ug/L	ND	320000	320000	263000	264000	82	82	70-130	0	30	
Ethyl-tert-butyl ether	ug/L	ND	16000	16000	14400	14200	90	89	70-130	1	30	
Ethylbenzene	ug/L	3120	8000	8000	12000	11800	111	109	70-130	1	30	
Methyl-tert-butyl ether	ug/L	ND	8000	8000	8420	8200	105	103	70-130	3	30	
Naphthalene	ug/L	ND	8000	8000	7650	9510	86	110	70-130	22	30	
tert-Amyl Alcohol	ug/L	ND	160000	160000	146000	142000	77	75	70-130	3	30	
tert-Amylmethyl ether	ug/L	ND	16000	16000	15300	15400	95	96	70-130	1	30	
tert-Butyl Alcohol	ug/L	ND	80000	80000	74600	74500	93	93	70-130	0	30	
tert-Butyl Formate	ug/L	ND	64000	64000	60700	60200	95	94	70-130	1	30	
Toluene	ug/L	30900	8000	8000	42900	36500	150	70	70-130	16	30	M1
Xylene (Total)	ug/L	15900	24000	24000	42500	43700	111	116	70-130	3	30	
1,2-Dichloroethane-d4 (S)	%						107	105	70-130			
4-Bromofluorobenzene (S)	%						97	111	70-130			
Toluene-d8 (S)	%						98	83	70-130			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477329 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92430426001, 92430426002, 92430426004, 92430426005, 92430426006, 92430426007, 92430426008, 92430426009, 92430426010, 92430426011, 92430426012, 92430426013, 92430426014, 92430426015, 92430426016, 92430426017, 92430426018, 92430426019

METHOD BLANK: 2584956 Matrix: Water  
Associated Lab Samples: 92430426001, 92430426002, 92430426004, 92430426005, 92430426006, 92430426007, 92430426008, 92430426009, 92430426010, 92430426011, 92430426012, 92430426013, 92430426014, 92430426015, 92430426016, 92430426017, 92430426018, 92430426019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.011	05/24/19 17:00	
1-Chloro-2-bromopropane (S)	%	99	60-140		05/24/19 17:00	

LABORATORY CONTROL SAMPLE & LCSD: 2584957 2584958

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.26	0.26	103	103	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				95	94	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2584960 2584961

Parameter	Units	92430426002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.34	0.32	138	129	60-140	7	20	
1-Chloro-2-bromopropane (S)	%						127	130	60-140			

SAMPLE DUPLICATE: 2584959

Parameter	Units	92430426001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.13	0.16	20	20	
1-Chloro-2-bromopropane (S)	%	95	101			

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### QUALITY CONTROL DATA

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

QC Batch: 477624 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Associated Lab Samples: 92430426003, 92430426020, 92430426021, 92430426022, 92430426023, 92430426024, 92430426025, 92430426026, 92430426027, 92430426028

METHOD BLANK: 2586368 Matrix: Water  
Associated Lab Samples: 92430426003, 92430426020, 92430426021, 92430426022, 92430426023, 92430426024, 92430426025, 92430426026, 92430426027, 92430426028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.011	05/28/19 17:04	
1-Chloro-2-bromopropane (S)	%	114	60-140		05/28/19 17:04	

LABORATORY CONTROL SAMPLE & LCSD: 2586369 2586370

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.24	0.24	99	97	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				94	95	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2586372 2586373

Parameter	Units	92430426023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.23	0.23	91	92	60-140	1	20	
1-Chloro-2-bromopropane (S)	%						90	89	60-140			

SAMPLE DUPLICATE: 2586371

Parameter	Units	92430426021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	98	97			

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## QUALIFIERS

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

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

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC3 Edgefield SC  
Pace Project No.: 92430426

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92430426001	12175 MW-3	EPA 8011	477329	EPA 8011	477446
92430426002	12175 MW-4	EPA 8011	477329	EPA 8011	477446
92430426003	12175 MW-5	EPA 8011	477624	EPA 8011	477753
92430426004	12175 MW-6	EPA 8011	477329	EPA 8011	477446
92430426005	12175 MW-7	EPA 8011	477329	EPA 8011	477446
92430426006	12175 MW-8	EPA 8011	477329	EPA 8011	477446
92430426007	12175 MW-9	EPA 8011	477329	EPA 8011	477446
92430426008	12175 MW-10	EPA 8011	477329	EPA 8011	477446
92430426009	12175 MW-11	EPA 8011	477329	EPA 8011	477446
92430426010	12175 MW-12	EPA 8011	477329	EPA 8011	477446
92430426011	12175 MW-13	EPA 8011	477329	EPA 8011	477446
92430426012	12175 MW-14	EPA 8011	477329	EPA 8011	477446
92430426013	12175 MW-15	EPA 8011	477329	EPA 8011	477446
92430426014	12175 MW-16	EPA 8011	477329	EPA 8011	477446
92430426015	12175 MW-17	EPA 8011	477329	EPA 8011	477446
92430426016	12175 MW-18	EPA 8011	477329	EPA 8011	477446
92430426017	12175 MW-20	EPA 8011	477329	EPA 8011	477446
92430426018	12175 MW-22	EPA 8011	477329	EPA 8011	477446
92430426019	12175 MW-23	EPA 8011	477329	EPA 8011	477446
92430426020	12175 MW-24	EPA 8011	477624	EPA 8011	477753
92430426021	12175 MW-26	EPA 8011	477624	EPA 8011	477753
92430426022	12175 TW-1	EPA 8011	477624	EPA 8011	477753
92430426023	12175 TW-2	EPA 8011	477624	EPA 8011	477753
92430426024	12175 Dup-1	EPA 8011	477624	EPA 8011	477753
92430426025	12175 Dup-2	EPA 8011	477624	EPA 8011	477753
92430426026	12175 FB-1	EPA 8011	477624	EPA 8011	477753
92430426027	12175 FB-2	EPA 8011	477624	EPA 8011	477753
92430426028	12175 FB-3	EPA 8011	477624	EPA 8011	477753
92430426001	12175 MW-3	EPA 8260B	477386		
92430426002	12175 MW-4	EPA 8260B	477671		
92430426003	12175 MW-5	EPA 8260B	477528		
92430426004	12175 MW-6	EPA 8260B	477528		
92430426005	12175 MW-7	EPA 8260B	477386		
92430426006	12175 MW-8	EPA 8260B	477386		
92430426007	12175 MW-9	EPA 8260B	477386		
92430426008	12175 MW-10	EPA 8260B	477386		
92430426009	12175 MW-11	EPA 8260B	477528		
92430426010	12175 MW-12	EPA 8260B	477528		
92430426011	12175 MW-13	EPA 8260B	477386		
92430426012	12175 MW-14	EPA 8260B	477386		
92430426013	12175 MW-15	EPA 8260B	477386		
92430426014	12175 MW-16	EPA 8260B	477386		
92430426015	12175 MW-17	EPA 8260B	477949		

### REPORT OF LABORATORY ANALYSIS

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

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC3 Edgefield SC

Pace Project No.: 92430426

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92430426016	12175 MW-18	EPA 8260B	477669		
92430426017	12175 MW-20	EPA 8260B	477669		
92430426018	12175 MW-22	EPA 8260B	477386		
92430426019	12175 MW-23	EPA 8260B	477669		
92430426020	12175 MW-24	EPA 8260B	477528		
92430426021	12175 MW-26	EPA 8260B	477386		
92430426022	12175 TW-1	EPA 8260B	477386		
92430426023	12175 TW-2	EPA 8260B	477386		
92430426024	12175 Dup-1	EPA 8260B	477669		
92430426025	12175 Dup-2	EPA 8260B	477671		
92430426026	12175 FB-1	EPA 8260B	477379		
92430426027	12175 FB-2	EPA 8260B	477379		
92430426028	12175 FB-3	EPA 8260B	477379		
92430426029	12175 Trip Blank 1	EPA 8260B	477379		
92430426030	12175 Trip Blank 2	EPA 8260B	477379		

### REPORT OF LABORATORY ANALYSIS

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**Laboratory receiving samples:**

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville

**WO# : 92430426**



Date/Initials Person Examining Contents: MD 5-23-19

Sample Condition Upon Receipt

Client Name: ATC

Project #:

Courier:  Fed Ex  UPS  USPS  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Custody Seal Present?  Yes  No      Seals Intact?  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer:  IR Gun ID: 92T048      Type of Ice:  Wet  Blue  None

Biological Tissue Frozen?  Yes  No  N/A

Cooler Temp (°C): 1.3      Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C  
 Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): \_\_\_\_\_

USDA Regulated Soil ( N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?  
 Yes  No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

	Comments/Discrepancy:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Short Hold Time Analysis (<72 hr.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Dissolved analysis: Samples Field Filtered? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
Headspace in VOA Vials (>5-6mm)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_

Date: 5/24

Project Manager SRF Review: \_\_\_\_\_

Date: 5/24



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

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

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

Project #

**WO# : 92430426**

Due Date: 05/31/19

PM: PTE

CLIENT: 92-ATC

*pg 1*

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-S035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
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10	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
11	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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



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

Project #

**WO# : 92430426**

PM: PTE

Due Date: 05/31/19

CLIENT : 92-ATC

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

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

*pg 2*

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1																6												
2																6												
3																6												
4																6												
5																6												
6																6												
7																6												
8																6												
9																6												
10																6												
11																6												
12																6												

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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





Document Name:  
Sample Condition Upon Receipt(SCUR)

Document No.:  
F-CAR-CS-033-Rev.06

Document Revised: February 7, 2018  
Page 1 of 2

Issuing Authority:  
Pace Carolinas Quality Office

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

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

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

Project #

**WO#: 92430426**

Due Date: 05/31/19

PM: PTE

CLIENT: 92-ATC

*PT 3*

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A[DG3A]-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2SO3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1																6												
2																6												
3																6												
4																6												
5																2-7B												
6																2-7B												
7																												
8																												
9																												
10																												
11																												
12																												

**pH Adjustment Log for Preserved Samples**

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: ATC Group Services LLC - South Charlotte	Report To: France, Noelle	Attention:	Company Name:	Page: 1	Of 3
Address: 7606 Whitehall Executive Center Rd	Copy To:	Address:	Pace Quote:		
Suite 800, Charlotte, NC 28273	Purchase Order #:	Pace Project Manager: taylor.ezell@pacelabs.com	State / Location:		
Email: Noelle.France@atcassociates.com	Project Name: EFC3 Edgfield SC	Pace Profile # 9215-3	Regulatory Agency:		
Phone: (704)923-3757 Fax:					
Requested Due Date: 5/29/19					

ITEM #	MATRIX	CODE	COLLECTED		SAMP. TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES							ANALYSES TEST	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
			START DATE	END DATE			UNPRESERVED	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				
1	12175 mw - 3	DW	5/12/19 14:05	5/12/19 14:05	6		X										
2		WT	5/12/19 11:00	5/12/19 11:00													
3		WW	5/12/19 9:40	5/12/19 9:40													
4		Product	5/12/19 9:00	5/12/19 9:00													
5		SL	5/12/19 11:30	5/12/19 11:30													
6		Oil	5/12/19 11:00	5/12/19 11:00													
7		Wipe	5/12/19 8:27	5/12/19 8:27													
8		Air	5/12/19 12:50	5/12/19 12:50													
9		Other	5/12/19 9:55	5/12/19 9:55													
10		Tissue	5/12/19 13:00	5/12/19 13:00													
11			5/12/19 10:45	5/12/19 10:45													
12																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE	TIME	DATE	TIME	SAMPLE CONDITIONS
	SIGNATURE	PRINT NAME	SIGNATURE	PRINT NAME					
Report 5-values	<i>Austen Rubenstein</i>	AJC	<i>AJC</i>	AJC	5/22/19	1500	5/23/19	7:46	Y N Y
	<i>AJC</i>	AJC	<i>AJC</i>	AJC	5/23/19	1403	5/23/19	1:03	Y N Y

TEMP in C

Received on (Y/N)

Custody Sealed (Y/N)

Cooler (Y/N)

Intact Samples (Y/N)

DATE Signed: 5/22/19

SIGNATURE of SAMPLER: *AJC*

PRINT Name of SAMPLER: Austen Rubenstein



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	ATC Group Services LLC- South Charlotte	Report To:	France, Noelle	Attention:	
Address:	7606 Whitehall Executive Center Rd Suite 800, Charlotte, NC 28273	Copy To:		Company Name:	
Email:	Noelle.France@atcassociates.com	Purchase Order #:		Address:	
Phone:	(704)923-3757	Project Name:	EFC3 Edgefield SC	Pace Quote:	
Requested Due Date:	Friday 5/24/19			Pace Project Manager:	taylor.ezell@paceclabs.com
		Project #:		Pace Profile #:	9215-3
Regulatory Agency		State / Location		SC	

Page: 2 Of 3

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			START	END								
1	Drinking Water	DW	5/21/19	10:00	G	Austen Ribenstein / ATC	5/21/19	15:00	J. J. J.	5/21/19	7:44	
2	Waste Water	WW		9:30		J. J. J.	5/21/19	14:03	J. J. J.	5/21/19	1:03	
3	Water	W		13:55								
4	Product	P	5/22/19	11:25								
5	Solid	S	5/20/19	15:38								
6	Oil	O	5/21/19	7:57								
7	Wipe	WP		12:00								
8	Air	AR	5/22/19	10:10								
9	Other	OT		10:40								
10	Tissue	TS	5/20/19	15:10								
11			5/22/19	9:10								
12			5/21/19									

ADDITIONAL COMMENTS	Report J-values
RESIDUAL CHLORINE (Y/N)	
RECEIVED ON	
TEMP in C	
DATE SIGNED:	5/22/19
SIGNATURE OF SAMPLER:	Austen Ribenstein
PRINT Name of SAMPLER:	Austen Ribenstein
SAMPLER NAME AND SIGNATURE	

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company:	ATC Group Services LLC- South Charlotte	Report To:	France, Noelle	Company Name:	
Address:	7606 Whitehall Executive Center Rd	Copy To:		Address:	
Suite:	800, Charlotte, NC 28273	Purchase Order #:		Pace Quote:	
Email:	Noelle.France@atcassociates.com	Project Name:	EFC3 Edgefield SC	Pace Project Manager:	taylor.ozell@pacelabs.com.
Phone:	(704)923-3757	Project #:		Pace Profile #:	9215-3
Requested Due Date:	5 day STD.				

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	PRESERVATIVES	ANALYSES TEST Y/N	REQUESTED ANALYSIS FILTERED (Y/N)			SAMPLE CONDITIONS																								
			START DATE	END TIME		DATE	TIME				H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Unpreserved	BTXNM by 8260B	OxYas by 8260B	1.2-DCA by 8260B	5TH by 8260B	DOB by 8011	Residual Chlorine (Y/N)	Received on Ice (Y/N)	Custody (Y/N)	Sealed Cooler (Y/N)	Samples Intact (Y/N)										
1	Drinking Water	DW	5/22/19	16:00	G	9																																
2	Water	WT	5/20/19	16:00																																		
3	Waste Water	WW	5/24/19	10:30																																		
4	Product	P	5/22/19	11:50																																		
5	Salt/Solid	SL																																				
6	Oil	OL																																				
7	Wipe	WP																																				
8	Air	AR																																				
9	Other	OT																																				
10	Tissue	TS																																				
11																																						
12																																						

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		TEMP in C	
Report 5 - valves		Austin Rubenstein		5/22/19		15:00		Austin Rubenstein		5/22/19		15:00		1.3	
		Austin Rubenstein		5/20/19		14:03		Austin Rubenstein		5/20/19		14:03		1.3	
		Austin Rubenstein		5/22/19		15:00		Austin Rubenstein		5/22/19		15:00		1.3	
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		SIGNATURE of SAMPLER:		DATE Signed:									
Austin Rubenstein		Austin Rubenstein		[Signature]		5/22/19									

**APPENDIX B  
QUALITY ASSURANCE AND QUALITY CONTROL EVALUATION  
LABORATORY ACCURACY - PACE ANALYTICAL SERVICES**

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromoethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	0.05	5	240	128	1400
12175 FB-1	05/20/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	<61.9	<5.6	<29.4
12175 FB-2	05/21/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	<61.9	<5.6	<29.4
12175 FB-3	05/22/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	<61.9	<5.6	<29.4
12175 Trip Blank 1	05/22/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	N/A	<2.8	<61.9	<5.6	<29.4
12175 Trip Blank 2	05/22/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	N/A	<2.8	<61.9	<5.6	<29.4

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromoethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	0.05	5	240	128	1400
12175 MW-11	05/21/2019	4850	850	155	916	480	218	0.26	<70.5	5360	207 J	<735
12175 Dup-1	05/21/2019	4950	827	150	851	373	214	<0.011	<70.5	4960	198 J	1070 J
<b>Relative Percent Difference</b>		2.04%	2.74%	3.28%	7.36%	25.09%	NA	NA	NA	7.75%	NA	NA
<b>Average Relative Percent Difference</b>							<b>8.04%</b>					

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	1,2-Dibromoethane (EDB)	1,2-Dichloroethane	tert-Amyl Alcohol	tert-Amylmethyl ether	tert-Butyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	0.05	5	240	128	1400
12175 MW-5	05/22/2019	22600	37700	3260	16700	<524	723 J	1.4	<564	<12400	<1110	<5880
12175 Dup-2	05/22/2019	22300	36900	3130	15400	<524	675 J	1.6	<564	16700 J	<1110	<5880
<b>Relative Percent Difference</b>		1.34%	2.14%	4.07%	8.10%	NA	NA	13.33%	NA	NA	NA	NA
<b>Average Relative Percent Difference</b>							<b>5.80%</b>					

FB - Field Blank

Results in micrograms per liter ug/L

J qualifiers left out for calculation purposes

**APPENDIX D**  
Soil Boring Logs

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**BORING LOG**



Job Name: Edgefield Fuel and Convenience 3  
 Location: 311 Main Street  
Edgefield, SC

Datum Elevation: NA feet  
 Height of Riser: NA feet

ELEVATION (feet)	DEPTH (feet)	DESCRIPTION	RECOVERY (Percent)	WELL DIAGRAM	PID (ppm)	Sample Interval	PENETRATION - BLOWS PER FOOT																
							0	10	20	30	40	50	60	70	80	90	100						
	5.0	Dark red/brown silty clay, dry, odorless.																					
	10.0	Tan/brown/red clayey silt, moist, odorless.																					
	15.0	Grey/dark brown clayey silt, wet, odorless.																					
	20.0	Gold/tan/light brown fine sandy silt, saturated, odorless.																					
	25.0	Gold/tan/light brown silt, saturated, odorless.	N/A		N/A																		
	29.0	6" outer casing set to approximately 29 feet bgs.																					
	30.0	Unable to record accurate soil lithology due to mud rotary drilling.																					
	35.0																						
	38.0																						
	40.0	Boring terminated at 38-feet. 2-inch schedule 40 PVC telescoping well installed to 38-feet with 5-feet of 0.010-inch slotted screen to 33-feet, sand to 31-feet, bentonite to 29-feet, grout to surface.																					
	45.0																						
	50.0																						

**REMARKS:** Outer casing drilled with Geoprobe 7822DT using 8 1/4" inner-diameter hollow-stem augers.  
 Borehole diameter approximately 12-inches.  
 Inner casing drilled with Geoprobe 7822DT using mud rotary with 6" diameter tri-cone bit.  
 Borehole diameter approximately 6-inches.  
 Well completed with flush-mount manhole and lockable plug.

**BORING NUMBER:** 12175-TW1  
**DATE STARTED:** 4/16/2019  
**DATE COMPLETED:** 4/18/2019  
**PROJECT NUMBER:** EFC3003  
**DRILLED BY:** EDPS - J. Kiker  
**LOGGED BY:** ATC - H. Wells

- ▽ GW level @ time of boring
- ▼ GW level measured after well installation
- ▨ Bentonite
- Sand
- Grout
- ▭ Screen
- ▭ Riser
- N/A Not Applicable



## BORING LOG



Job Name: Edgefield Fuel and Convenience 3  
 Location: 311 Main Street  
Edgefield, SC

Datum Elevation: NA feet  
 Height of Riser: NA feet

ELEVATION (feet)	DEPTH (feet)	DESCRIPTION	RECOVERY (Percent)	WELL DIAGRAM	PID (ppm)	Sample Interval	PENETRATION - BLOWS PER FOOT															
							0	10	20	30	40	50	60	70	80	90	100					
		Dark grey/brown/tan clayey silt, slightly moist, odorless.																				
	5.0	Gold/tan/light brown clayey silt, moist, odorless.																				
	10.0																					
	15.0	Light grey/tan/brown fine sandy silt, saturated, odorless.																				
	20.0																					
	22.0	6" outer casing set to approximately 22 feet bgs.																				
	25.0	Unable to record accurate soil lithology due to mud rotary drilling.	N/A		N/A																	
	30.0																					
	35.0	Boring terminated at 38-feet. 2-inch schedule 40 PVC telescoping well installed to 38-feet with 5-feet of 0.010-inch slotted screen to 33-feet, sand to 31-feet, bentonite to 29-feet, grout to surface.																				
	40.0																					
	45.0																					
	50.0																					

**REMARKS:** Outer casing drilled with Geoprobe 7822DT using 8 1/4" inner-diameter hollow-stem augers.  
 Borehole diameter approximately 12-inches.  
 Inner casing drilled with Geoprobe 7822DT using mud rotary with 6" diameter tri-cone bit.  
 Borehole diameter approximately 6-inches.  
 Well completed with flush-mount manhole and lockable plug.

**BORING NUMBER:** 12175-TW2  
**DATE STARTED:** 4/17/2019  
**DATE COMPLETED:** 4/18/2019  
**PROJECT NUMBER:** EFC3003  
**DRILLED BY:** EDPS - J. Kiker  
**LOGGED BY:** ATC - H. Wells

- ▽ GW level @ time of boring
- ▼ GW level measured after well installation
- EDPS: Environmental Drilling & Probing Services, LLC
- Bentonite
- Sand
- Grout
- Screen
- Riser
- N/A Not Applicable

**BORING LOG**

Job Name: Edgefield Fuel and Convenience 3  
 Location: 311 Main Street  
Edgefield, SC



Datum Elevation: NA feet  
 Height of Riser: NA feet

ELEVATION (feet)	DEPTH (feet)	DESCRIPTION	RECOVERY (Percent)	WELL DIAGRAM	PID (ppm)	Sample Interval	PENETRATION - BLOWS PER FOOT															
							0	10	20	30	40	50	60	70	80	90	100					
	1.0	Concrete																				
	5.0	Orange/red/light brown stained clay, dry, slight petroleum odor.																				
	10.0	Tan/light brown clayey silt, dry, slight petroleum odor.																				
	15.0	Tan/gold/light brown clayey silt, moist, slight petroleum odor.																				
	20.0	Dark grey/brown clayey silt, wet, slight petroleum odor.																				
	25.0	Dark grey/brown/black fine sandy silt, wet, petroleum odor.	N/A		N/A	N/A																N/A
	30.0	Dark grey/brown/red fine sandy silt, wet, strong petroleum odor.																				
	35.0	Boring terminated at 358-feet. 4-inch schedule 40 PVC monitoring well installed to 35-feet with 20-feet of 0.010-inch slotted screen to 15-feet, sand to 13-feet, bentonite to 11-feet, grout to surface.																				
	40.0																					
	45.0																					
	50.0																					

**REMARKS:** Installed with Geoprobe 7822DT using 8 1/4" inner-diameter hollow-stem auger.  
 Borehole diameter approximately 12-inches.

**BORING NUMBER:** 12175-RW4  
**DATE STARTED:** 4/17/2019  
**DATE COMPLETED:** 4/17/2019  
**PROJECT NUMBER:** EFC3003  
**DRILLED BY:** EDPS - J. Kiker  
**LOGGED BY:** ATC - H. Wells

- ▽ GW level @ time of boring
- ▼ GW level measured after well installation
- Grout
- ▨ Bentonite
- ▤ Sand
- Riser
- ▧ Screen
- ▩ Hand Auger

**APPENDIX E**

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Well Construction and Development Records



## Water Well Record Bureau of Water

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

**Note:** Personal information provided on this document is subject to public scrutiny or release.

**1. WELL OWNER INFORMATION:**

Name: *Edgefield Fuel and Convenience*  
(last) (first)  
Address: *107 1/2 Courthouse Square*  
City: *Edgefield* State: *SC* Zip: *29824*  
Telephone: Work: *(803) 637-1900* Home:

**2. LOCATION OF WELL:**

**COUNTY:**

Name: *Edgefield Fuel and Convenience 3*  
Street Address: *311 Main Street*  
City: *Edgefield, SC* Zip:  
Latitude: Longitude:

**7. PERMIT NUMBER:**

**8. USE:**

- Residential  Public Supply  Process  
 Irrigation  Air Conditioning  Emergency  
 Test Well  Monitor Well  Replacement

**9. WELL DEPTH (completed)**

Date Started: *4-16-19*

*38* ft.

Date Completed: *4-18-19*

**10. CASING:**  Threaded  Welded

Diam.: *2" / 6"*

Type:  PVC  Galvanized

Steel  Other

*33' (2")* ft. to *0* ft. depth

*29' (6")* ft. to *0* ft. depth

Height: Above *6* ft.  
Surface \_\_\_\_\_ ft.

Weight \_\_\_\_\_ lb./ft.

Drive Shoe?  Yes  No

**3. PUBLIC SYSTEM NAME:**

**PUBLIC SYSTEM NUMBER:**

**4. ABANDONMENT:**

Yes  No

Give Details Below

Grouted Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

**11. SCREEN:**

Type: *PVC* Diam.: *2"*

Slot/Gauge: *0.01 SCH. 40* Length: *5'*

Set Between: *38* ft. and *33* ft.

**NOTE: MULTIPLE SCREENS  
USE SECOND SHEET**

ft. and \_\_\_\_\_ ft.

Sieve Analysis  Yes (please enclose)  No

**12. STATIC WATER LEVEL**

\_\_\_\_\_ ft. below land surface after 24 hours

**13. PUMPING LEVEL Below Land Surface.**

\_\_\_\_\_ ft. after \_\_\_\_\_ hrs. Pumping \_\_\_\_\_ G.P.M.

Pumping Test:  Yes (please enclose)  No

Yield: \_\_\_\_\_

**14. WATER QUALITY**

Chemical Analysis  Yes  No Bacterial Analysis  Yes  No

Please enclose lab results.

**15. ARTIFICIAL FILTER (filter pack)  Yes  No**

Installed from *38* ft. to *31* ft.

Effective size *# 2 med* Uniformity Coefficient *sand*

**16. WELL GROUDED?  Yes  No**

Neat Cement  Bentonite  Bentonite/Cement  Other

Depth: From *31* ft. to *0* ft.

**17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:** \_\_\_\_\_ ft. \_\_\_\_\_ direction

Type \_\_\_\_\_

Well Disinfected  Yes  No Type: \_\_\_\_\_ Amount: \_\_\_\_\_

**18. PUMP:** Date installed: \_\_\_\_\_ Not installed

Mfr. Name: \_\_\_\_\_ Model No.: \_\_\_\_\_

H.P. \_\_\_\_\_ Volts \_\_\_\_\_ Length of drop pipe \_\_\_\_\_ ft. Capacity \_\_\_\_\_ gpm

TYPE:  Submersible  Jet (shallow)  Turbine

Jet (deep)  Reciprocating  Centrifugal

**19. WELL DRILLER: *Jake Kiker* CERT. NO.: *2200***

Address: (Print) \_\_\_\_\_ Level: A B C D (circle one)

*17538 Greenhill Rd.*  
*Charlotte NC 28278*

Telephone No.: *704.607.7529* Fax No.:

**20. WATER WELL DRILLER'S CERTIFICATION:** This well was drilled under

my direction and this report is true to the best of my knowledge and belief.

Signed: \_\_\_\_\_ Date: *5-6-19*  
Well Driller

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
<i>Dark red-brown silty clay</i>	<i>0</i>	<i>5</i>
<i>Tan-red-brown clayey silt</i>	<i>5</i>	<i>10</i>
<i>grey-dark brown clayey silt</i>	<i>10</i>	<i>15</i>
<i>gold-tan light brown fine sandy silt</i>	<i>15</i>	<i>20</i>
<i>gold-tan light brown silt</i>	<i>20</i>	<i>38</i>
<i>set 29' of 6" outer casing</i>		

\*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

**5. REMARKS:**

*Well ID #: 12175-Tw1*

- 6. TYPE:**  Mud Rotary  Jetted  Bored  
 Dug  Air Rotary  Driven  
 Cable tool  Other



## Water Well Record Bureau of Water

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

*Note: Personal information provided on this document is subject to public scrutiny or release.*

### 1. WELL OWNER INFORMATION:

Name: Edgefield Fuel and Convenience  
(last) (first)

Address: 107 1/2 Courthouse Square

City: Edgefield State: SC Zip: 29824

Telephone: Work: (803) 637-1900 Home: \_\_\_\_\_

### 2. LOCATION OF WELL:

### COUNTY:

Name: Edgefield Fuel and Convenience 3

Street Address: 311 Main Street

City: Edgefield, SC Zip: \_\_\_\_\_

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

### 3. PUBLIC SYSTEM NAME:

### PUBLIC SYSTEM NUMBER:

### 4. ABANDONMENT:

Yes  No

Give Details Below

Grouted Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

### 7. PERMIT NUMBER:

### 8. USE:

- |                                      |  |                                      |
|--------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> Residential | <input type="checkbox"/> Public Supply           | <input type="checkbox"/> Process     |
| <input type="checkbox"/> Irrigation  | <input type="checkbox"/> Air Conditioning        | <input type="checkbox"/> Emergency   |
| <input type="checkbox"/> Test Well   | <input checked="" type="checkbox"/> Monitor Well | <input type="checkbox"/> Replacement |

### 9. WELL DEPTH (completed)

Date Started: 4-17-19

38 ft.

Date Completed: 4-18-19

### 10. CASING:

Threaded  Welded

Diam.: 2" (6")

Type:  PVC  Galvanized

Steel  Other

33 (2") in. to 0 ft. depth

22 (6") in. to 0 ft. depth

Height: Above Below

Surface \_\_\_\_\_ ft.

Weight \_\_\_\_\_ lb./ft.

Drive Shoe?  Yes  No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
<u>Dark gray brown tan clayey silt</u>	<u>0</u>	<u>5</u>
<u>gold tan light brown clayey silt</u>	<u>5</u>	<u>10</u>
<u>light gray tan brown fine sandy silt</u>	<u>10</u>	<u>38</u>
<u>set 22' of 6" outer casing</u>		

### 11. SCREEN:

Type: PVC Diam.: 2"

Slot/Gauge: 0.01 / sch. 40 Length: 5'

Set Between: 38 ft. and 33 ft.

\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

**NOTE: MULTIPLE SCREENS USE SECOND SHEET**

Sieve Analysis  Yes (please enclose)  No

### 12. STATIC WATER LEVEL \_\_\_\_\_ ft. below land surface after 24 hours

### 13. PUMPING LEVEL Below Land Surface:

\_\_\_\_\_ ft. after \_\_\_\_\_ hrs. Pumping \_\_\_\_\_ G.P.M.

Pumping Test:  Yes (please enclose)  No

Yield: \_\_\_\_\_

### 14. WATER QUALITY

Chemical Analysis  Yes  No Bacterial Analysis  Yes  No

Please enclose lab results.

### 15. ARTIFICIAL FILTER (filter pack) Yes No

Installed from 38 ft. to 31 ft.

Effective size # 2 med Uniformity Coefficient sand

### 16. WELL GROUDED? Yes No

Neat Cement  Bentonite  Bentonite/Cement  Other \_\_\_\_\_

Depth: From 31 ft. to 0 ft.

### 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: \_\_\_\_\_ ft. \_\_\_\_\_ direction

Type \_\_\_\_\_

Well Disinfected  Yes  No Type: \_\_\_\_\_ Amount: \_\_\_\_\_

### 18. PUMP: Date installed: \_\_\_\_\_ Not installed

Mfr. Name: \_\_\_\_\_ Model No.: \_\_\_\_\_

H.P. \_\_\_\_\_ Volts \_\_\_\_\_ Length of drop pipe \_\_\_\_\_ ft. Capacity \_\_\_\_\_ gpm

TYPE:  Submersible  Jet (shallow)  Turbine

Jet (deep)  Reciprocating  Centrifugal

### 19. WELL DRILLER: Jake Kiker

CERT. NO.: 2200

Address: (Print)  
17538 Greenhill Rd.  
Charlotte, NC 28278

Level: A  B  C  D (circle one)

Telephone No.: 704.607.7529

Fax No.: \_\_\_\_\_

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

Signed: \_\_\_\_\_  
 Well Driller

Date: 5-6-19

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



Water Well Record
Bureau of Water

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

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Edgefield Fuel and Convenience
Address: 107 1/2 Courthouse Square
City: Edgefield State: SC Zip: 29824

7. PERMIT NUMBER:

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

2. LOCATION OF WELL:
Name: Edgefield Fuel and Convenience 3
Street Address: 311 Main Street
City: Edgefield, SC Zip:
Latitude: Longitude:

9. WELL DEPTH (completed) Date Started: 4-17-19
Date Completed: 4-17-19

10. CASING: Threaded, Welded
Diam.: 4"
Type: PVC, Galvanized, Steel, Other
Height: Above/Below Surface
Weight
Drive Shoe? Yes No

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

11. SCREEN:
Type: PVC Diam.: 4"
Slot/Gauge: 0.01 SCH. 40 Length: 70
Set Between: 35 ft. and 15 ft.
Sieve Analysis Yes (please enclose) No

4. ABANDONMENT: Yes No
Give Details Below
Grouted Depth: from ft. to ft.

12. STATIC WATER LEVEL ft. below land surface after 24 hours

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum. Rows include concrete, orange-red-light brown clay, tan-light brown clayey silt, etc.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: Yes (please enclose) No
Yield:

14. WATER QUALITY
Chemical Analysis Yes No Bacterial Analysis Yes No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) Yes No
Installed from 35 ft. to 13 ft.
Effective size # 2 med Uniformity Coefficient sand

16. WELL GROUTED? Yes No
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: From 13 ft. to 0 ft.

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

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

19. WELL DRILLER: Jake Kiker CERT. NO.: 2200
Address: (Print) 17538 Greenhill Rd. Charlotte NC 28278
Level: A B C D (circle one)
Telephone No.: 704.607.7529 Fax No.:

5. REMARKS:
Well ID #: 12175-RW4

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

Signed: [Signature] Date: 5-6-19
Well Driller

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

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



**Well Development Data Verification Form**  
**Underground Storage Tank Management Division**

Facility Name: Edgefield Fuel and Convenience 3 Site ID#: 12175  
 Date: 4-18-19 Field Personnel: B. Bolyard  
 Drilling Company: E DPS Driller's Name: J. Kiker  
 Driller's Certification Number: 2200 Weather Conditions: Warm / very Rainy

Well Development Method

Surge Block  Submersible Pump  Air Lifting

\* Bailing can be combined with any of the above methods, but not utilized alone for development.

Quality Assurance

pH meter	Conductivity meter	Temperature meter	Turbidity meter
serial no. <u>13E100814</u>	serial no. <u>SAME</u>	serial no. <u>SAME</u>	serial no. <u>MI 415</u>
pH=4.0 _____	standard _____		NTU=0.0 _____
pH=7.0 _____			NTU=1.0 _____
pH=10.0 _____			NTU=10.0 _____

Drilling Method

Hollow Stem Augers  Solid Flight Augers  Direct Push   
 Air Rotary  Mud Rotary  Sonic

Monitoring Well ID# 12175 - RW4 Well Casing Diameter 4 inches Borehole Diameter 10 inches  
 Depth to Ground Water (DGW) 16.25 ft. Screen Length/Slot Size 20 ft./ 0.01 in.  
 Total Well Depth (TWD) 35 ft. Screen Interval 35 ft. to 15 ft.  
 Length of water column (LWC=TWD-DGW) 18.75 ft. Type of Drilling Fluids used: N/A  
 Total Gallons of Water Removed: 15 gals. Drilling Fluids recovered N/A gals.

Time (military)							
pH (s.u.)*	<u>6.91</u>	<u>6.90</u>	<u>6.92</u>				
Specific Conductivity (mmhos/cm)*	<u>891.2</u>	<u>881.0</u>	<u>742.9</u>				
Water Temperature ( C)*	<u>17.1</u>	<u>17.0</u>	<u>17.0</u>				
Turbidity (NTU) *	<u>850</u>	<u>650</u>	<u>200</u>				
Physical Characteristics (color/odor)	<u>Tan</u>	<u>same</u>	<u>same</u>				
Water Level Measurement (ft) from TOC	<u>16.25</u>						
Total Well Depth (ft) from TOC	<u>35</u>						
Cumulative Gallons Removed	<u>5</u> gals	<u>10</u> gals	<u>15</u> gals				

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

Detailed description of Well Development process: A minimonsoon pump was used to remove approximately \_\_\_\_\_ gallons of water from the well.

Driller Signature: [Signature] Date: 4-18-19





**Well Development Data Verification Form**  
**Underground Storage Tank Management Division**

Facility Name: Edgefield Fuel and Convenience 3

Site ID#: 12175

Date: 4-18-19 Field Personnel: B. Bolyard

Drilling Company: E DPS Driller's Name: J. Kiker

Driller's Certification Number: 2200 Weather Conditions: Warm / very Rainy

Well Development Method

Surge Block  Submersible Pump  Air Lifting

\* Bailing can be combined with any of the above methods, but not utilized alone for development.

Quality Assurance

pH meter	Conductivity meter	Temperature meter	Turbidity meter
serial no. <u>13E100814</u>	serial no. <u>SAME</u>	serial no. <u>SAME</u>	serial no. <u>MI 415</u>
pH=4.0 _____	standard _____		NTU=0.0 _____
pH=7.0 _____			NTU=1.0 _____
pH=10.0 _____			NTU=10.0 _____

Drilling Method

Hollow Stem Augers  Solid Flight Augers  Direct Push   
 Air Rotary  Mud Rotary  Sonic

Monitoring Well ID# 12175 - TW1 Well Casing Diameter 2 inches Borehole Diameter 6 inches  
 Depth to Ground Water (DGW) 15.5 ft. Screen Length/Slot Size 5 ft./ 0.01 in.  
 Total Well Depth (TWD) 38 ft. Screen Interval 38 ft. to 33 ft.  
 Length of water column (LWC=TWD-DGW) 22.5 ft. Type of Drilling Fluids used: mud  
 Total Gallons of Water Removed: 15 gals. Drilling Fluids recovered 5 +/- gals.

Time (military)							
pH (s.u.)*	7.91	7.90	7.81				
Specific Conductivity (mmhos/cm)*	1001.0	1003.8	1018.0				
Water Temperature (C)*	17.2	17.5	17.5				
Turbidity (NTU)*	900	same	same				
Physical Characteristics (color/odor)	Brown	same	same	Dry sp			
Water Level Measurement (ft) from TOC	15.5						
Total Well Depth (ft) from TOC	38						
Cumulative Gallons Removed	5 gals	10 gals	15 gals	gals	gals	gals	gals

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

Detailed description of Well Development process: A minimonsoon pump was used to remove approximately \_\_\_\_\_ gallons of water from the well.

Driller Signature: \_\_\_\_\_

Date: 4-18-19



**Well Development Data Verification Form**  
**Underground Storage Tank Management Division**

Facility Name: Edgefield Fuel and Convenience 3

Site ID#: 12175

Date: 4-18-19 Field Personnel: B. Bolyard

Drilling Company: E DPS

Driller's Name: J. Kiker

Driller's Certification Number: 2200

Weather Conditions: Warm / very Rainy

Well Development Method

Surge Block  Submersible Pump  Air Lifting

\* Bailing can be combined with any of the above methods, but not utilized alone for development.

Quality Assurance

pH meter	Conductivity meter	Temperature meter	Turbidity meter
serial no. <u>13E100814</u>	serial no. <u>SAME</u>	serial no. <u>SAME</u>	serial no. <u>MI 415</u>
pH=4.0 _____	standard _____		NTU=0.0 _____
pH=7.0 _____			NTU=1.0 _____
pH=10.0 _____			NTU=10.0 _____

Drilling Method

Hollow Stem Augers  Solid Flight Augers  Direct Push   
 Air Rotary  Mud Rotary  Sonic

Monitoring Well ID# 12175 - TW2 Well Casing Diameter 2 inches Borehole Diameter 6 inches  
 Depth to Ground Water (DGW) 18.0 ft. Screen Length/Slot Size 5 ft./ 0.01 in.  
 Total Well Depth (TWD) 38 ft. Screen Interval 38 ft. to 33 ft.  
 Length of water column (LWC=TWD-DGW) 20 ft. Type of Drilling Fluids used: MUD  
 Total Gallons of Water Removed: 15 gals. Drilling Fluids recovered 5 +/- gals.

Time (military)							
pH (s.u.)*	<u>8.19</u>	<u>7.98</u>	<u>6.92</u>				
Specific Conductivity (mmhos/cm)*	<u>898.1</u>	<u>947.9</u>	<u>1001.0</u>				
Water Temperature ( C)*	<u>17.5</u>	<u>17.5</u>	<u>17.5</u>				
Turbidity (NTU) *	<u>1000</u>	<u>800</u>	<u>600</u>				
Physical Characteristics (color/odor)	<u>Brown</u>	<u>same</u>	<u>same</u>				
Water Level Measurement (ft) from TOC	<u>18.0</u>						
Total Well Depth (ft) from TOC	<u>38.0</u>						
Cumulative Gallons Removed	<u>5</u> gals	<u>10</u> gals	<u>15</u> gals	gals	gals	gals	gals

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

Detailed description of Well Development process: A minison pump was used to remove approximately \_\_\_\_\_ gallons of water from the well.

Driller Signature: [Signature]

Date: 4-18-19

**APPENDIX F**

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Aquifer Evaluation Data



## Summary of Slug Test Underground Storage Tank Management Division

### Site Data

UST Permit #: 12175 County: Edgefield  
 Facility Name: Edgefield Fuel and Convenience No.3 Date Performed: May 20, 2019

### Slug Data

See Appendix F Table 4 Figure NA for a list of all data measurements.  
 [water level logs, etc. (complete as appropriate)].

Water Level Recovery Data was measured by Hermit Data Logger  
 [Hermit Data Logger, Manually with Water Level Indicator, etc. (list method)].

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in Well(s) Number	12175-MW24	12175-TW1		
Time Performed (military)	13:40	12:20		
Static Water Level (feet)	20.00	16.82		
Initial Rise/Drawdown in Well (+/- feet)	1.745	26.18		
Radius of Well Casing (feet)	0.1	0.1		
Effective Radius of Well (feet)	0.0833	0.0833		
Static Saturated Aquifer Thickness (feet)	15	40		
Length of Well Screen (feet)	10	5		

### Calculations

See Appendix F Table 4 Figure NA for calculations (complete as appropriate).

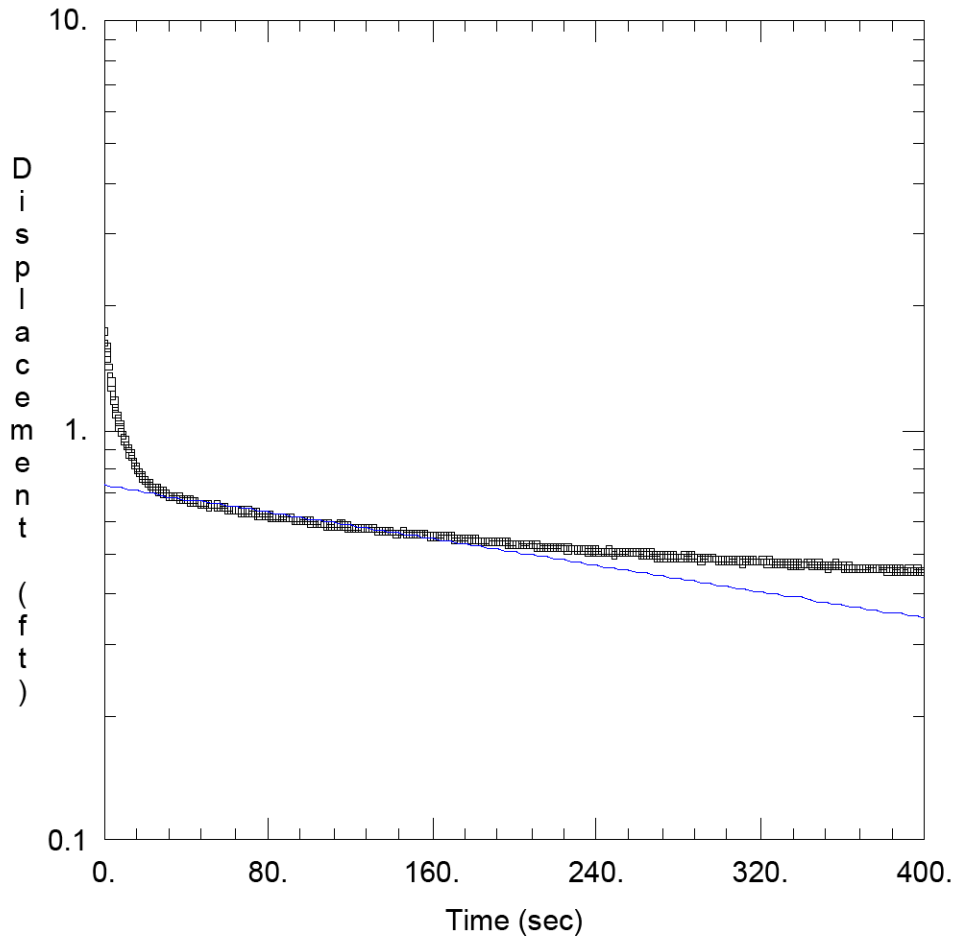
The method for Aquifer calculations was Bouwer - Rice (i.e. Bouwer-Rice, Cooper, etc.).

The Aquifer is  confined  semi-confined  water table (check as appropriate).

A hydraulic gradient of 0.0178

Calculated values by well were as follows:

Slug Test Conducted in Well(s) Number	12175-MW24	12175-TW1		
Thickness of Aquifer (feet)	50	50		
Hydraulic Conductivity (feet/ year)	164.25	748.25		
Effective Porosity (%)	25	25		
Soil Type (i.e., silty sand, clay, etc.)	Clayey, SILT	Clayey Silt		
Seepage Velocity (feet/ year)	11.69	53.71		



**EDGEFIELD FUEL & CONVENIENCE 3**

Data Set: C:\Users\william.quarles\Desktop\Temp\Slug Test Files\EF\_MW-24.aqt  
 Date: 06/03/19 Time: 11:33:25

**PROJECT INFORMATION**

Company: ATC Group Services LLC  
 Client: Edgefield Fuel and Convenience  
 Project: EFC3003  
 Location: Edgefield, SC  
 Test Well: 12175-MW-24  
 Test Date: 05/20/2019

**AQUIFER DATA**

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA (MW-24)**

Initial Displacement: 1.745 ft Static Water Column Height: 10. ft  
 Total Well Penetration Depth: 10. ft Screen Length: 10. ft  
 Casing Radius: 0.083 ft Well Radius: 0.271 ft  
 Gravel Pack Porosity: 0.25

**SOLUTION**

Aquifer Model: Unconfined Solution Method: Bouwer-Rice  
 K = 0.45 ft/day y0 = 0.73 ft

Data Set: C:\Users\william.quarles\Desktop\Temp\Slug Test Files\EF\_MW-24.aqt  
 Title: Edgefield Fuel & Convenience 3  
 Date: 06/03/19  
 Time: 11:33:48

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PROJECT INFORMATION

Company: ATC Group Services LLC  
 Client: Edgefield Fuel and Convenience  
 Project: EFC3003  
 Location: Edgefield, SC  
 Test Date: 05/20/2019  
 Test Well: 12175-MW-24

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AQUIFER DATA

Saturated Thickness: 15. ft  
 Anisotropy Ratio (Kz/Kr): 1.

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SLUG TEST WELL DATA

Test Well: MW-24

X Location: 0. ft  
 Y Location: 0. ft

Initial Displacement: 1.745 ft  
 Static Water Column Height: 10. ft  
 Casing Radius: 0.083 ft  
 Well Radius: 0.271 ft  
 Well Skin Radius: 0.271 ft  
 Screen Length: 10. ft  
 Total Well Penetration Depth: 10. ft  
 Corrected Casing Radius (Bouwer-Rice Method): 0.1521 ft  
 Gravel Pack Porosity: 0.25

No. of Observations: 2315

<u>Observation Data</u>			
<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
0.5	1.635	579.5	0.416
1.	1.59	580.	0.418
1.5	1.539	580.5	0.42
2.	1.483	581.	0.421
2.5	1.424	581.5	0.423
3.	1.362	582.	0.417
3.5	1.312	582.5	0.421
4.	1.265	583.	0.42
4.5	1.218	583.5	0.419
5.	1.176	584.	0.419
5.5	1.142	584.5	0.418
6.	1.119	585.	0.421
6.5	1.086	585.5	0.413
7.	1.064	586.	0.413
7.5	1.039	586.5	0.412

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
8.	1.017	587.	0.415
8.5	0.988	587.5	0.415
9.	0.979	588.	0.415
9.5	0.967	588.5	0.416
10.	0.952	589.	0.42
10.5	0.938	589.5	0.418
11.	0.923	590.	0.414
11.5	0.908	590.5	0.416
12.	0.899	591.	0.412
12.5	0.89	591.5	0.418
13.	0.874	592.	0.419
13.5	0.861	592.5	0.416
14.	0.851	593.	0.413
14.5	0.844	593.5	0.418
15.	0.832	594.	0.415
15.5	0.819	594.5	0.42
16.	0.815	595.	0.415
16.5	0.803	595.5	0.411
17.	0.795	596.	0.415
17.5	0.788	596.5	0.414
18.	0.78	597.	0.419
18.5	0.772	597.5	0.419
19.	0.765	598.	0.412
19.5	0.76	598.5	0.422
20.	0.752	599.	0.411
20.5	0.75	599.5	0.415
21.	0.743	600.	0.414
21.5	0.737	600.5	0.417
22.	0.741	601.	0.415
22.5	0.735	601.5	0.41
23.	0.727	602.	0.417
23.5	0.725	602.5	0.41
24.	0.721	603.	0.415
24.5	0.721	603.5	0.415
25.	0.717	604.	0.416
25.5	0.716	604.5	0.415
26.	0.718	605.	0.411
26.5	0.706	605.5	0.414
27.	0.705	606.	0.406
27.5	0.709	606.5	0.411
28.	0.701	607.	0.419
28.5	0.706	607.5	0.412
29.	0.702	608.	0.417
29.5	0.694	608.5	0.415
30.	0.694	609.	0.415
30.5	0.698	609.5	0.408
31.	0.694	610.	0.415
31.5	0.694	610.5	0.411
32.	0.687	611.	0.416
32.5	0.692	611.5	0.408
33.	0.688	612.	0.416
33.5	0.69	612.5	0.413
34.	0.683	613.	0.412
34.5	0.69	613.5	0.411



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
35.	0.685	614.	0.416
35.5	0.683	614.5	0.412
36.	0.681	615.	0.408
36.5	0.683	615.5	0.412
37.	0.687	616.	0.416
37.5	0.677	616.5	0.415
38.	0.678	617.	0.417
38.5	0.675	617.5	0.42
39.	0.679	618.	0.412
39.5	0.673	618.5	0.409
40.	0.671	619.	0.413
40.5	0.677	619.5	0.41
41.	0.674	620.	0.414
41.5	0.678	620.5	0.408
42.	0.67	621.	0.415
42.5	0.668	621.5	0.41
43.	0.665	622.	0.411
43.5	0.667	622.5	0.413
44.	0.666	623.	0.412
44.5	0.67	623.5	0.412
45.	0.662	624.	0.412
45.51	0.662	624.5	0.413
46.	0.665	625.	0.415
46.5	0.66	625.5	0.411
47.	0.663	626.	0.41
47.5	0.658	626.5	0.41
48.	0.661	627.	0.406
48.5	0.661	627.5	0.408
49.	0.661	628.	0.411
49.5	0.658	628.5	0.413
50.	0.663	629.	0.408
50.5	0.655	629.5	0.41
51.	0.658	630.	0.408
51.5	0.649	630.5	0.412
52.	0.654	631.	0.414
52.5	0.652	631.5	0.409
53.	0.653	632.	0.416
53.5	0.653	632.5	0.409
54.	0.651	633.	0.411
54.5	0.651	633.5	0.412
55.	0.648	634.	0.411
55.5	0.656	634.5	0.404
56.	0.648	635.	0.411
56.5	0.65	635.5	0.407
57.	0.648	636.	0.412
57.5	0.644	636.5	0.412
58.	0.65	637.	0.414
58.5	0.652	637.5	0.406
59.	0.641	638.	0.401
59.5	0.646	638.5	0.41
60.	0.638	639.	0.411
60.5	0.641	639.5	0.409
61.	0.645	640.	0.411
61.5	0.637	640.5	0.405

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
62.	0.638	641.	0.405
62.5	0.637	641.5	0.409
63.	0.639	642.	0.41
63.5	0.64	642.5	0.407
64.	0.639	643.	0.412
64.5	0.636	643.5	0.411
65.	0.636	644.	0.405
65.5	0.64	644.5	0.409
66.	0.639	645.	0.404
66.5	0.634	645.5	0.407
67.	0.636	646.	0.408
67.5	0.628	646.5	0.409
68.	0.632	647.	0.411
68.5	0.63	647.5	0.413
69.	0.635	648.	0.408
69.5	0.631	648.5	0.407
70.	0.636	649.	0.406
70.5	0.628	649.5	0.405
71.	0.632	650.	0.403
71.5	0.629	650.5	0.41
72.	0.625	651.	0.403
72.5	0.63	651.5	0.408
73.	0.625	652.	0.411
73.5	0.627	652.5	0.408
74.	0.627	653.	0.404
74.5	0.622	653.5	0.402
75.	0.625	654.	0.407
75.5	0.617	654.5	0.405
76.	0.624	655.	0.407
76.5	0.618	655.5	0.406
77.	0.623	656.	0.407
77.5	0.621	656.5	0.41
78.	0.623	657.	0.401
78.5	0.62	657.5	0.405
79.	0.617	658.	0.405
79.5	0.623	658.5	0.403
80.	0.624	659.	0.405
80.5	0.623	659.5	0.407
81.	0.617	660.	0.41
81.5	0.611	660.5	0.406
82.	0.617	661.	0.403
82.5	0.611	661.5	0.405
83.	0.615	662.	0.403
83.5	0.617	662.5	0.404
84.	0.61	663.	0.409
84.5	0.614	663.5	0.406
85.	0.614	664.	0.406
85.5	0.615	664.5	0.407
86.	0.611	665.	0.405
86.5	0.609	665.5	0.407
87.	0.606	666.	0.411
87.5	0.614	666.5	0.405
88.	0.606	667.	0.402
88.5	0.61	667.5	0.408

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
89.	0.609	668.	0.407
89.5	0.609	668.5	0.409
90.	0.607	669.	0.4
90.5	0.608	669.5	0.412
91.	0.608	670.	0.403
91.5	0.608	670.5	0.41
92.	0.611	671.	0.408
92.5	0.604	671.5	0.407
93.	0.603	672.	0.4
93.5	0.599	672.5	0.405
94.	0.601	673.	0.405
94.5	0.607	673.5	0.404
95.	0.602	674.	0.405
95.5	0.6	674.5	0.408
96.	0.604	675.	0.408
96.5	0.596	675.5	0.403
97.	0.603	676.	0.406
97.5	0.607	676.5	0.408
98.	0.595	677.	0.402
98.5	0.598	677.5	0.405
99.	0.599	678.	0.403
99.5	0.601	678.5	0.404
100.	0.598	679.	0.403
100.5	0.603	679.5	0.404
101.	0.596	680.	0.403
101.5	0.593	680.5	0.407
102.	0.598	681.	0.403
102.5	0.595	681.5	0.408
103.	0.589	682.	0.396
103.5	0.594	682.5	0.4
104.	0.597	683.	0.403
104.5	0.592	683.5	0.401
105.	0.594	684.	0.403
105.5	0.59	684.5	0.407
106.	0.593	685.	0.407
106.5	0.59	685.5	0.404
107.	0.586	686.	0.404
107.5	0.588	686.5	0.401
108.	0.584	687.	0.403
108.5	0.586	687.5	0.406
109.	0.584	688.	0.405
109.5	0.582	688.5	0.401
110.	0.593	689.	0.405
110.5	0.581	689.5	0.407
111.	0.586	690.	0.404
111.5	0.587	690.5	0.401
112.	0.588	691.	0.405
112.5	0.589	691.5	0.402
113.	0.588	692.	0.404
113.5	0.588	692.5	0.402
114.	0.585	693.	0.408
114.5	0.589	693.5	0.404
115.	0.59	694.	0.403
115.5	0.585	694.5	0.403

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
116.	0.587	695.	0.4
116.5	0.59	695.5	0.401
117.	0.585	696.	0.398
117.5	0.586	696.5	0.401
118.	0.587	697.	0.4
118.5	0.583	697.5	0.396
119.	0.586	698.	0.403
119.5	0.577	698.5	0.397
120.	0.579	699.	0.403
120.5	0.581	699.5	0.403
121.	0.577	700.	0.401
121.5	0.577	700.5	0.404
122.	0.576	701.	0.398
122.5	0.575	701.5	0.398
123.	0.578	702.	0.401
123.5	0.58	702.5	0.396
124.	0.577	703.	0.404
124.5	0.576	703.5	0.397
125.	0.571	704.	0.405
125.5	0.576	704.5	0.405
126.	0.576	705.	0.403
126.5	0.57	705.5	0.4
127.	0.575	706.	0.399
127.5	0.573	706.5	0.405
128.	0.572	707.	0.402
128.5	0.577	707.5	0.396
129.	0.576	708.	0.399
129.5	0.574	708.5	0.404
130.	0.569	709.	0.396
130.5	0.573	709.5	0.403
131.	0.572	710.	0.406
131.5	0.573	710.5	0.404
132.	0.574	711.	0.399
132.5	0.569	711.5	0.4
133.	0.567	712.	0.401
133.5	0.566	712.5	0.4
134.	0.564	713.	0.4
134.5	0.567	713.5	0.398
135.	0.573	714.	0.4
135.5	0.569	714.5	0.402
136.	0.566	715.	0.394
136.5	0.567	715.5	0.399
137.	0.569	716.	0.401
137.5	0.569	716.5	0.395
138.	0.561	717.	0.402
138.5	0.566	717.5	0.4
139.	0.567	718.	0.402
139.5	0.564	718.5	0.4
140.	0.57	719.	0.403
140.5	0.562	719.5	0.4
141.	0.564	720.	0.399
141.5	0.559	720.5	0.398
142.	0.559	721.	0.397
142.5	0.556	721.5	0.399

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
143.	0.557	722.	0.393
143.5	0.564	722.5	0.393
144.	0.56	723.	0.397
144.5	0.563	723.5	0.397
145.	0.561	724.	0.398
145.5	0.559	724.5	0.4
146.	0.56	725.	0.397
146.5	0.566	725.5	0.397
147.	0.558	726.	0.395
147.5	0.56	726.5	0.396
148.	0.556	727.	0.395
148.5	0.559	727.5	0.398
149.	0.553	728.	0.402
149.5	0.561	728.5	0.4
150.	0.559	729.	0.398
150.5	0.56	729.5	0.392
151.	0.559	730.	0.4
151.5	0.557	730.5	0.394
152.	0.556	731.	0.394
152.5	0.558	731.5	0.397
153.	0.554	732.	0.396
153.5	0.557	732.5	0.394
154.	0.553	733.	0.395
154.5	0.552	733.5	0.398
155.	0.551	734.	0.394
155.5	0.557	734.5	0.401
156.	0.558	735.	0.401
156.5	0.559	735.5	0.395
157.	0.555	736.	0.396
157.5	0.551	736.5	0.397
158.	0.555	737.	0.392
158.5	0.552	737.5	0.393
159.	0.548	738.	0.391
159.5	0.551	738.5	0.398
160.	0.548	739.	0.394
160.5	0.55	739.5	0.399
161.	0.555	740.	0.398
161.5	0.549	740.5	0.399
162.	0.553	741.	0.395
162.5	0.547	741.5	0.395
163.	0.552	742.	0.394
163.5	0.553	742.5	0.394
164.	0.547	743.	0.393
164.5	0.543	743.5	0.396
165.	0.547	744.	0.387
165.5	0.548	744.5	0.395
166.	0.549	745.	0.393
166.5	0.549	745.5	0.394
167.	0.545	746.	0.393
167.5	0.546	746.5	0.392
168.	0.549	747.	0.394
168.5	0.55	747.5	0.396
169.	0.55	748.	0.397
169.5	0.545	748.5	0.394

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
170.	0.544	749.	0.399
170.5	0.545	749.5	0.392
171.	0.54	750.	0.395
171.5	0.539	750.5	0.393
172.	0.544	751.	0.392
172.5	0.544	751.5	0.395
173.	0.543	752.	0.392
173.5	0.545	752.5	0.395
174.	0.545	753.	0.393
174.5	0.542	753.5	0.397
175.	0.542	754.	0.39
175.5	0.544	754.5	0.396
176.	0.538	755.	0.394
176.5	0.539	755.5	0.397
177.	0.541	756.	0.39
177.5	0.536	756.5	0.393
178.	0.542	757.	0.389
178.5	0.538	757.5	0.391
179.	0.542	758.	0.39
179.5	0.542	758.5	0.394
180.	0.538	759.	0.392
180.5	0.535	759.5	0.399
181.	0.536	760.	0.394
181.5	0.541	760.5	0.39
182.	0.537	761.	0.392
182.5	0.536	761.5	0.394
183.	0.537	762.	0.397
183.5	0.536	762.5	0.393
184.	0.535	763.	0.392
184.5	0.536	763.5	0.39
185.	0.532	764.	0.391
185.5	0.535	764.5	0.393
186.	0.536	765.	0.393
186.5	0.533	765.5	0.393
187.	0.534	766.	0.389
187.5	0.533	766.5	0.39
188.	0.532	767.	0.391
188.5	0.535	767.5	0.4
189.	0.535	768.	0.394
189.5	0.534	768.5	0.394
190.	0.53	769.	0.392
190.5	0.533	769.5	0.39
191.	0.533	770.	0.391
191.5	0.533	770.5	0.393
192.	0.534	771.	0.391
192.5	0.531	771.5	0.395
193.	0.529	772.	0.391
193.5	0.532	772.5	0.391
194.	0.529	773.	0.392
194.5	0.532	773.5	0.392
195.	0.528	774.	0.397
195.5	0.532	774.5	0.392
196.	0.528	775.	0.387
196.5	0.532	775.5	0.394

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
197.	0.523	776.	0.393
197.5	0.526	776.5	0.392
198.	0.527	777.	0.396
198.5	0.531	777.5	0.392
199.	0.525	778.	0.392
199.5	0.527	778.5	0.387
200.	0.524	779.	0.39
200.5	0.526	779.5	0.392
201.	0.526	780.	0.386
201.5	0.526	780.5	0.391
202.	0.526	781.	0.391
202.5	0.525	781.5	0.39
203.	0.525	782.	0.396
203.5	0.526	782.5	0.387
204.	0.521	783.	0.393
204.5	0.52	783.5	0.389
205.	0.521	784.	0.391
205.5	0.528	784.5	0.391
206.	0.522	785.	0.389
206.5	0.524	785.5	0.395
207.	0.52	786.	0.394
207.5	0.522	786.5	0.385
208.	0.52	787.	0.393
208.5	0.522	787.5	0.392
209.	0.526	788.	0.393
209.5	0.52	788.5	0.387
210.	0.523	789.	0.389
210.5	0.521	789.5	0.396
211.	0.524	790.	0.39
211.5	0.518	790.5	0.389
212.	0.523	791.	0.39
212.5	0.518	791.5	0.39
213.	0.518	792.	0.389
213.5	0.516	792.5	0.392
214.	0.519	793.	0.388
214.5	0.519	793.5	0.392
215.	0.518	794.	0.392
215.5	0.514	794.5	0.39
216.	0.519	795.	0.39
216.5	0.521	795.5	0.394
217.	0.516	796.	0.391
217.5	0.52	796.5	0.395
218.	0.515	797.	0.39
218.5	0.516	797.5	0.391
219.	0.516	798.	0.389
219.5	0.519	798.5	0.387
220.	0.517	799.	0.392
220.5	0.514	799.5	0.387
221.	0.515	800.	0.392
221.5	0.523	800.5	0.395
222.	0.512	801.	0.387
222.5	0.517	801.5	0.389
223.	0.515	802.	0.388
223.5	0.516	802.5	0.394



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
224.	0.515	803.	0.387
224.5	0.516	803.5	0.388
225.	0.516	804.	0.394
225.5	0.512	804.5	0.388
226.	0.517	805.	0.387
226.5	0.509	805.5	0.388
227.	0.514	806.	0.391
227.5	0.515	806.5	0.387
228.	0.511	807.	0.389
228.5	0.514	807.5	0.386
229.	0.515	808.	0.386
229.5	0.512	808.5	0.388
230.	0.512	809.	0.387
230.5	0.51	809.5	0.385
231.	0.511	810.	0.39
231.5	0.513	810.5	0.388
232.	0.512	811.	0.388
232.5	0.51	811.5	0.388
233.	0.512	812.	0.387
233.5	0.511	812.5	0.386
234.	0.509	813.	0.384
234.5	0.511	813.5	0.384
235.	0.514	814.	0.386
235.5	0.512	814.5	0.39
236.	0.508	815.	0.386
236.5	0.503	815.5	0.384
237.	0.507	816.	0.388
237.5	0.512	816.5	0.389
238.	0.511	817.	0.389
238.5	0.507	817.5	0.39
239.	0.501	818.	0.386
239.5	0.508	818.5	0.386
240.	0.51	819.	0.385
240.5	0.498	819.5	0.385
241.	0.508	820.	0.383
241.5	0.504	820.5	0.385
242.	0.504	821.	0.39
242.5	0.505	821.5	0.383
243.	0.506	822.	0.382
243.5	0.505	822.5	0.39
244.	0.508	823.	0.389
244.5	0.503	823.5	0.39
245.	0.502	824.	0.385
245.5	0.505	824.5	0.392
246.	0.509	825.	0.386
246.5	0.506	825.5	0.391
247.	0.502	826.	0.386
247.5	0.504	826.5	0.389
248.	0.502	827.	0.387
248.5	0.495	827.5	0.39
249.	0.501	828.	0.388
249.5	0.506	828.5	0.385
250.	0.503	829.	0.385
250.5	0.502	829.5	0.383

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
251.	0.503	830.	0.387
251.5	0.503	830.5	0.388
252.	0.502	831.	0.388
252.5	0.505	831.5	0.388
253.	0.498	832.	0.391
253.5	0.504	832.5	0.386
254.	0.501	833.	0.387
254.5	0.497	833.5	0.392
255.	0.503	834.	0.384
255.5	0.498	834.5	0.386
256.	0.498	835.	0.385
256.5	0.499	835.5	0.385
257.	0.503	836.	0.382
257.5	0.502	836.5	0.383
258.	0.499	837.	0.388
258.5	0.499	837.5	0.382
259.	0.501	838.	0.383
259.5	0.5	838.5	0.388
260.	0.499	839.	0.384
260.5	0.5	839.5	0.382
261.	0.498	840.	0.382
261.5	0.492	840.5	0.386
262.	0.502	841.	0.384
262.5	0.5	841.5	0.386
263.	0.494	842.	0.381
263.5	0.499	842.5	0.384
264.	0.493	843.	0.389
264.5	0.5	843.5	0.389
265.	0.498	844.	0.386
265.5	0.496	844.5	0.388
266.	0.498	845.	0.383
266.5	0.5	845.5	0.383
267.	0.491	846.	0.385
267.5	0.496	846.5	0.381
268.	0.493	847.	0.383
268.5	0.495	847.5	0.381
269.	0.496	848.	0.382
269.5	0.488	848.5	0.38
270.	0.499	849.	0.383
270.5	0.492	849.5	0.386
271.	0.488	850.	0.385
271.5	0.495	850.5	0.38
272.	0.49	851.	0.384
272.5	0.494	851.5	0.383
273.	0.487	852.	0.387
273.5	0.494	852.5	0.383
274.	0.489	853.	0.383
274.5	0.493	853.5	0.382
275.	0.491	854.	0.383
275.5	0.494	854.5	0.384
276.	0.493	855.	0.386
276.5	0.491	855.5	0.381
277.	0.492	856.	0.381
277.5	0.495	856.5	0.384

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
278.	0.489	857.	0.384
278.5	0.486	857.5	0.379
279.	0.486	858.	0.38
279.5	0.492	858.5	0.381
280.	0.49	859.	0.378
280.5	0.491	859.5	0.382
281.	0.487	860.	0.38
281.5	0.488	860.5	0.38
282.	0.488	861.	0.388
282.5	0.49	861.5	0.377
283.	0.494	862.	0.377
283.5	0.494	862.5	0.38
284.	0.488	863.	0.38
284.5	0.484	863.5	0.384
285.	0.488	864.	0.38
285.5	0.493	864.5	0.384
286.	0.493	865.	0.38
286.5	0.49	865.5	0.385
287.	0.491	866.	0.38
287.5	0.492	866.5	0.377
288.	0.488	867.	0.377
288.5	0.489	867.5	0.381
289.	0.488	868.	0.377
289.5	0.486	868.5	0.377
290.	0.488	869.	0.379
290.5	0.487	869.5	0.377
291.	0.482	870.	0.38
291.5	0.487	870.5	0.376
292.	0.488	871.	0.381
292.5	0.491	871.5	0.377
293.	0.484	872.	0.376
293.5	0.489	872.5	0.382
294.	0.483	873.	0.376
294.5	0.483	873.5	0.383
295.	0.484	874.	0.38
295.5	0.484	874.5	0.381
296.	0.483	875.	0.38
296.5	0.487	875.5	0.379
297.	0.489	876.	0.379
297.5	0.484	876.5	0.374
298.	0.483	877.	0.374
298.5	0.483	877.5	0.381
299.	0.484	878.	0.38
299.5	0.483	878.5	0.377
300.	0.481	879.	0.378
300.5	0.481	879.5	0.378
301.	0.481	880.	0.379
301.5	0.481	880.5	0.377
302.	0.485	881.	0.376
302.5	0.482	881.5	0.376
303.	0.481	882.	0.377
303.5	0.482	882.5	0.378
304.	0.479	883.	0.377
304.5	0.485	883.5	0.375

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
305.	0.484	884.	0.377
305.5	0.485	884.5	0.378
306.	0.484	885.	0.376
306.5	0.477	885.5	0.379
307.	0.48	886.	0.379
307.5	0.484	886.5	0.381
308.	0.479	887.	0.379
308.5	0.479	887.5	0.377
309.	0.481	888.	0.377
309.5	0.481	888.5	0.375
310.	0.481	889.	0.38
310.5	0.482	889.5	0.373
311.	0.479	890.	0.376
311.5	0.473	890.5	0.377
312.	0.477	891.	0.377
312.5	0.482	891.5	0.379
313.	0.482	892.	0.38
313.5	0.485	892.5	0.377
314.	0.481	893.	0.378
314.5	0.479	893.5	0.378
315.	0.478	894.	0.377
315.5	0.481	894.5	0.377
316.	0.476	895.	0.377
316.5	0.478	895.5	0.372
317.	0.48	896.	0.373
317.5	0.477	896.5	0.377
318.	0.477	897.	0.379
318.5	0.477	897.5	0.378
319.	0.477	898.	0.381
319.5	0.475	898.5	0.379
320.	0.477	899.	0.374
320.5	0.475	899.5	0.381
321.	0.479	900.	0.383
321.5	0.477	900.5	0.379
322.	0.475	901.	0.375
322.5	0.478	901.5	0.382
323.	0.475	902.	0.379
323.5	0.473	902.5	0.384
324.	0.477	903.	0.378
324.5	0.481	903.5	0.371
325.	0.477	904.	0.371
325.5	0.477	904.5	0.373
326.	0.476	905.	0.377
326.5	0.476	905.5	0.377
327.	0.476	906.	0.377
327.5	0.471	906.5	0.373
328.	0.472	907.	0.379
328.5	0.472	907.5	0.377
329.	0.478	908.	0.378
329.5	0.478	908.5	0.379
330.	0.472	909.	0.376
330.5	0.476	909.5	0.371
331.	0.474	910.	0.374
331.5	0.475	910.5	0.375

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
332.	0.472	911.	0.377
332.5	0.472	911.5	0.374
333.	0.468	912.	0.376
333.5	0.474	912.5	0.378
334.	0.469	913.	0.372
334.5	0.465	913.5	0.379
335.	0.475	914.	0.374
335.5	0.474	914.5	0.375
336.	0.466	915.	0.372
336.5	0.471	915.5	0.376
337.	0.473	916.	0.381
337.5	0.468	916.5	0.375
338.	0.47	917.	0.373
338.5	0.475	917.5	0.372
339.	0.466	918.	0.376
339.5	0.468	918.5	0.368
340.	0.466	919.	0.373
340.5	0.469	919.5	0.372
341.	0.47	920.	0.371
341.5	0.469	920.5	0.368
342.	0.471	921.	0.371
342.5	0.468	921.5	0.377
343.	0.473	922.	0.376
343.5	0.467	922.5	0.371
344.	0.47	923.	0.374
344.5	0.475	923.5	0.369
345.	0.466	924.	0.372
345.5	0.466	924.5	0.371
346.	0.469	925.	0.371
346.5	0.472	925.5	0.374
347.	0.471	926.	0.372
347.5	0.465	926.5	0.37
348.	0.468	927.	0.37
348.5	0.476	927.5	0.375
349.	0.465	928.	0.372
349.5	0.467	928.5	0.367
350.	0.462	929.	0.377
350.5	0.469	929.5	0.373
351.	0.467	930.	0.376
351.5	0.466	930.5	0.368
352.	0.472	931.	0.372
352.5	0.465	931.5	0.373
353.	0.457	932.	0.368
353.5	0.467	932.5	0.374
354.	0.466	933.	0.371
354.5	0.467	933.5	0.372
355.	0.462	934.	0.37
355.5	0.464	934.5	0.369
356.	0.466	935.	0.371
356.5	0.474	935.5	0.372
357.	0.469	936.	0.376
357.5	0.468	936.5	0.376
358.	0.463	937.	0.373
358.5	0.464	937.5	0.372

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
359.	0.464	938.	0.373
359.5	0.464	938.5	0.374
360.	0.466	939.	0.377
360.5	0.462	939.5	0.37
361.	0.459	940.	0.375
361.5	0.462	940.5	0.37
362.	0.464	941.	0.368
362.5	0.46	941.5	0.379
363.	0.464	942.	0.375
363.5	0.466	942.5	0.372
364.	0.46	943.	0.371
364.5	0.461	943.5	0.372
365.	0.458	944.	0.371
365.5	0.459	944.5	0.378
366.	0.457	945.	0.376
366.5	0.464	945.5	0.373
367.	0.462	946.	0.369
367.5	0.459	946.5	0.375
368.	0.458	947.	0.373
368.5	0.458	947.5	0.371
369.	0.461	948.	0.372
369.5	0.462	948.5	0.366
370.	0.457	949.	0.372
370.5	0.459	949.5	0.369
371.	0.461	950.	0.37
371.5	0.457	950.5	0.366
372.	0.465	951.	0.368
372.5	0.464	951.5	0.369
373.	0.454	952.	0.373
373.5	0.459	952.5	0.372
374.	0.459	953.	0.375
374.5	0.456	953.5	0.368
375.	0.46	954.	0.373
375.5	0.457	954.5	0.372
376.	0.459	955.	0.37
376.5	0.46	955.5	0.371
377.	0.458	956.	0.369
377.5	0.458	956.5	0.37
378.	0.457	957.	0.37
378.5	0.465	957.5	0.37
379.	0.454	958.	0.373
379.5	0.461	958.5	0.37
380.	0.457	959.	0.371
380.5	0.456	959.5	0.371
381.	0.456	960.	0.37
381.5	0.458	960.5	0.374
382.	0.453	961.	0.37
382.5	0.456	961.5	0.369
383.	0.456	962.	0.368
383.5	0.458	962.5	0.368
384.	0.458	963.	0.372
384.5	0.457	963.5	0.369
385.	0.458	964.	0.37
385.5	0.453	964.5	0.368

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
386.	0.461	965.	0.371
386.5	0.46	965.5	0.366
387.	0.456	966.	0.368
387.5	0.452	966.5	0.371
388.	0.457	967.	0.371
388.5	0.453	967.5	0.362
389.	0.456	968.	0.369
389.5	0.455	968.5	0.37
390.	0.453	969.	0.37
390.5	0.45	969.5	0.371
391.	0.453	970.	0.368
391.5	0.455	970.5	0.365
392.	0.455	971.	0.367
392.5	0.458	971.5	0.369
393.	0.451	972.	0.365
393.5	0.454	972.5	0.368
394.	0.451	973.	0.366
394.5	0.455	973.5	0.365
395.	0.453	974.	0.368
395.5	0.452	974.5	0.369
396.	0.449	975.	0.37
396.5	0.458	975.5	0.371
397.	0.454	976.	0.367
397.5	0.455	976.5	0.367
398.	0.45	977.	0.367
398.5	0.454	977.5	0.363
399.	0.451	978.	0.371
399.5	0.453	978.5	0.365
400.	0.451	979.	0.369
400.5	0.455	979.5	0.37
401.	0.455	980.	0.369
401.5	0.448	980.5	0.368
402.	0.45	981.	0.372
402.5	0.453	981.5	0.367
403.	0.453	982.	0.365
403.5	0.454	982.5	0.368
404.	0.45	983.	0.365
404.5	0.454	983.5	0.369
405.	0.452	984.	0.367
405.5	0.451	984.5	0.362
406.	0.456	985.	0.363
406.5	0.451	985.5	0.367
407.	0.451	986.	0.371
407.5	0.457	986.5	0.371
408.	0.454	987.	0.373
408.5	0.452	987.5	0.364
409.	0.457	988.	0.362
409.5	0.452	988.5	0.364
410.	0.454	989.	0.366
410.5	0.452	989.5	0.364
411.	0.451	990.	0.361
411.5	0.448	990.5	0.368
412.	0.453	991.	0.361
412.5	0.457	991.5	0.364



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
413.	0.451	992.	0.364
413.5	0.445	992.5	0.362
414.	0.451	993.	0.369
414.5	0.45	993.5	0.366
415.	0.456	994.	0.363
415.5	0.452	994.5	0.363
416.	0.451	995.	0.365
416.5	0.45	995.5	0.365
417.	0.447	996.	0.36
417.5	0.449	996.5	0.363
418.	0.45	997.	0.357
418.5	0.446	997.5	0.365
419.	0.454	998.	0.362
419.5	0.449	998.5	0.37
420.	0.447	999.	0.36
420.5	0.45	999.5	0.364
421.	0.453	1000.	0.361
421.5	0.452	1000.5	0.363
422.	0.451	1001.	0.365
422.5	0.448	1001.5	0.368
423.	0.446	1002.	0.366
423.5	0.446	1002.5	0.362
424.	0.449	1003.	0.362
424.5	0.449	1003.5	0.365
425.	0.452	1004.	0.369
425.5	0.448	1004.5	0.363
426.	0.447	1005.	0.371
426.5	0.445	1005.5	0.369
427.	0.447	1006.	0.364
427.5	0.449	1006.5	0.371
428.	0.45	1007.	0.367
428.5	0.448	1007.5	0.365
429.	0.447	1008.	0.364
429.5	0.451	1008.5	0.367
430.	0.442	1009.	0.361
430.5	0.449	1009.5	0.369
431.	0.448	1010.	0.363
431.5	0.449	1010.5	0.36
432.	0.45	1011.	0.368
432.5	0.444	1011.5	0.362
433.	0.446	1012.	0.364
433.5	0.448	1012.5	0.362
434.	0.441	1013.	0.365
434.5	0.445	1013.5	0.364
435.	0.45	1014.	0.366
435.5	0.446	1014.5	0.364
436.	0.447	1015.	0.365
436.5	0.447	1015.5	0.362
437.	0.448	1016.	0.361
437.5	0.449	1016.5	0.362
438.	0.445	1017.	0.368
438.5	0.446	1017.5	0.366
439.	0.445	1018.	0.368
439.5	0.443	1018.5	0.364

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
440.	0.445	1019.	0.365
440.5	0.448	1019.5	0.368
441.	0.442	1020.	0.373
441.5	0.448	1020.5	0.364
442.	0.442	1021.	0.368
442.5	0.444	1021.5	0.368
443.	0.442	1022.	0.362
443.5	0.444	1022.5	0.363
444.	0.442	1023.	0.365
444.5	0.444	1023.5	0.366
445.	0.442	1024.	0.366
445.5	0.441	1024.5	0.362
446.	0.446	1025.	0.36
446.5	0.438	1025.5	0.363
447.	0.444	1026.	0.362
447.5	0.44	1026.5	0.366
448.	0.441	1027.	0.36
448.5	0.439	1027.5	0.364
449.	0.442	1028.	0.364
449.5	0.444	1028.5	0.364
450.	0.445	1029.	0.363
450.5	0.441	1029.5	0.362
451.	0.438	1030.	0.361
451.5	0.444	1030.5	0.362
452.	0.441	1031.	0.359
452.5	0.439	1031.5	0.363
453.	0.438	1032.	0.368
453.5	0.443	1032.5	0.363
454.	0.441	1033.	0.361
454.5	0.445	1033.5	0.362
455.	0.448	1034.	0.361
455.5	0.442	1034.5	0.365
456.	0.444	1035.	0.359
456.5	0.441	1035.5	0.365
457.	0.439	1036.	0.367
457.5	0.443	1036.5	0.365
458.	0.439	1037.	0.365
458.5	0.44	1037.5	0.363
459.	0.442	1038.	0.356
459.5	0.434	1038.5	0.358
460.	0.434	1039.	0.359
460.5	0.438	1039.5	0.361
461.	0.439	1040.	0.362
461.5	0.444	1040.5	0.364
462.	0.442	1041.	0.362
462.5	0.438	1041.5	0.364
463.	0.438	1042.	0.358
463.5	0.439	1042.5	0.362
464.	0.44	1043.	0.356
464.5	0.439	1043.5	0.36
465.	0.437	1044.	0.355
465.5	0.439	1044.5	0.359
466.	0.44	1045.	0.359
466.5	0.437	1045.5	0.36

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
467.	0.436	1046.	0.362
467.5	0.442	1046.5	0.361
468.	0.441	1047.	0.361
468.5	0.434	1047.5	0.363
469.	0.441	1048.	0.356
469.5	0.433	1048.5	0.359
470.	0.437	1049.	0.361
470.5	0.441	1049.5	0.356
471.	0.435	1050.	0.357
471.5	0.436	1050.5	0.358
472.	0.435	1051.	0.356
472.5	0.44	1051.5	0.358
473.	0.435	1052.	0.362
473.5	0.436	1052.5	0.359
474.	0.434	1053.	0.361
474.5	0.432	1053.5	0.361
475.	0.435	1054.	0.353
475.5	0.433	1054.5	0.364
476.	0.438	1055.	0.36
476.5	0.436	1055.5	0.356
477.	0.438	1056.	0.361
477.5	0.44	1056.5	0.361
478.	0.434	1057.	0.356
478.5	0.437	1057.5	0.365
479.	0.439	1058.	0.355
479.5	0.441	1058.5	0.359
480.	0.439	1059.	0.365
480.5	0.438	1059.5	0.363
481.	0.435	1060.	0.357
481.5	0.437	1060.5	0.359
482.	0.435	1061.	0.36
482.5	0.435	1061.5	0.357
483.	0.431	1062.	0.36
483.5	0.436	1062.5	0.361
484.	0.434	1063.	0.356
484.5	0.434	1063.5	0.36
485.	0.435	1064.	0.359
485.5	0.433	1064.5	0.355
486.	0.433	1065.	0.359
486.5	0.433	1065.5	0.362
487.	0.435	1066.	0.363
487.5	0.432	1066.5	0.358
488.	0.431	1067.	0.358
488.5	0.436	1067.5	0.357
489.	0.434	1068.	0.359
489.5	0.431	1068.5	0.36
490.	0.432	1069.	0.358
490.5	0.428	1069.5	0.361
491.	0.431	1070.	0.362
491.5	0.436	1070.5	0.362
492.	0.433	1071.	0.358
492.5	0.427	1071.5	0.362
493.	0.435	1072.	0.356
493.5	0.429	1072.5	0.361

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
494.	0.428	1073.	0.358
494.5	0.428	1073.5	0.356
495.	0.426	1074.	0.357
495.5	0.432	1074.5	0.357
496.	0.429	1075.	0.358
496.5	0.429	1075.5	0.355
497.	0.424	1076.	0.353
497.5	0.432	1076.5	0.356
498.	0.436	1077.	0.356
498.5	0.431	1077.5	0.36
499.	0.435	1078.	0.355
499.5	0.434	1078.5	0.356
500.	0.428	1079.	0.357
500.5	0.432	1079.5	0.355
501.	0.428	1080.	0.361
501.5	0.428	1080.5	0.355
502.	0.426	1081.	0.358
502.5	0.428	1081.5	0.359
503.	0.434	1082.	0.358
503.5	0.432	1082.5	0.354
504.	0.431	1083.	0.357
504.5	0.424	1083.5	0.357
505.	0.428	1084.	0.355
505.5	0.428	1084.5	0.353
506.	0.434	1085.	0.353
506.5	0.432	1085.5	0.354
507.	0.433	1086.	0.356
507.5	0.429	1086.5	0.357
508.	0.429	1087.	0.353
508.5	0.432	1087.5	0.354
509.	0.433	1088.	0.355
509.5	0.426	1088.5	0.359
510.	0.429	1089.	0.356
510.5	0.433	1089.5	0.353
511.	0.433	1090.	0.355
511.5	0.429	1090.5	0.355
512.	0.432	1091.	0.363
512.5	0.428	1091.5	0.36
513.	0.43	1092.	0.362
513.5	0.433	1092.5	0.355
514.	0.427	1093.	0.353
514.5	0.43	1093.5	0.357
515.	0.424	1094.	0.356
515.5	0.43	1094.5	0.357
516.	0.428	1095.	0.36
516.5	0.43	1095.5	0.356
517.	0.424	1096.	0.357
517.5	0.431	1096.5	0.363
518.	0.428	1097.	0.358
518.5	0.428	1097.5	0.359
519.	0.428	1098.	0.357
519.5	0.426	1098.5	0.361
520.	0.428	1099.	0.355
520.5	0.429	1099.5	0.358

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
521.	0.426	1100.	0.365
521.5	0.426	1100.5	0.354
522.	0.428	1101.	0.357
522.5	0.427	1101.5	0.354
523.	0.427	1102.	0.359
523.5	0.429	1102.5	0.357
524.	0.433	1103.	0.359
524.5	0.425	1103.5	0.363
525.	0.426	1104.	0.357
525.5	0.427	1104.5	0.36
526.	0.425	1105.	0.36
526.5	0.426	1105.5	0.356
527.	0.428	1106.	0.357
527.5	0.421	1106.5	0.364
528.	0.427	1107.	0.367
528.5	0.428	1107.5	0.357
529.	0.43	1108.	0.356
529.5	0.425	1108.5	0.362
530.	0.426	1109.	0.359
530.5	0.429	1109.5	0.362
531.	0.423	1110.	0.361
531.5	0.425	1110.5	0.355
532.	0.429	1111.	0.355
532.5	0.433	1111.5	0.355
533.	0.423	1112.	0.361
533.5	0.427	1112.5	0.359
534.	0.428	1113.	0.354
534.5	0.428	1113.5	0.354
535.	0.425	1114.	0.356
535.5	0.422	1114.5	0.359
536.	0.425	1115.	0.358
536.5	0.427	1115.5	0.359
537.	0.422	1116.	0.351
537.5	0.425	1116.5	0.354
538.	0.425	1117.	0.357
538.5	0.42	1117.5	0.357
539.	0.425	1118.	0.358
539.5	0.427	1118.5	0.357
540.	0.429	1119.	0.357
540.5	0.421	1119.5	0.358
541.	0.426	1120.	0.358
541.5	0.424	1120.5	0.36
542.	0.424	1121.	0.358
542.5	0.426	1121.5	0.359
543.	0.429	1122.	0.358
543.5	0.426	1122.5	0.354
544.	0.428	1123.	0.363
544.5	0.418	1123.5	0.358
545.	0.418	1124.	0.357
545.5	0.421	1124.5	0.357
546.	0.425	1125.	0.356
546.5	0.421	1125.5	0.352
547.	0.43	1126.	0.354
547.5	0.426	1126.5	0.35

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
548.	0.424	1127.	0.354
548.5	0.425	1127.5	0.357
549.	0.422	1128.	0.358
549.5	0.422	1128.5	0.356
550.	0.422	1129.	0.357
550.5	0.423	1129.5	0.353
551.	0.422	1130.	0.356
551.5	0.425	1130.5	0.357
552.	0.419	1131.	0.354
552.5	0.426	1131.5	0.353
553.	0.42	1132.	0.357
553.5	0.42	1132.5	0.357
554.	0.425	1133.	0.356
554.5	0.421	1133.5	0.358
555.	0.421	1134.	0.355
555.5	0.418	1134.5	0.356
556.	0.423	1135.	0.358
556.5	0.42	1135.5	0.355
557.	0.424	1136.	0.358
557.5	0.423	1136.5	0.356
558.	0.42	1137.	0.352
558.5	0.42	1137.5	0.356
559.	0.422	1138.	0.359
559.5	0.423	1138.5	0.358
560.	0.423	1139.	0.354
560.5	0.419	1139.5	0.35
561.	0.42	1140.	0.352
561.5	0.421	1140.5	0.357
562.	0.419	1141.	0.358
562.5	0.418	1141.5	0.356
563.	0.422	1142.	0.357
563.5	0.42	1142.5	0.358
564.	0.422	1143.	0.356
564.5	0.423	1143.5	0.353
565.	0.424	1144.	0.357
565.5	0.421	1144.5	0.352
566.	0.418	1145.	0.354
566.5	0.424	1145.5	0.352
567.	0.419	1146.	0.354
567.5	0.424	1146.5	0.352
568.	0.424	1147.	0.354
568.5	0.423	1147.5	0.356
569.	0.422	1148.	0.351
569.5	0.42	1148.5	0.357
570.	0.424	1149.	0.351
570.5	0.422	1149.5	0.354
571.	0.423	1150.	0.354
571.5	0.415	1150.5	0.358
572.	0.418	1151.	0.355
572.5	0.425	1151.5	0.353
573.	0.421	1152.	0.353
573.5	0.419	1152.5	0.354
574.	0.419	1153.	0.353
574.5	0.417	1153.5	0.355

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<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
575.	0.421	1154.	0.356
575.5	0.414	1154.5	0.356
576.	0.416	1155.	0.355
576.5	0.421	1155.5	0.357
577.	0.418	1156.	0.353
577.5	0.419	1156.5	0.354
578.	0.421	1157.	0.36
578.5	0.416	1157.5	0.346
579.	0.418		

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SOLUTION

Slug Test

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

ln(Re/rw): 2.432

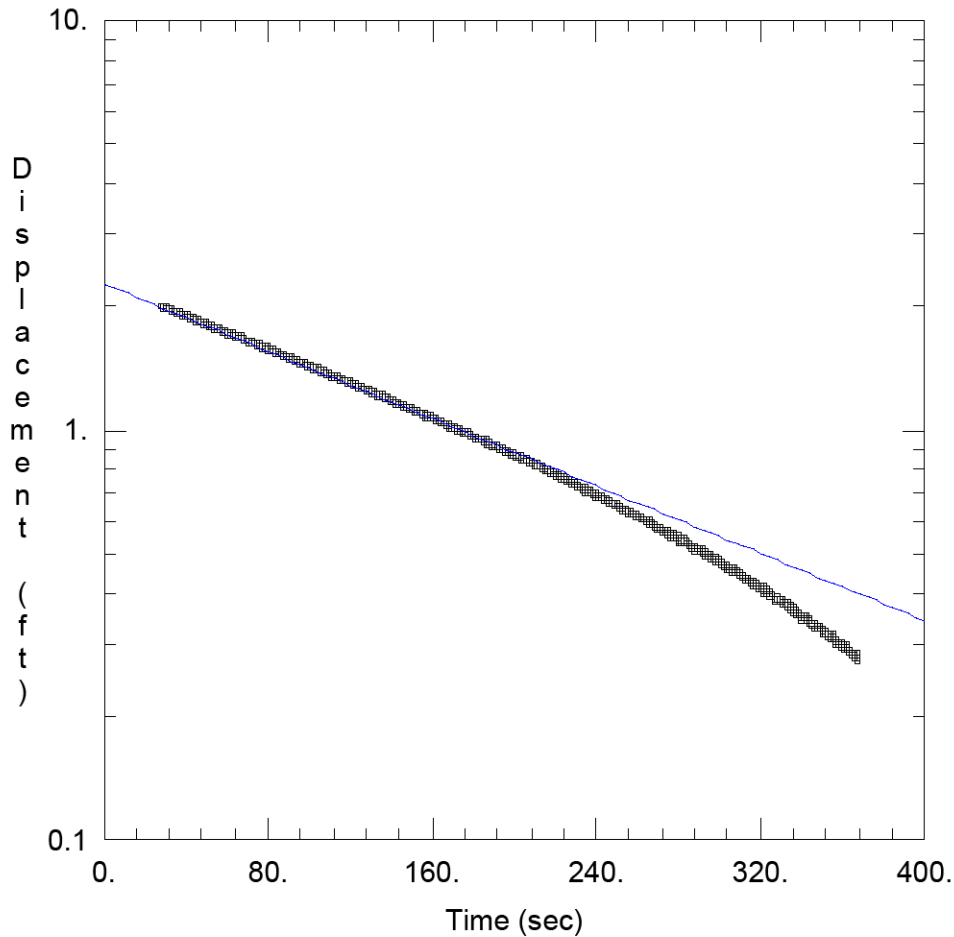
VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.45	ft/day
y0	0.73	ft

K = 0.0001588 cm/sec

T = K\*b = 6.75 ft<sup>2</sup>/day (0.07258 sq. cm/sec)





**EDGEFIELD FUEL & CONVENIENCE 3**

Data Set: C:\Users\william.quarles\Desktop\Temp\Slug Test Files\EF\_TW-1.aqt  
 Date: 06/03/19 Time: 11:43:43

PROJECT INFORMATION

Company: ATC Group Services LLC  
 Client: Edgefield Fuel and Convenience  
 Project: EFC3003  
 Location: Edgefield, SC  
 Test Well: 12175-TW-1  
 Test Date: 05/20/2019

AQUIFER DATA

Saturated Thickness: 26.18 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TW-1)

Initial Displacement: 2.767 ft Static Water Column Height: 21.18 ft  
 Total Well Penetration Depth: 21.18 ft Screen Length: 5. ft  
 Casing Radius: 0.083 ft Well Radius: 0.25 ft  
 Gravel Pack Porosity: 0.25

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice  
 K = 2.05 ft/day  $y_0 =$  2.27 ft

Data Set: C:\Users\william.quarles\Desktop\Temp\Slug Test Files\EF\_TW-1.aqt  
 Title: Edgefield Fuel & Convenience 3  
 Date: 06/03/19  
 Time: 11:44:23

PROJECT INFORMATION

Company: ATC Group Services LLC  
 Client: Edgefield Fuel and Convenience  
 Project: EFC3003  
 Location: Edgefield, SC  
 Test Date: 05/20/2019  
 Test Well: 12175-TW-1

AQUIFER DATA

Saturated Thickness: 26.18 ft  
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: TW-1

X Location: 0. ft  
 Y Location: 0. ft

Initial Displacement: 2.767 ft  
 Static Water Column Height: 21.18 ft  
 Casing Radius: 0.083 ft  
 Well Radius: 0.25 ft  
 Well Skin Radius: 0.25 ft  
 Screen Length: 5. ft  
 Total Well Penetration Depth: 21.18 ft  
 Corrected Casing Radius (Bouwer-Rice Method): 0.1428 ft  
 Gravel Pack Porosity: 0.25

No. of Observations: 734

<u>Observation Data</u>			
<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
0.5	2.437	184.5	0.949
1.5	2.328	185.	0.942
2.	2.351	185.5	0.937
2.5	2.294	186.	0.942
3.	2.282	186.5	0.932
3.5	2.287	187.	0.931
4.	2.278	187.5	0.921
4.5	2.259	188.	0.925
5.	2.252	188.5	0.918
5.5	2.254	189.	0.92
6.	2.238	189.5	0.914
6.5	2.232	190.	0.919
7.	2.235	190.5	0.911
7.5	2.218	191.	0.915
8.	2.217	191.5	0.906

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
8.5	2.207	192.	0.906
9.	2.202	192.5	0.907
9.5	2.194	193.	0.899
10.	2.192	193.5	0.9
10.5	2.186	194.	0.9
11.	2.175	194.5	0.897
11.5	2.175	195.	0.891
12.	2.169	195.5	0.891
12.5	2.16	196.	0.892
13.	2.157	196.5	0.886
13.5	2.15	197.	0.886
14.	2.147	197.5	0.881
14.5	2.143	198.	0.878
15.	2.131	198.5	0.876
15.5	2.128	199.	0.872
16.	2.124	199.5	0.874
16.5	2.121	200.	0.867
17.	2.114	200.5	0.863
17.5	2.108	201.	0.864
18.	2.103	201.5	0.859
18.5	2.096	202.	0.86
19.	2.09	202.5	0.857
19.5	2.088	203.	0.86
20.	2.082	203.5	0.856
20.5	2.076	204.	0.847
21.	2.068	204.5	0.844
21.5	2.068	205.	0.847
22.	2.059	205.5	0.846
22.5	2.06	206.	0.841
23.	2.055	206.5	0.841
23.5	2.047	207.	0.839
24.	2.04	207.5	0.837
24.5	2.037	208.	0.833
25.	2.033	208.5	0.828
25.5	2.028	209.	0.828
26.	2.024	209.5	0.824
26.5	2.016	210.	0.825
27.	2.015	210.5	0.82
27.5	2.008	211.	0.821
28.	2.005	211.5	0.812
28.5	2.	212.	0.817
29.	1.994	212.5	0.814
29.5	1.992	213.	0.815
30.	1.986	213.5	0.806
30.5	1.978	214.	0.805
31.	1.976	214.5	0.802
31.5	1.972	215.	0.803
32.	1.972	215.5	0.796
32.5	1.965	216.	0.798
33.	1.956	216.5	0.79
33.5	1.954	217.	0.791
34.	1.944	217.5	0.787
34.5	1.942	218.	0.784
35.	1.938	218.5	0.785

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
35.5	1.933	219.	0.781
36.	1.931	219.5	0.784
36.5	1.928	220.	0.782
37.	1.924	220.5	0.774
37.5	1.914	221.	0.771
38.	1.913	221.5	0.773
38.5	1.908	222.	0.772
39.	1.904	222.5	0.77
39.5	1.9	223.	0.766
40.	1.897	223.5	0.761
40.5	1.886	224.	0.76
41.	1.888	224.5	0.762
41.5	1.883	225.	0.757
42.	1.877	225.5	0.751
42.5	1.876	226.	0.753
43.	1.874	226.5	0.749
43.5	1.864	227.	0.748
44.	1.859	227.5	0.746
44.5	1.862	228.	0.747
45.	1.847	228.5	0.737
45.5	1.848	229.	0.741
46.	1.842	229.5	0.732
46.5	1.84	230.	0.733
47.	1.833	230.5	0.731
47.5	1.829	231.	0.73
48.	1.825	231.5	0.728
48.5	1.816	232.	0.728
49.	1.818	232.5	0.727
49.5	1.814	233.	0.723
50.	1.812	233.5	0.712
50.5	1.804	234.	0.727
51.	1.806	234.5	0.718
51.5	1.797	235.	0.712
52.	1.79	235.5	0.71
52.5	1.792	236.	0.704
53.	1.783	236.5	0.71
53.5	1.785	237.	0.707
54.	1.774	237.5	0.705
54.5	1.768	238.	0.703
55.	1.768	238.5	0.701
55.5	1.765	239.	0.698
56.	1.761	239.5	0.698
56.5	1.756	240.	0.69
57.	1.752	240.5	0.695
57.5	1.751	241.	0.695
58.	1.738	241.5	0.685
58.5	1.738	242.	0.686
59.	1.733	242.5	0.686
59.5	1.732	243.	0.683
60.	1.727	243.5	0.677
60.5	1.724	244.	0.677
61.	1.72	244.5	0.679
61.5	1.714	245.	0.671
62.	1.713	245.5	0.674

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
62.5	1.707	246.	0.67
63.	1.709	246.5	0.668
63.5	1.702	247.	0.664
64.	1.693	247.5	0.663
64.5	1.691	248.	0.66
65.	1.688	248.5	0.655
65.5	1.681	249.	0.66
66.	1.686	249.5	0.658
66.5	1.676	250.	0.654
67.	1.672	250.5	0.655
67.5	1.666	251.	0.65
68.	1.664	251.5	0.65
68.5	1.669	252.	0.644
69.	1.657	252.5	0.644
69.5	1.658	253.	0.645
70.	1.646	253.5	0.639
70.5	1.646	254.	0.638
71.	1.642	254.5	0.634
71.5	1.641	255.	0.631
72.	1.633	255.5	0.63
72.5	1.633	256.	0.63
73.	1.622	256.5	0.635
73.5	1.62	257.	0.629
74.	1.619	257.5	0.623
74.5	1.618	258.	0.623
75.	1.61	258.5	0.622
75.5	1.611	259.	0.619
76.	1.607	259.5	0.621
76.5	1.605	260.	0.616
77.	1.6	260.5	0.612
77.5	1.594	261.	0.616
78.	1.585	261.5	0.613
78.5	1.588	262.	0.611
79.	1.577	262.5	0.607
79.5	1.586	263.	0.609
80.	1.577	263.5	0.604
80.5	1.566	264.	0.602
81.	1.566	264.5	0.599
81.5	1.562	265.	0.595
82.	1.556	265.5	0.597
82.5	1.555	266.	0.599
83.	1.551	266.5	0.588
83.5	1.548	267.	0.592
84.	1.548	267.5	0.586
84.5	1.544	268.	0.586
85.	1.532	268.5	0.583
85.5	1.535	269.	0.579
86.	1.536	269.5	0.581
86.5	1.528	270.	0.576
87.	1.527	270.5	0.578
87.5	1.522	271.	0.576
88.	1.515	271.5	0.572
88.5	1.514	272.	0.569
89.	1.507	272.5	0.564

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
89.5	1.504	273.	0.566
90.	1.503	273.5	0.565
90.5	1.5	274.	0.563
91.	1.494	274.5	0.568
91.5	1.497	275.	0.553
92.	1.488	275.5	0.558
92.5	1.487	276.	0.561
93.	1.48	276.5	0.557
93.5	1.478	277.	0.55
94.	1.48	277.5	0.551
94.5	1.469	278.	0.549
95.	1.466	278.5	0.546
95.5	1.463	279.	0.545
96.	1.458	279.5	0.547
96.5	1.46	280.	0.541
97.	1.451	280.5	0.542
97.5	1.448	281.	0.534
98.	1.447	281.5	0.533
98.5	1.438	282.	0.542
99.	1.442	282.5	0.532
99.5	1.442	283.	0.533
100.	1.436	283.5	0.535
100.5	1.422	284.	0.529
101.	1.43	284.5	0.528
101.5	1.421	285.	0.523
102.	1.418	285.5	0.523
102.5	1.416	286.	0.521
103.	1.416	286.5	0.522
103.5	1.408	287.	0.515
104.	1.409	287.5	0.517
104.5	1.409	288.	0.52
105.	1.396	288.5	0.51
105.5	1.399	289.	0.511
106.	1.391	289.5	0.512
106.5	1.389	290.	0.513
107.	1.388	290.5	0.508
107.5	1.381	291.	0.509
108.	1.379	291.5	0.506
108.5	1.378	292.	0.503
109.	1.373	292.5	0.5
109.5	1.367	293.	0.498
110.	1.363	293.5	0.495
110.5	1.358	294.	0.493
111.	1.362	294.5	0.498
111.5	1.359	295.	0.491
112.	1.352	295.5	0.493
112.5	1.348	296.	0.488
113.	1.341	296.5	0.485
113.5	1.349	297.	0.484
114.	1.343	297.5	0.486
114.5	1.334	298.	0.477
115.	1.334	298.5	0.482
115.5	1.33	299.	0.476
116.	1.329	299.5	0.481

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
116.5	1.326	300.	0.475
117.	1.321	300.5	0.47
117.5	1.316	301.	0.473
118.	1.316	301.5	0.472
118.5	1.314	302.	0.466
119.	1.308	302.5	0.464
119.5	1.307	303.	0.464
120.	1.303	303.5	0.468
120.5	1.301	304.	0.459
121.	1.297	304.5	0.462
121.5	1.295	305.	0.462
122.	1.289	305.5	0.46
122.5	1.291	306.	0.449
123.	1.285	306.5	0.458
123.5	1.28	307.	0.454
124.	1.279	307.5	0.448
124.5	1.272	308.	0.45
125.	1.269	308.5	0.451
125.5	1.264	309.	0.449
126.	1.266	309.5	0.448
126.5	1.26	310.	0.444
127.	1.261	310.5	0.441
127.5	1.256	311.	0.442
128.	1.253	311.5	0.444
128.5	1.251	312.	0.434
129.	1.25	312.5	0.434
129.5	1.246	313.	0.428
130.	1.244	313.5	0.43
130.5	1.239	314.	0.432
131.	1.236	314.5	0.428
131.5	1.231	315.	0.426
132.	1.23	315.5	0.428
132.5	1.226	316.	0.425
133.	1.224	316.5	0.423
133.5	1.216	317.	0.418
134.	1.219	317.5	0.423
134.5	1.213	318.	0.418
135.	1.211	318.5	0.416
135.5	1.208	319.	0.416
136.	1.202	319.5	0.415
136.5	1.204	320.	0.414
137.	1.197	320.5	0.411
137.5	1.197	321.	0.415
138.	1.193	321.5	0.405
138.5	1.187	322.	0.407
139.	1.185	322.5	0.402
139.5	1.186	323.	0.404
140.	1.18	323.5	0.398
140.5	1.177	324.	0.402
141.	1.178	324.5	0.403
141.5	1.17	325.	0.395
142.	1.166	325.5	0.396
142.5	1.159	326.	0.396
143.	1.167	326.5	0.387



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
143.5	1.165	327.	0.388
144.	1.157	327.5	0.383
144.5	1.155	328.	0.386
145.	1.152	328.5	0.39
145.5	1.148	329.	0.386
146.	1.148	329.5	0.383
146.5	1.137	330.	0.383
147.	1.141	330.5	0.38
147.5	1.141	331.	0.38
148.	1.137	331.5	0.377
148.5	1.139	332.	0.375
149.	1.131	332.5	0.374
149.5	1.127	333.	0.373
150.	1.119	333.5	0.378
150.5	1.118	334.	0.372
151.	1.117	334.5	0.369
151.5	1.111	335.	0.365
152.	1.116	335.5	0.369
152.5	1.11	336.	0.361
153.	1.11	336.5	0.365
153.5	1.101	337.	0.363
154.	1.103	337.5	0.36
154.5	1.098	338.	0.353
155.	1.094	338.5	0.359
155.5	1.097	339.	0.354
156.	1.091	339.5	0.352
156.5	1.084	340.	0.35
157.	1.087	340.5	0.344
157.5	1.082	341.	0.351
158.	1.08	341.5	0.349
158.5	1.08	342.	0.35
159.	1.075	342.5	0.348
159.5	1.072	343.	0.344
160.	1.07	343.5	0.343
160.5	1.071	344.	0.345
161.	1.065	344.5	0.338
161.5	1.06	345.	0.339
162.	1.056	345.5	0.335
162.5	1.055	346.	0.334
163.	1.051	346.5	0.329
163.5	1.053	347.	0.328
164.	1.051	347.5	0.332
164.5	1.047	348.	0.33
165.	1.043	348.5	0.331
165.5	1.042	349.	0.328
166.	1.038	349.5	0.327
166.5	1.038	350.	0.323
167.	1.034	350.5	0.323
167.5	1.028	351.	0.321
168.	1.025	351.5	0.319
168.5	1.022	352.	0.317
169.	1.018	352.5	0.318
169.5	1.018	353.	0.316
170.	1.018	353.5	0.317

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
170.5	1.014	354.	0.313
171.	1.012	354.5	0.315
171.5	1.008	355.	0.311
172.	1.005	355.5	0.308
172.5	1.005	356.	0.309
173.	1.003	356.5	0.31
173.5	0.998	357.	0.306
174.	0.996	357.5	0.302
174.5	0.987	358.	0.305
175.	0.988	358.5	0.304
175.5	0.982	359.	0.3
176.	0.986	359.5	0.303
176.5	0.984	360.	0.298
177.	0.979	360.5	0.294
177.5	0.985	361.	0.299
178.	0.977	361.5	0.292
178.5	0.977	362.	0.293
179.	0.97	362.5	0.29
179.5	0.968	363.	0.289
180.	0.964	363.5	0.289
180.5	0.966	364.	0.286
181.	0.962	364.5	0.282
181.5	0.961	365.	0.285
182.	0.954	365.5	0.281
182.5	0.95	366.	0.284
183.	0.949	366.5	0.284
183.5	0.95	367.	0.279
184.	0.947	367.5	0.275

SOLUTION

Slug Test

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

ln(Re/rw): 2.464

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	2.05	ft/day
y0	2.27	ft

K = 0.0007232 cm/sec

T = K\*b = 53.67 ft<sup>2</sup>/day (0.5771 sq. cm/sec)

Report Date: #####  
Report User Name: William.Quarles  
Report Computer Name: ATCLLP4V514M2  
Application: WinSitu.exe  
Application Version: 5.7.6.1

Log File Properties

File Name 12175- TW1\_2019-05-29\_15-13-28-701.wsl  
Create Date #####

Device Properties

Device Level TROLL 700  
Site EFC3- 12175  
Device Name  
Serial Number 454689  
Firmware Version 3.03  
Hardware Version 5  
Device Address 1  
Device Comm Cfg 19200 8 Even 1 (Modbus-RTU)  
Used Memory 1  
Used Battery 16

Log Configuration

Log Name 12175- TW1  
Created By Enviro-Equ Inc.  
Computer Pocket PC  
Application WinSituMobile.exe  
Application 5.6.3.0  
Create Date 5/20/2019 12:19:14 PM Eastern Daylight Time  
Log Setup Eastern Daylight Time  
Notes Size( 4096  
Overwrite Disabled  
Scheduled Manual Start  
Scheduled No Stop Time  
Type Fast Linear  
Interval Days: 0 hrs: 00 mins: 00 secs: 00.500

Level Reference Settings At Log Creation

Level Level Depth To Water  
Spe 0.999  
Level Set new reference  
Level 16.82 (ft)  
Level Refe 7.58947 (PSI)

Other Log Settings

Pressure 0.0178418 (PSI)  
Depth of P 17.5269 (ft)  
Head Press 7.59081 (PSI)  
Temperature 20.9376 (C)

Log Notes:

Date and Time Note  
5/20/2019 12:19 Sensor SN: 454689 Factory calibration has expired.: 4/15/2017 10:08:06 PM  
5/20/2019 12:19 Used Battery Inc.  
5/20/2019 12:19 Manual Start Command  
5/20/2019 12:49 Used Battery Inc.  
5/20/2019 12:49 Manual Stop Command

Log Data:

Record Count 3634

Sensors 1

1 454689 Pressure/Temp 30 PSIG (21m/69ft)

Time Zone: Eastern Daylight Time

		Sensor: Pr Sensor: Pr Sensor: Pres(G) 69ft						16.82	
		Elasped Tir SN#: 45468 SN#: 45468 SN#: 454689							
Date and Time	Seconds	Temperatu	Pressure (F	Level Depth	To Water Seconds	Depth	Change in water level	% Recovery	
5/20/2019 12:19	0	20.931	7.606	16.783	0	16.783	-0.037		
5/20/2019 12:19	0.5	20.951	7.602	16.791	0.5	16.791	-0.029		
5/20/2019 12:19	1	20.938	7.603	16.79	1	16.79	-0.03		
5/20/2019 12:19	1.5	20.952	7.604	16.786	1.5	16.786	-0.034		
5/20/2019 12:19	2	20.941	7.604	16.786	2	16.786	-0.034		
5/20/2019 12:19	2.5	20.942	7.607	16.779	2.5	16.779	-0.041		
5/20/2019 12:19	3	20.948	7.606	16.782	3	16.782	-0.038		
5/20/2019 12:19	3.5	20.958	7.612	16.767	3.5	16.767	-0.053		
5/20/2019 12:19	4	20.93	7.604	16.787	4	16.787	-0.033		
5/20/2019 12:19	4.5	20.926	7.605	16.785	4.5	16.785	-0.035		
5/20/2019 12:19	5	20.944	7.615	16.76	5	16.76	-0.06		
5/20/2019 12:19	5.5	20.948	7.621	16.748	5.5	16.748	-0.072		
5/20/2019 12:19	6	20.936	7.603	16.789	6	16.789	-0.031		
5/20/2019 12:19	6.5	20.949	7.524	16.971	6.5	16.971	0.151		
5/20/2019 12:19	7	20.949	7.63	16.726	7	16.726	-0.094		
5/20/2019 12:19	7.5	20.935	7.589	16.821	7.5	16.821	0.001		
5/20/2019 12:19	8	20.944	7.159	17.814	8	17.814	0.994		
5/20/2019 12:19	8.5	20.954	7.064	18.034	8.5	18.034	1.214		
5/20/2019 12:19	9	20.948	6.391	19.587	9	19.587	2.767	Max Chang	0.00%
5/20/2019 12:19	9.5	20.924	6.534	19.257	9.5	19.257	2.437		11.90%
5/20/2019 12:19	10	20.93	6.638	19.018	10	19.018	2.198		20.60%
5/20/2019 12:19	10.5	20.951	6.581	19.148	10.5	19.148	2.328		15.90%
5/20/2019 12:19	11	20.947	6.571	19.171	11	19.171	2.351		15.00%
5/20/2019 12:19	11.5	20.964	6.596	19.114	11.5	19.114	2.294		17.10%
5/20/2019 12:19	12	20.93	6.601	19.102	12	19.102	2.282		17.50%
5/20/2019 12:19	12.5	20.922	6.599	19.107	12.5	19.107	2.287		17.30%
5/20/2019 12:19	13	20.927	6.603	19.098	13	19.098	2.278		17.70%
5/20/2019 12:19	13.5	20.948	6.611	19.079	13.5	19.079	2.259		18.40%
5/20/2019 12:19	14	20.948	6.614	19.072	14	19.072	2.252		18.60%
5/20/2019 12:19	14.5	20.972	6.613	19.074	14.5	19.074	2.254		18.50%
5/20/2019 12:19	15	20.94	6.62	19.058	15	19.058	2.238		19.10%
5/20/2019 12:19	15.5	20.949	6.623	19.052	15.5	19.052	2.232		19.30%
5/20/2019 12:19	16	20.963	6.622	19.055	16	19.055	2.235		19.20%
5/20/2019 12:19	16.5	20.945	6.629	19.038	16.5	19.038	2.218		19.80%
5/20/2019 12:19	17	20.933	6.629	19.037	17	19.037	2.217		19.90%
5/20/2019 12:19	17.5	20.94	6.634	19.027	17.5	19.027	2.207		20.20%
5/20/2019 12:19	18	20.95	6.636	19.022	18	19.022	2.202		20.40%
5/20/2019 12:19	18.5	20.961	6.639	19.014	18.5	19.014	2.194		20.70%
5/20/2019 12:19	19	20.948	6.64	19.012	19	19.012	2.192		20.80%
5/20/2019 12:19	19.5	20.951	6.643	19.006	19.5	19.006	2.186		21.00%
5/20/2019 12:19	20	20.946	6.648	18.995	20	18.995	2.175		21.40%
5/20/2019 12:19	20.5	20.936	6.648	18.995	20.5	18.995	2.175		21.40%
5/20/2019 12:19	21	20.935	6.65	18.989	21	18.989	2.169		21.60%
5/20/2019 12:19	21.5	20.946	6.654	18.98	21.5	18.98	2.16		21.90%
5/20/2019 12:19	22	20.943	6.655	18.977	22	18.977	2.157		22.00%
5/20/2019 12:19	22.5	20.957	6.658	18.97	22.5	18.97	2.15		22.30%
5/20/2019 12:19	23	20.958	6.659	18.967	23	18.967	2.147		22.40%
5/20/2019 12:19	23.5	20.947	6.661	18.963	23.5	18.963	2.143		22.60%
5/20/2019 12:19	24	20.927	6.667	18.951	24	18.951	2.131		23.00%
5/20/2019 12:19	24.5	20.964	6.668	18.948	24.5	18.948	2.128		23.10%
5/20/2019 12:19	25	20.953	6.67	18.944	25	18.944	2.124		23.20%
5/20/2019 12:19	25.5	20.948	6.671	18.941	25.5	18.941	2.121		23.30%
5/20/2019 12:19	26	20.952	6.674	18.934	26	18.934	2.114		23.60%
5/20/2019 12:19	26.5	20.928	6.677	18.928	26.5	18.928	2.108		23.80%
5/20/2019 12:19	27	20.933	6.679	18.923	27	18.923	2.103		24.00%
5/20/2019 12:19	27.5	20.95	6.682	18.916	27.5	18.916	2.096		24.30%
5/20/2019 12:19	28	20.938	6.684	18.91	28	18.91	2.09		24.50%
5/20/2019 12:19	28.5	20.942	6.685	18.908	28.5	18.908	2.088		24.50%
5/20/2019 12:19	29	20.942	6.688	18.902	29	18.902	2.082		24.80%

Seconds Ft

Max Chang

5/20/2019 12:19	29.5	20.948	6.69	18.896	29.5	18.896	2.076	25.00%	20.5	2.076
5/20/2019 12:19	30	20.936	6.694	18.888	30	18.888	2.068	25.30%	21	2.068
5/20/2019 12:19	30.5	20.937	6.694	18.888	30.5	18.888	2.068	25.30%	21.5	2.068
5/20/2019 12:19	31	20.938	6.698	18.879	31	18.879	2.059	25.60%	22	2.059
5/20/2019 12:19	31.5	20.941	6.697	18.88	31.5	18.88	2.06	25.60%	22.5	2.06
5/20/2019 12:19	32	20.958	6.7	18.875	32	18.875	2.055	25.70%	23	2.055
5/20/2019 12:19	32.5	20.964	6.703	18.867	32.5	18.867	2.047	26.00%	23.5	2.047
5/20/2019 12:19	33	20.968	6.706	18.86	33	18.86	2.04	26.30%	24	2.04
5/20/2019 12:19	33.5	20.948	6.707	18.857	33.5	18.857	2.037	26.40%	24.5	2.037
5/20/2019 12:19	34	20.952	6.709	18.853	34	18.853	2.033	26.50%	25	2.033
5/20/2019 12:19	34.5	20.94	6.711	18.848	34.5	18.848	2.028	26.70%	25.5	2.028
5/20/2019 12:19	35	20.971	6.713	18.844	35	18.844	2.024	26.90%	26	2.024
5/20/2019 12:19	35.5	20.952	6.716	18.836	35.5	18.836	2.016	27.10%	26.5	2.016
5/20/2019 12:19	36	20.965	6.717	18.835	36	18.835	2.015	27.20%	27	2.015
5/20/2019 12:19	36.5	20.943	6.72	18.828	36.5	18.828	2.008	27.40%	27.5	2.008
5/20/2019 12:19	37	20.98	6.721	18.825	37	18.825	2.005	27.50%	28	2.005
5/20/2019 12:19	37.5	20.938	6.723	18.82	37.5	18.82	2	27.70%	28.5	2
5/20/2019 12:20	38	20.948	6.726	18.814	38	18.814	1.994	27.90%	29	1.994
5/20/2019 12:20	38.5	20.935	6.727	18.812	38.5	18.812	1.992	28.00%	29.5	1.992
5/20/2019 12:20	39	20.951	6.729	18.806	39	18.806	1.986	28.20%	30	1.986
5/20/2019 12:20	39.5	20.972	6.733	18.798	39.5	18.798	1.978	28.50%	30.5	1.978
5/20/2019 12:20	40	20.969	6.734	18.796	40	18.796	1.976	28.60%	31	1.976
5/20/2019 12:20	40.5	20.937	6.735	18.792	40.5	18.792	1.972	28.70%	31.5	1.972
5/20/2019 12:20	41.002	20.954	6.735	18.792	41.002	18.792	1.972	28.70%	32.002	1.972
5/20/2019 12:20	41.5	20.935	6.739	18.785	41.5	18.785	1.965	29.00%	32.5	1.965
5/20/2019 12:20	42	20.962	6.742	18.776	42	18.776	1.956	29.30%	33	1.956
5/20/2019 12:20	42.5	20.95	6.743	18.774	42.5	18.774	1.954	29.40%	33.5	1.954
5/20/2019 12:20	43	20.936	6.748	18.764	43	18.764	1.944	29.70%	34	1.944
5/20/2019 12:20	43.5	20.925	6.748	18.762	43.5	18.762	1.942	29.80%	34.5	1.942
5/20/2019 12:20	44	20.945	6.75	18.758	44	18.758	1.938	30.00%	35	1.938
5/20/2019 12:20	44.5	20.944	6.752	18.753	44.5	18.753	1.933	30.10%	35.5	1.933
5/20/2019 12:20	45	20.946	6.753	18.751	45	18.751	1.931	30.20%	36	1.931
5/20/2019 12:20	45.5	20.946	6.754	18.748	45.5	18.748	1.928	30.30%	36.5	1.928
5/20/2019 12:20	46	20.953	6.756	18.744	46	18.744	1.924	30.50%	37	1.924
5/20/2019 12:20	46.5	20.949	6.761	18.734	46.5	18.734	1.914	30.80%	37.5	1.914
5/20/2019 12:20	47	20.947	6.761	18.733	47	18.733	1.913	30.90%	38	1.913
5/20/2019 12:20	47.5	20.951	6.763	18.728	47.5	18.728	1.908	31.00%	38.5	1.908
5/20/2019 12:20	48	20.954	6.765	18.724	48	18.724	1.904	31.20%	39	1.904
5/20/2019 12:20	48.5	20.946	6.767	18.72	48.5	18.72	1.9	31.30%	39.5	1.9
5/20/2019 12:20	49	20.94	6.768	18.717	49	18.717	1.897	31.40%	40	1.897
5/20/2019 12:20	49.5	20.942	6.773	18.706	49.5	18.706	1.886	31.80%	40.5	1.886
5/20/2019 12:20	50	20.95	6.772	18.708	50	18.708	1.888	31.80%	41	1.888
5/20/2019 12:20	50.5	20.956	6.774	18.703	50.5	18.703	1.883	31.90%	41.5	1.883
5/20/2019 12:20	51	20.942	6.777	18.697	51	18.697	1.877	32.20%	42	1.877
5/20/2019 12:20	51.5	20.99	6.777	18.696	51.5	18.696	1.876	32.20%	42.5	1.876
5/20/2019 12:20	52	20.937	6.778	18.694	52	18.694	1.874	32.30%	43	1.874
5/20/2019 12:20	52.5	20.94	6.782	18.684	52.5	18.684	1.864	32.60%	43.5	1.864
5/20/2019 12:20	53	20.953	6.785	18.679	53	18.679	1.859	32.80%	44	1.859
5/20/2019 12:20	53.501	20.946	6.783	18.682	53.501	18.682	1.862	32.70%	44.501	1.862
5/20/2019 12:20	54.001	20.938	6.79	18.667	54.001	18.667	1.847	33.20%	45.001	1.847
5/20/2019 12:20	54.501	20.935	6.789	18.668	54.501	18.668	1.848	33.20%	45.501	1.848
5/20/2019 12:20	55.001	20.948	6.792	18.662	55.001	18.662	1.842	33.40%	46.001	1.842
5/20/2019 12:20	55.501	20.961	6.793	18.66	55.501	18.66	1.84	33.50%	46.501	1.84
5/20/2019 12:20	56.001	20.941	6.796	18.653	56.001	18.653	1.833	33.80%	47.001	1.833
5/20/2019 12:20	56.501	20.946	6.797	18.649	56.501	18.649	1.829	33.90%	47.501	1.829
5/20/2019 12:20	57.001	20.932	6.799	18.645	57.001	18.645	1.825	34.00%	48.001	1.825
5/20/2019 12:20	57.501	20.95	6.803	18.636	57.501	18.636	1.816	34.40%	48.501	1.816
5/20/2019 12:20	58.001	20.953	6.802	18.638	58.001	18.638	1.818	34.30%	49.001	1.818
5/20/2019 12:20	58.501	20.966	6.804	18.634	58.501	18.634	1.814	34.40%	49.501	1.814
5/20/2019 12:20	59	20.944	6.805	18.632	59	18.632	1.812	34.50%	50	1.812
5/20/2019 12:20	59.5	20.928	6.808	18.624	59.5	18.624	1.804	34.80%	50.5	1.804
5/20/2019 12:20	60	20.953	6.807	18.626	60	18.626	1.806	34.70%	51	1.806
5/20/2019 12:20	60.5	20.964	6.811	18.617	60.5	18.617	1.797	35.10%	51.5	1.797
5/20/2019 12:20	61	20.949	6.814	18.61	61	18.61	1.79	35.30%	52	1.79
5/20/2019 12:20	61.5	20.953	6.814	18.612	61.5	18.612	1.792	35.20%	52.5	1.792
5/20/2019 12:20	62	20.953	6.817	18.603	62	18.603	1.783	35.60%	53	1.783
5/20/2019 12:20	62.5	20.954	6.817	18.605	62.5	18.605	1.785	35.50%	53.5	1.785
5/20/2019 12:20	63	20.955	6.821	18.594	63	18.594	1.774	35.90%	54	1.774

5/20/2019 12:20	63.5	20.949	6.824	18.588	63.5	18.588	1.768	36.10%	54.5	1.768
5/20/2019 12:20	64	20.958	6.824	18.588	64	18.588	1.768	36.10%	55	1.768
5/20/2019 12:20	64.5	20.95	6.825	18.585	64.5	18.585	1.765	36.20%	55.5	1.765
5/20/2019 12:20	65	20.954	6.827	18.581	65	18.581	1.761	36.40%	56	1.761
5/20/2019 12:20	65.5	20.966	6.829	18.576	65.5	18.576	1.756	36.50%	56.5	1.756
5/20/2019 12:20	66.001	20.943	6.831	18.572	66.001	18.572	1.752	36.70%	57.001	1.752
5/20/2019 12:20	66.501	20.949	6.831	18.571	66.501	18.571	1.751	36.70%	57.501	1.751
5/20/2019 12:20	67.001	20.946	6.837	18.558	67.001	18.558	1.738	37.20%	58.001	1.738
5/20/2019 12:20	67.501	20.945	6.837	18.558	67.501	18.558	1.738	37.20%	58.501	1.738
5/20/2019 12:20	68.001	20.927	6.839	18.553	68.001	18.553	1.733	37.40%	59.001	1.733
5/20/2019 12:20	68.501	20.948	6.839	18.552	68.501	18.552	1.732	37.40%	59.501	1.732
5/20/2019 12:20	69.001	20.973	6.842	18.547	69.001	18.547	1.727	37.60%	60.001	1.727
5/20/2019 12:20	69.501	20.948	6.843	18.544	69.501	18.544	1.724	37.70%	60.501	1.724
5/20/2019 12:20	70.001	20.937	6.845	18.54	70.001	18.54	1.72	37.80%	61.001	1.72
5/20/2019 12:20	70.501	20.943	6.847	18.534	70.501	18.534	1.714	38.10%	61.501	1.714
5/20/2019 12:20	71.001	20.938	6.848	18.533	71.001	18.533	1.713	38.10%	62.001	1.713
5/20/2019 12:20	71.5	20.942	6.85	18.527	71.5	18.527	1.707	38.30%	62.5	1.707
5/20/2019 12:20	72	20.921	6.849	18.529	72	18.529	1.709	38.20%	63	1.709
5/20/2019 12:20	72.5	20.932	6.852	18.522	72.5	18.522	1.702	38.50%	63.5	1.702
5/20/2019 12:20	73	20.946	6.856	18.513	73	18.513	1.693	38.80%	64	1.693
5/20/2019 12:20	73.5	20.94	6.857	18.511	73.5	18.511	1.691	38.90%	64.5	1.691
5/20/2019 12:20	74	20.942	6.858	18.508	74	18.508	1.688	39.00%	65	1.688
5/20/2019 12:20	74.5	20.932	6.862	18.501	74.5	18.501	1.681	39.20%	65.5	1.681
5/20/2019 12:20	75	20.941	6.859	18.506	75	18.506	1.686	39.10%	66	1.686
5/20/2019 12:20	75.5	20.928	6.864	18.496	75.5	18.496	1.676	39.40%	66.5	1.676
5/20/2019 12:20	76	20.944	6.865	18.492	76	18.492	1.672	39.60%	67	1.672
5/20/2019 12:20	76.5	20.943	6.868	18.486	76.5	18.486	1.666	39.80%	67.5	1.666
5/20/2019 12:20	77	20.951	6.869	18.484	77	18.484	1.664	39.90%	68	1.664
5/20/2019 12:20	77.5	20.956	6.867	18.489	77.5	18.489	1.669	39.70%	68.5	1.669
5/20/2019 12:20	78	20.943	6.872	18.477	78	18.477	1.657	40.10%	69	1.657
5/20/2019 12:20	78.5	20.961	6.872	18.478	78.5	18.478	1.658	40.10%	69.5	1.658
5/20/2019 12:20	79.005	20.972	6.876	18.466	79.005	18.466	1.646	40.50%	70.005	1.646
5/20/2019 12:20	79.5	20.939	6.876	18.466	79.5	18.466	1.646	40.50%	70.5	1.646
5/20/2019 12:20	80	20.947	6.878	18.462	80	18.462	1.642	40.70%	71	1.642
5/20/2019 12:20	80.5	20.936	6.879	18.461	80.5	18.461	1.641	40.70%	71.5	1.641
5/20/2019 12:20	81	20.934	6.882	18.453	81	18.453	1.633	41.00%	72	1.633
5/20/2019 12:20	81.5	20.933	6.882	18.453	81.5	18.453	1.633	41.00%	72.5	1.633
5/20/2019 12:20	82	20.915	6.887	18.442	82	18.442	1.622	41.40%	73	1.622
5/20/2019 12:20	82.5	20.95	6.888	18.44	82.5	18.44	1.62	41.50%	73.5	1.62
5/20/2019 12:20	83	20.951	6.888	18.439	83	18.439	1.619	41.50%	74	1.619
5/20/2019 12:20	83.5	20.952	6.889	18.438	83.5	18.438	1.618	41.50%	74.5	1.618
5/20/2019 12:20	84	20.953	6.892	18.43	84	18.43	1.61	41.80%	75	1.61
5/20/2019 12:20	84.5	20.952	6.892	18.431	84.5	18.431	1.611	41.80%	75.5	1.611
5/20/2019 12:20	85	20.93	6.894	18.427	85	18.427	1.607	41.90%	76	1.607
5/20/2019 12:20	85.5	20.956	6.894	18.425	85.5	18.425	1.605	42.00%	76.5	1.605
5/20/2019 12:20	86	20.942	6.897	18.42	86	18.42	1.6	42.20%	77	1.6
5/20/2019 12:20	86.5	20.95	6.899	18.414	86.5	18.414	1.594	42.40%	77.5	1.594
5/20/2019 12:20	87	20.947	6.903	18.405	87	18.405	1.585	42.70%	78	1.585
5/20/2019 12:20	87.5	20.949	6.902	18.408	87.5	18.408	1.588	42.60%	78.5	1.588
5/20/2019 12:20	88	20.948	6.907	18.397	88	18.397	1.577	43.00%	79	1.577
5/20/2019 12:20	88.5	20.929	6.903	18.406	88.5	18.406	1.586	42.70%	79.5	1.586
5/20/2019 12:20	89	20.977	6.906	18.397	89	18.397	1.577	43.00%	80	1.577
5/20/2019 12:20	89.5	20.948	6.911	18.386	89.5	18.386	1.566	43.40%	80.5	1.566
5/20/2019 12:20	90	20.933	6.911	18.386	90	18.386	1.566	43.40%	81	1.566
5/20/2019 12:20	90.5	20.956	6.913	18.382	90.5	18.382	1.562	43.50%	81.5	1.562
5/20/2019 12:20	91	20.939	6.916	18.376	91	18.376	1.556	43.80%	82	1.556
5/20/2019 12:20	91.501	20.954	6.916	18.375	91.501	18.375	1.555	43.80%	82.501	1.555
5/20/2019 12:20	92.001	20.936	6.918	18.371	92.001	18.371	1.551	43.90%	83.001	1.551
5/20/2019 12:20	92.501	20.953	6.919	18.368	92.501	18.368	1.548	44.10%	83.501	1.548
5/20/2019 12:20	93.001	20.948	6.919	18.368	93.001	18.368	1.548	44.10%	84.001	1.548
5/20/2019 12:20	93.501	20.94	6.921	18.364	93.501	18.364	1.544	44.20%	84.501	1.544
5/20/2019 12:20	94.001	20.949	6.926	18.352	94.001	18.352	1.532	44.60%	85.001	1.532
5/20/2019 12:20	94.501	20.935	6.925	18.355	94.501	18.355	1.535	44.50%	85.501	1.535
5/20/2019 12:20	95.001	20.974	6.924	18.356	95.001	18.356	1.536	44.50%	86.001	1.536
5/20/2019 12:20	95.501	20.939	6.928	18.348	95.501	18.348	1.528	44.80%	86.501	1.528
5/20/2019 12:20	96.001	20.947	6.928	18.347	96.001	18.347	1.527	44.80%	87.001	1.527
5/20/2019 12:20	96.501	20.94	6.931	18.342	96.501	18.342	1.522	45.00%	87.501	1.522
5/20/2019 12:20	97	20.952	6.933	18.335	97	18.335	1.515	45.20%	88	1.515

5/20/2019 12:20	97.5	20.941	6.934	18.334	97.5	18.334	1.514	45.30%	88.5	1.514
5/20/2019 12:21	98	20.932	6.937	18.327	98	18.327	1.507	45.50%	89	1.507
5/20/2019 12:21	98.5	20.946	6.938	18.324	98.5	18.324	1.504	45.60%	89.5	1.504
5/20/2019 12:21	99	20.924	6.939	18.323	99	18.323	1.503	45.70%	90	1.503
5/20/2019 12:21	99.5	20.949	6.94	18.32	99.5	18.32	1.5	45.80%	90.5	1.5
5/20/2019 12:21	100	20.961	6.943	18.314	100	18.314	1.494	46.00%	91	1.494
5/20/2019 12:21	100.5	20.949	6.941	18.317	100.5	18.317	1.497	45.90%	91.5	1.497
5/20/2019 12:21	101	20.948	6.945	18.308	101	18.308	1.488	46.20%	92	1.488
5/20/2019 12:21	101.5	20.953	6.945	18.307	101.5	18.307	1.487	46.30%	92.5	1.487
5/20/2019 12:21	102	20.95	6.948	18.3	102	18.3	1.48	46.50%	93	1.48
5/20/2019 12:21	102.5	20.935	6.949	18.298	102.5	18.298	1.478	46.60%	93.5	1.478
5/20/2019 12:21	103	20.964	6.949	18.3	103	18.3	1.48	46.50%	94	1.48
5/20/2019 12:21	103.5	20.951	6.953	18.289	103.5	18.289	1.469	46.90%	94.5	1.469
5/20/2019 12:21	104	20.928	6.954	18.286	104	18.286	1.466	47.00%	95	1.466
5/20/2019 12:21	104.5	20.969	6.956	18.283	104.5	18.283	1.463	47.10%	95.5	1.463
5/20/2019 12:21	105	20.935	6.958	18.278	105	18.278	1.458	47.30%	96	1.458
5/20/2019 12:21	105.5	20.971	6.957	18.28	105.5	18.28	1.46	47.20%	96.5	1.46
5/20/2019 12:21	106	20.954	6.961	18.271	106	18.271	1.451	47.60%	97	1.451
5/20/2019 12:21	106.5	20.936	6.963	18.268	106.5	18.268	1.448	47.70%	97.5	1.448
5/20/2019 12:21	107	20.938	6.963	18.267	107	18.267	1.447	47.70%	98	1.447
5/20/2019 12:21	107.5	20.935	6.967	18.258	107.5	18.258	1.438	48.00%	98.5	1.438
5/20/2019 12:21	108	20.938	6.965	18.262	108	18.262	1.442	47.90%	99	1.442
5/20/2019 12:21	108.5	20.961	6.965	18.262	108.5	18.262	1.442	47.90%	99.5	1.442
5/20/2019 12:21	109	20.943	6.968	18.256	109	18.256	1.436	48.10%	100	1.436
5/20/2019 12:21	109.5	20.959	6.974	18.242	109.5	18.242	1.422	48.60%	100.5	1.422
5/20/2019 12:21	110	20.956	6.97	18.25	110	18.25	1.43	48.30%	101	1.43
5/20/2019 12:21	110.5	20.955	6.974	18.241	110.5	18.241	1.421	48.60%	101.5	1.421
5/20/2019 12:21	111	20.953	6.975	18.238	111	18.238	1.418	48.80%	102	1.418
5/20/2019 12:21	111.5	20.925	6.976	18.236	111.5	18.236	1.416	48.80%	102.5	1.416
5/20/2019 12:21	112	20.971	6.976	18.236	112	18.236	1.416	48.80%	103	1.416
5/20/2019 12:21	112.5	20.927	6.98	18.228	112.5	18.228	1.408	49.10%	103.5	1.408
5/20/2019 12:21	113	20.957	6.979	18.229	113	18.229	1.409	49.10%	104	1.409
5/20/2019 12:21	113.5	20.951	6.979	18.229	113.5	18.229	1.409	49.10%	104.5	1.409
5/20/2019 12:21	114	20.951	6.985	18.216	114	18.216	1.396	49.50%	105	1.396
5/20/2019 12:21	114.5	20.924	6.983	18.219	114.5	18.219	1.399	49.40%	105.5	1.399
5/20/2019 12:21	115	20.96	6.987	18.211	115	18.211	1.391	49.70%	106	1.391
5/20/2019 12:21	115.5	20.933	6.988	18.209	115.5	18.209	1.389	49.80%	106.5	1.389
5/20/2019 12:21	116	20.929	6.988	18.208	116	18.208	1.388	49.80%	107	1.388
5/20/2019 12:21	116.5	20.951	6.992	18.201	116.5	18.201	1.381	50.10%	107.5	1.381
5/20/2019 12:21	117	20.907	6.992	18.199	117	18.199	1.379	50.20%	108	1.379
5/20/2019 12:21	117.5	20.925	6.993	18.198	117.5	18.198	1.378	50.20%	108.5	1.378
5/20/2019 12:21	118	20.935	6.995	18.193	118	18.193	1.373	50.40%	109	1.373
5/20/2019 12:21	118.5	20.921	6.998	18.187	118.5	18.187	1.367	50.60%	109.5	1.367
5/20/2019 12:21	119	20.964	6.999	18.183	119	18.183	1.363	50.70%	110	1.363
5/20/2019 12:21	119.5	20.921	7.001	18.178	119.5	18.178	1.358	50.90%	110.5	1.358
5/20/2019 12:21	120	20.911	7	18.182	120	18.182	1.362	50.80%	111	1.362
5/20/2019 12:21	120.5	20.928	7.001	18.179	120.5	18.179	1.359	50.90%	111.5	1.359
5/20/2019 12:21	121	20.93	7.004	18.172	121	18.172	1.352	51.10%	112	1.352
5/20/2019 12:21	121.5	20.947	7.006	18.168	121.5	18.168	1.348	51.30%	112.5	1.348
5/20/2019 12:21	122	20.944	7.009	18.161	122	18.161	1.341	51.50%	113	1.341
5/20/2019 12:21	122.5	20.925	7.005	18.169	122.5	18.169	1.349	51.20%	113.5	1.349
5/20/2019 12:21	123	20.933	7.008	18.163	123	18.163	1.343	51.50%	114	1.343
5/20/2019 12:21	123.5	20.943	7.012	18.154	123.5	18.154	1.334	51.80%	114.5	1.334
5/20/2019 12:21	124	20.911	7.012	18.154	124	18.154	1.334	51.80%	115	1.334
5/20/2019 12:21	124.5	20.941	7.013	18.15	124.5	18.15	1.33	51.90%	115.5	1.33
5/20/2019 12:21	125	20.944	7.014	18.149	125	18.149	1.329	52.00%	116	1.329
5/20/2019 12:21	125.5	20.94	7.015	18.146	125.5	18.146	1.326	52.10%	116.5	1.326
5/20/2019 12:21	126	20.935	7.017	18.141	126	18.141	1.321	52.30%	117	1.321
5/20/2019 12:21	126.5	20.93	7.019	18.136	126.5	18.136	1.316	52.40%	117.5	1.316
5/20/2019 12:21	127	20.944	7.02	18.136	127	18.136	1.316	52.40%	118	1.316
5/20/2019 12:21	127.5	20.94	7.02	18.134	127.5	18.134	1.314	52.50%	118.5	1.314
5/20/2019 12:21	128	20.938	7.023	18.128	128	18.128	1.308	52.70%	119	1.308
5/20/2019 12:21	128.5	20.951	7.023	18.127	128.5	18.127	1.307	52.80%	119.5	1.307
5/20/2019 12:21	129	20.938	7.025	18.123	129	18.123	1.303	52.90%	120	1.303
5/20/2019 12:21	129.5	20.946	7.026	18.121	129.5	18.121	1.301	53.00%	120.5	1.301
5/20/2019 12:21	130	20.942	7.028	18.117	130	18.117	1.297	53.10%	121	1.297
5/20/2019 12:21	130.5	20.955	7.029	18.115	130.5	18.115	1.295	53.20%	121.5	1.295
5/20/2019 12:21	131	20.93	7.031	18.109	131	18.109	1.289	53.40%	122	1.289



5/20/2019 12:21	131.5	20.918	7.031	18.111	131.5	18.111	1.291	53.30%	122.5	1.291
5/20/2019 12:21	132	20.931	7.033	18.105	132	18.105	1.285	53.60%	123	1.285
5/20/2019 12:21	132.5	20.945	7.035	18.1	132.5	18.1	1.28	53.70%	123.5	1.28
5/20/2019 12:21	133	20.925	7.035	18.099	133	18.099	1.279	53.80%	124	1.279
5/20/2019 12:21	133.5	20.936	7.038	18.092	133.5	18.092	1.272	54.00%	124.5	1.272
5/20/2019 12:21	134	20.932	7.04	18.089	134	18.089	1.269	54.10%	125	1.269
5/20/2019 12:21	134.5	20.943	7.042	18.084	134.5	18.084	1.264	54.30%	125.5	1.264
5/20/2019 12:21	135	20.935	7.041	18.086	135	18.086	1.266	54.20%	126	1.266
5/20/2019 12:21	135.5	20.94	7.044	18.08	135.5	18.08	1.26	54.50%	126.5	1.26
5/20/2019 12:21	136	20.933	7.044	18.081	136	18.081	1.261	54.40%	127	1.261
5/20/2019 12:21	136.5	20.944	7.046	18.076	136.5	18.076	1.256	54.60%	127.5	1.256
5/20/2019 12:21	137	20.938	7.047	18.073	137	18.073	1.253	54.70%	128	1.253
5/20/2019 12:21	137.5	20.946	7.048	18.071	137.5	18.071	1.251	54.80%	128.5	1.251
5/20/2019 12:21	138	20.944	7.048	18.07	138	18.07	1.25	54.80%	129	1.25
5/20/2019 12:21	138.5	20.932	7.05	18.066	138.5	18.066	1.246	55.00%	129.5	1.246
5/20/2019 12:21	139	20.941	7.051	18.064	139	18.064	1.244	55.00%	130	1.244
5/20/2019 12:21	139.5	20.926	7.053	18.059	139.5	18.059	1.239	55.20%	130.5	1.239
5/20/2019 12:21	140	20.938	7.054	18.056	140	18.056	1.236	55.30%	131	1.236
5/20/2019 12:21	140.5	20.94	7.056	18.051	140.5	18.051	1.231	55.50%	131.5	1.231
5/20/2019 12:21	141	20.919	7.057	18.05	141	18.05	1.23	55.50%	132	1.23
5/20/2019 12:21	141.5	20.93	7.058	18.046	141.5	18.046	1.226	55.70%	132.5	1.226
5/20/2019 12:21	142	20.961	7.059	18.044	142	18.044	1.224	55.80%	133	1.224
5/20/2019 12:21	142.502	20.925	7.063	18.036	142.502	18.036	1.216	56.10%	133.502	1.216
5/20/2019 12:21	143	20.953	7.062	18.039	143	18.039	1.219	55.90%	134	1.219
5/20/2019 12:21	143.5	20.938	7.064	18.033	143.5	18.033	1.213	56.20%	134.5	1.213
5/20/2019 12:21	144	20.94	7.065	18.031	144	18.031	1.211	56.20%	135	1.211
5/20/2019 12:21	144.5	20.953	7.066	18.028	144.5	18.028	1.208	56.30%	135.5	1.208
5/20/2019 12:21	145	20.948	7.069	18.022	145	18.022	1.202	56.60%	136	1.202
5/20/2019 12:21	145.5	20.943	7.068	18.024	145.5	18.024	1.204	56.50%	136.5	1.204
5/20/2019 12:21	146	20.935	7.071	18.017	146	18.017	1.197	56.70%	137	1.197
5/20/2019 12:21	146.5	20.964	7.071	18.017	146.5	18.017	1.197	56.70%	137.5	1.197
5/20/2019 12:21	147	20.939	7.073	18.013	147	18.013	1.193	56.90%	138	1.193
5/20/2019 12:21	147.5	20.933	7.075	18.007	147.5	18.007	1.187	57.10%	138.5	1.187
5/20/2019 12:21	148	20.943	7.076	18.005	148	18.005	1.185	57.20%	139	1.185
5/20/2019 12:21	148.5	20.959	7.076	18.006	148.5	18.006	1.186	57.10%	139.5	1.186
5/20/2019 12:21	149	20.938	7.078	18	149	18	1.18	57.40%	140	1.18
5/20/2019 12:21	149.5	20.917	7.08	17.997	149.5	17.997	1.177	57.50%	140.5	1.177
5/20/2019 12:21	150	20.94	7.079	17.998	150	17.998	1.178	57.40%	141	1.178
5/20/2019 12:21	150.5	20.915	7.083	17.99	150.5	17.99	1.17	57.70%	141.5	1.17
5/20/2019 12:21	151	20.938	7.084	17.986	151	17.986	1.166	57.90%	142	1.166
5/20/2019 12:21	151.5	20.924	7.088	17.979	151.5	17.979	1.159	58.10%	142.5	1.159
5/20/2019 12:21	152	20.931	7.084	17.987	152	17.987	1.167	57.80%	143	1.167
5/20/2019 12:21	152.5	20.926	7.085	17.985	152.5	17.985	1.165	57.90%	143.5	1.165
5/20/2019 12:21	153	20.947	7.088	17.977	153	17.977	1.157	58.20%	144	1.157
5/20/2019 12:21	153.5	20.93	7.089	17.975	153.5	17.975	1.155	58.30%	144.5	1.155
5/20/2019 12:21	154	20.915	7.091	17.972	154	17.972	1.152	58.40%	145	1.152
5/20/2019 12:21	154.5	20.912	7.092	17.968	154.5	17.968	1.148	58.50%	145.5	1.148
5/20/2019 12:21	155.001	20.93	7.092	17.968	155.001	17.968	1.148	58.50%	146.001	1.148
5/20/2019 12:21	155.501	20.934	7.097	17.957	155.501	17.957	1.137	58.90%	146.501	1.137
5/20/2019 12:21	156.001	20.941	7.095	17.961	156.001	17.961	1.141	58.80%	147.001	1.141
5/20/2019 12:21	156.501	20.946	7.095	17.961	156.501	17.961	1.141	58.80%	147.501	1.141
5/20/2019 12:21	157.001	20.939	7.097	17.957	157.001	17.957	1.137	58.90%	148.001	1.137
5/20/2019 12:21	157.501	20.924	7.096	17.959	157.501	17.959	1.139	58.80%	148.501	1.139
5/20/2019 12:22	158.001	20.924	7.1	17.951	158.001	17.951	1.131	59.10%	149.001	1.131
5/20/2019 12:22	158.501	20.951	7.102	17.947	158.501	17.947	1.127	59.30%	149.501	1.127
5/20/2019 12:22	159.001	20.938	7.105	17.939	159.001	17.939	1.119	59.60%	150.001	1.119
5/20/2019 12:22	159.501	20.938	7.105	17.938	159.501	17.938	1.118	59.60%	150.501	1.118
5/20/2019 12:22	160.001	20.917	7.106	17.937	160.001	17.937	1.117	59.60%	151.001	1.117
5/20/2019 12:22	160.5	20.929	7.108	17.931	160.5	17.931	1.111	59.80%	151.5	1.111
5/20/2019 12:22	161	20.929	7.106	17.936	161	17.936	1.116	59.70%	152	1.116
5/20/2019 12:22	161.5	20.923	7.109	17.93	161.5	17.93	1.11	59.90%	152.5	1.11
5/20/2019 12:22	162	20.935	7.109	17.93	162	17.93	1.11	59.90%	153	1.11
5/20/2019 12:22	162.5	20.934	7.113	17.921	162.5	17.921	1.101	60.20%	153.5	1.101
5/20/2019 12:22	163	20.946	7.112	17.923	163	17.923	1.103	60.10%	154	1.103
5/20/2019 12:22	163.5	20.94	7.114	17.918	163.5	17.918	1.098	60.30%	154.5	1.098
5/20/2019 12:22	164	20.939	7.116	17.914	164	17.914	1.094	60.50%	155	1.094
5/20/2019 12:22	164.5	20.948	7.114	17.917	164.5	17.917	1.097	60.40%	155.5	1.097
5/20/2019 12:22	165	20.94	7.117	17.911	165	17.911	1.091	60.60%	156	1.091

5/20/2019 12:22	165.5	20.925	7.12	17.904	165.5	17.904	1.084	60.80%	156.5	1.084
5/20/2019 12:22	166	20.925	7.119	17.907	166	17.907	1.087	60.70%	157	1.087
5/20/2019 12:22	166.5	20.922	7.121	17.902	166.5	17.902	1.082	60.90%	157.5	1.082
5/20/2019 12:22	167	20.917	7.122	17.9	167	17.9	1.08	61.00%	158	1.08
5/20/2019 12:22	167.5	20.937	7.122	17.9	167.5	17.9	1.08	61.00%	158.5	1.08
5/20/2019 12:22	168	20.933	7.124	17.895	168	17.895	1.075	61.10%	159	1.075
5/20/2019 12:22	168.5	20.917	7.125	17.892	168.5	17.892	1.072	61.30%	159.5	1.072
5/20/2019 12:22	169	20.934	7.126	17.89	169	17.89	1.07	61.30%	160	1.07
5/20/2019 12:22	169.5	20.934	7.126	17.891	169.5	17.891	1.071	61.30%	160.5	1.071
5/20/2019 12:22	170	20.944	7.128	17.885	170	17.885	1.065	61.50%	161	1.065
5/20/2019 12:22	170.5	20.94	7.13	17.88	170.5	17.88	1.06	61.70%	161.5	1.06
5/20/2019 12:22	171	20.927	7.132	17.876	171	17.876	1.056	61.80%	162	1.056
5/20/2019 12:22	171.5	20.923	7.133	17.875	171.5	17.875	1.055	61.90%	162.5	1.055
5/20/2019 12:22	172	20.922	7.134	17.871	172	17.871	1.051	62.00%	163	1.051
5/20/2019 12:22	172.5	20.94	7.133	17.873	172.5	17.873	1.053	61.90%	163.5	1.053
5/20/2019 12:22	173	20.948	7.134	17.871	173	17.871	1.051	62.00%	164	1.051
5/20/2019 12:22	173.5	20.944	7.136	17.867	173.5	17.867	1.047	62.20%	164.5	1.047
5/20/2019 12:22	174	20.938	7.138	17.863	174	17.863	1.043	62.30%	165	1.043
5/20/2019 12:22	174.5	20.955	7.138	17.862	174.5	17.862	1.042	62.30%	165.5	1.042
5/20/2019 12:22	175	20.945	7.14	17.858	175	17.858	1.038	62.50%	166	1.038
5/20/2019 12:22	175.5	20.92	7.14	17.858	175.5	17.858	1.038	62.50%	166.5	1.038
5/20/2019 12:22	176	20.912	7.142	17.854	176	17.854	1.034	62.60%	167	1.034
5/20/2019 12:22	176.5	20.939	7.144	17.848	176.5	17.848	1.028	62.80%	167.5	1.028
5/20/2019 12:22	177	20.947	7.146	17.845	177	17.845	1.025	63.00%	168	1.025
5/20/2019 12:22	177.5	20.935	7.147	17.842	177.5	17.842	1.022	63.10%	168.5	1.022
5/20/2019 12:22	178	20.951	7.148	17.838	178	17.838	1.018	63.20%	169	1.018
5/20/2019 12:22	178.5	20.953	7.149	17.838	178.5	17.838	1.018	63.20%	169.5	1.018
5/20/2019 12:22	179	20.943	7.149	17.838	179	17.838	1.018	63.20%	170	1.018
5/20/2019 12:22	179.5	20.945	7.15	17.834	179.5	17.834	1.014	63.40%	170.5	1.014
5/20/2019 12:22	180	20.933	7.151	17.832	180	17.832	1.012	63.40%	171	1.012
5/20/2019 12:22	180.506	20.943	7.153	17.828	180.506	17.828	1.008	63.60%	171.506	1.008
5/20/2019 12:22	181	20.922	7.154	17.825	181	17.825	1.005	63.70%	172	1.005
5/20/2019 12:22	181.5	20.938	7.154	17.825	181.5	17.825	1.005	63.70%	172.5	1.005
5/20/2019 12:22	182	20.927	7.155	17.823	182	17.823	1.003	63.80%	173	1.003
5/20/2019 12:22	182.5	20.907	7.157	17.818	182.5	17.818	0.998	63.90%	173.5	0.998
5/20/2019 12:22	183	20.925	7.158	17.816	183	17.816	0.996	64.00%	174	0.996
5/20/2019 12:22	183.5	20.934	7.162	17.807	183.5	17.807	0.987	64.30%	174.5	0.987
5/20/2019 12:22	184	20.92	7.162	17.808	184	17.808	0.988	64.30%	175	0.988
5/20/2019 12:22	184.5	20.922	7.164	17.802	184.5	17.802	0.982	64.50%	175.5	0.982
5/20/2019 12:22	185	20.944	7.163	17.806	185	17.806	0.986	64.40%	176	0.986
5/20/2019 12:22	185.5	20.938	7.163	17.804	185.5	17.804	0.984	64.40%	176.5	0.984
5/20/2019 12:22	186	20.922	7.165	17.799	186	17.799	0.979	64.60%	177	0.979
5/20/2019 12:22	186.5	20.933	7.163	17.805	186.5	17.805	0.985	64.40%	177.5	0.985
5/20/2019 12:22	187	20.922	7.166	17.797	187	17.797	0.977	64.70%	178	0.977
5/20/2019 12:22	187.5	20.903	7.167	17.797	187.5	17.797	0.977	64.70%	178.5	0.977
5/20/2019 12:22	188	20.932	7.169	17.79	188	17.79	0.97	64.90%	179	0.97
5/20/2019 12:22	188.5	20.923	7.17	17.788	188.5	17.788	0.968	65.00%	179.5	0.968
5/20/2019 12:22	189	20.93	7.172	17.784	189	17.784	0.964	65.20%	180	0.964
5/20/2019 12:22	189.5	20.925	7.171	17.786	189.5	17.786	0.966	65.10%	180.5	0.966
5/20/2019 12:22	190	20.953	7.173	17.782	190	17.782	0.962	65.20%	181	0.962
5/20/2019 12:22	190.5	20.926	7.173	17.781	190.5	17.781	0.961	65.30%	181.5	0.961
5/20/2019 12:22	191	20.934	7.176	17.774	191	17.774	0.954	65.50%	182	0.954
5/20/2019 12:22	191.5	20.936	7.178	17.77	191.5	17.77	0.95	65.70%	182.5	0.95
5/20/2019 12:22	192	20.922	7.178	17.769	192	17.769	0.949	65.70%	183	0.949
5/20/2019 12:22	192.5	20.939	7.178	17.77	192.5	17.77	0.95	65.70%	183.5	0.95
5/20/2019 12:22	193.001	20.919	7.179	17.767	193.001	17.767	0.947	65.80%	184.001	0.947
5/20/2019 12:22	193.501	20.928	7.178	17.769	193.501	17.769	0.949	65.70%	184.501	0.949
5/20/2019 12:22	194.001	20.93	7.182	17.762	194.001	17.762	0.942	66.00%	185.001	0.942
5/20/2019 12:22	194.501	20.93	7.184	17.757	194.501	17.757	0.937	66.10%	185.501	0.937
5/20/2019 12:22	195.001	20.925	7.182	17.762	195.001	17.762	0.942	66.00%	186.001	0.942
5/20/2019 12:22	195.501	20.941	7.186	17.752	195.501	17.752	0.932	66.30%	186.501	0.932
5/20/2019 12:22	196.001	20.933	7.186	17.751	196.001	17.751	0.931	66.40%	187.001	0.931
5/20/2019 12:22	196.501	20.92	7.191	17.741	196.501	17.741	0.921	66.70%	187.501	0.921
5/20/2019 12:22	197.001	20.922	7.189	17.745	197.001	17.745	0.925	66.60%	188.001	0.925
5/20/2019 12:22	197.501	20.922	7.192	17.738	197.501	17.738	0.918	66.80%	188.501	0.918
5/20/2019 12:22	198.001	20.926	7.191	17.74	198.001	17.74	0.92	66.80%	189.001	0.92
5/20/2019 12:22	198.5	20.928	7.194	17.734	198.5	17.734	0.914	67.00%	189.5	0.914
5/20/2019 12:22	199	20.925	7.191	17.739	199	17.739	0.919	66.80%	190	0.919

5/20/2019 12:22	199.5	20.922	7.195	17.731	199.5	17.731	0.911	67.10%	190.5	0.911
5/20/2019 12:22	200	20.941	7.193	17.735	200	17.735	0.915	66.90%	191	0.915
5/20/2019 12:22	200.5	20.93	7.197	17.726	200.5	17.726	0.906	67.30%	191.5	0.906
5/20/2019 12:22	201	20.957	7.197	17.726	201	17.726	0.906	67.30%	192	0.906
5/20/2019 12:22	201.5	20.935	7.196	17.727	201.5	17.727	0.907	67.20%	192.5	0.907
5/20/2019 12:22	202	20.936	7.2	17.719	202	17.719	0.899	67.50%	193	0.899
5/20/2019 12:22	202.5	20.931	7.2	17.72	202.5	17.72	0.9	67.50%	193.5	0.9
5/20/2019 12:22	203	20.927	7.2	17.72	203	17.72	0.9	67.50%	194	0.9
5/20/2019 12:22	203.5	20.928	7.201	17.717	203.5	17.717	0.897	67.60%	194.5	0.897
5/20/2019 12:22	204	20.929	7.204	17.711	204	17.711	0.891	67.80%	195	0.891
5/20/2019 12:22	204.5	20.933	7.204	17.711	204.5	17.711	0.891	67.80%	195.5	0.891
5/20/2019 12:22	205	20.917	7.203	17.712	205	17.712	0.892	67.80%	196	0.892
5/20/2019 12:22	205.5	20.91	7.206	17.706	205.5	17.706	0.886	68.00%	196.5	0.886
5/20/2019 12:22	206	20.926	7.206	17.706	206	17.706	0.886	68.00%	197	0.886
5/20/2019 12:22	206.5	20.928	7.208	17.701	206.5	17.701	0.881	68.20%	197.5	0.881
5/20/2019 12:22	207	20.94	7.209	17.698	207	17.698	0.878	68.30%	198	0.878
5/20/2019 12:22	207.5	20.945	7.21	17.696	207.5	17.696	0.876	68.30%	198.5	0.876
5/20/2019 12:22	208	20.945	7.212	17.692	208	17.692	0.872	68.50%	199	0.872
5/20/2019 12:22	208.5	20.943	7.211	17.694	208.5	17.694	0.874	68.40%	199.5	0.874
5/20/2019 12:22	209	20.944	7.214	17.687	209	17.687	0.867	68.70%	200	0.867
5/20/2019 12:22	209.5	20.926	7.216	17.683	209.5	17.683	0.863	68.80%	200.5	0.863
5/20/2019 12:22	210	20.937	7.215	17.684	210	17.684	0.864	68.80%	201	0.864
5/20/2019 12:22	210.5	20.938	7.218	17.679	210.5	17.679	0.859	69.00%	201.5	0.859
5/20/2019 12:22	211	20.915	7.217	17.68	211	17.68	0.86	68.90%	202	0.86
5/20/2019 12:22	211.5	20.93	7.218	17.677	211.5	17.677	0.857	69.00%	202.5	0.857
5/20/2019 12:22	212	20.948	7.217	17.68	212	17.68	0.86	68.90%	203	0.86
5/20/2019 12:22	212.5	20.955	7.219	17.676	212.5	17.676	0.856	69.10%	203.5	0.856
5/20/2019 12:22	213	20.945	7.222	17.667	213	17.667	0.847	69.40%	204	0.847
5/20/2019 12:22	213.5	20.909	7.224	17.664	213.5	17.664	0.844	69.50%	204.5	0.844
5/20/2019 12:22	214	20.914	7.223	17.667	214	17.667	0.847	69.40%	205	0.847
5/20/2019 12:22	214.5	20.931	7.223	17.666	214.5	17.666	0.846	69.40%	205.5	0.846
5/20/2019 12:22	215	20.946	7.225	17.661	215	17.661	0.841	69.60%	206	0.841
5/20/2019 12:22	215.5	20.93	7.225	17.661	215.5	17.661	0.841	69.60%	206.5	0.841
5/20/2019 12:22	216	20.915	7.226	17.659	216	17.659	0.839	69.70%	207	0.839
5/20/2019 12:22	216.5	20.938	7.227	17.657	216.5	17.657	0.837	69.80%	207.5	0.837
5/20/2019 12:22	217	20.936	7.229	17.653	217	17.653	0.833	69.90%	208	0.833
5/20/2019 12:22	217.5	20.921	7.231	17.648	217.5	17.648	0.828	70.10%	208.5	0.828
5/20/2019 12:23	218	20.934	7.231	17.648	218	17.648	0.828	70.10%	209	0.828
5/20/2019 12:23	218.5	20.933	7.232	17.644	218.5	17.644	0.824	70.20%	209.5	0.824
5/20/2019 12:23	219	20.971	7.232	17.645	219	17.645	0.825	70.20%	210	0.825
5/20/2019 12:23	219.5	20.943	7.234	17.64	219.5	17.64	0.82	70.40%	210.5	0.82
5/20/2019 12:23	220	20.927	7.234	17.641	220	17.641	0.821	70.30%	211	0.821
5/20/2019 12:23	220.5	20.912	7.238	17.632	220.5	17.632	0.812	70.70%	211.5	0.812
5/20/2019 12:23	221	20.933	7.236	17.637	221	17.637	0.817	70.50%	212	0.817
5/20/2019 12:23	221.5	20.918	7.237	17.634	221.5	17.634	0.814	70.60%	212.5	0.814
5/20/2019 12:23	222	20.938	7.237	17.635	222	17.635	0.815	70.50%	213	0.815
5/20/2019 12:23	222.5	20.907	7.24	17.626	222.5	17.626	0.806	70.90%	213.5	0.806
5/20/2019 12:23	223	20.926	7.241	17.625	223	17.625	0.805	70.90%	214	0.805
5/20/2019 12:23	223.5	20.922	7.242	17.622	223.5	17.622	0.802	71.00%	214.5	0.802
5/20/2019 12:23	224	20.93	7.242	17.623	224	17.623	0.803	71.00%	215	0.803
5/20/2019 12:23	224.5	20.925	7.245	17.616	224.5	17.616	0.796	71.20%	215.5	0.796
5/20/2019 12:23	225	20.948	7.244	17.618	225	17.618	0.798	71.20%	216	0.798
5/20/2019 12:23	225.5	20.94	7.247	17.61	225.5	17.61	0.79	71.40%	216.5	0.79
5/20/2019 12:23	226	20.948	7.247	17.611	226	17.611	0.791	71.40%	217	0.791
5/20/2019 12:23	226.5	20.934	7.248	17.607	226.5	17.607	0.787	71.60%	217.5	0.787
5/20/2019 12:23	227	20.946	7.25	17.604	227	17.604	0.784	71.70%	218	0.784
5/20/2019 12:23	227.5	20.922	7.25	17.605	227.5	17.605	0.785	71.60%	218.5	0.785
5/20/2019 12:23	228	20.932	7.251	17.601	228	17.601	0.781	71.80%	219	0.781
5/20/2019 12:23	228.5	20.925	7.25	17.604	228.5	17.604	0.784	71.70%	219.5	0.784
5/20/2019 12:23	229	20.933	7.251	17.602	229	17.602	0.782	71.70%	220	0.782
5/20/2019 12:23	229.5	20.931	7.254	17.594	229.5	17.594	0.774	72.00%	220.5	0.774
5/20/2019 12:23	230	20.922	7.255	17.591	230	17.591	0.771	72.10%	221	0.771
5/20/2019 12:23	230.5	20.91	7.255	17.593	230.5	17.593	0.773	72.10%	221.5	0.773
5/20/2019 12:23	231	20.949	7.255	17.592	231	17.592	0.772	72.10%	222	0.772
5/20/2019 12:23	231.5	20.947	7.256	17.59	231.5	17.59	0.77	72.20%	222.5	0.77
5/20/2019 12:23	232	20.897	7.258	17.586	232	17.586	0.766	72.30%	223	0.766
5/20/2019 12:23	232.5	20.92	7.26	17.581	232.5	17.581	0.761	72.50%	223.5	0.761
5/20/2019 12:23	233	20.948	7.26	17.58	233	17.58	0.76	72.50%	224	0.76

5/20/2019 12:23	233.5	20.93	7.26	17.582	233.5	17.582	0.762	72.50%	224.5	0.762
5/20/2019 12:23	234	20.935	7.261	17.577	234	17.577	0.757	72.60%	225	0.757
5/20/2019 12:23	234.5	20.938	7.264	17.571	234.5	17.571	0.751	72.90%	225.5	0.751
5/20/2019 12:23	235	20.928	7.263	17.573	235	17.573	0.753	72.80%	226	0.753
5/20/2019 12:23	235.5	20.925	7.265	17.569	235.5	17.569	0.749	72.90%	226.5	0.749
5/20/2019 12:23	236	20.929	7.266	17.568	236	17.568	0.748	73.00%	227	0.748
5/20/2019 12:23	236.5	20.925	7.266	17.566	236.5	17.566	0.746	73.00%	227.5	0.746
5/20/2019 12:23	237	20.943	7.266	17.567	237	17.567	0.747	73.00%	228	0.747
5/20/2019 12:23	237.5	20.928	7.27	17.557	237.5	17.557	0.737	73.40%	228.5	0.737
5/20/2019 12:23	238	20.931	7.269	17.561	238	17.561	0.741	73.20%	229	0.741
5/20/2019 12:23	238.5	20.931	7.272	17.552	238.5	17.552	0.732	73.50%	229.5	0.732
5/20/2019 12:23	239	20.902	7.272	17.553	239	17.553	0.733	73.50%	230	0.733
5/20/2019 12:23	239.5	20.928	7.273	17.551	239.5	17.551	0.731	73.60%	230.5	0.731
5/20/2019 12:23	240	20.921	7.273	17.55	240	17.55	0.73	73.60%	231	0.73
5/20/2019 12:23	240.5	20.934	7.274	17.548	240.5	17.548	0.728	73.70%	231.5	0.728
5/20/2019 12:23	241	20.935	7.274	17.548	241	17.548	0.728	73.70%	232	0.728
5/20/2019 12:23	241.5	20.93	7.275	17.547	241.5	17.547	0.727	73.70%	232.5	0.727
5/20/2019 12:23	242	20.919	7.276	17.543	242	17.543	0.723	73.90%	233	0.723
5/20/2019 12:23	242.5	20.898	7.281	17.532	242.5	17.532	0.712	74.30%	233.5	0.712
5/20/2019 12:23	243	20.922	7.275	17.547	243	17.547	0.727	73.70%	234	0.727
5/20/2019 12:23	243.5	20.915	7.279	17.538	243.5	17.538	0.718	74.10%	234.5	0.718
5/20/2019 12:23	244	20.924	7.281	17.532	244	17.532	0.712	74.30%	235	0.712
5/20/2019 12:23	244.5	20.922	7.282	17.53	244.5	17.53	0.71	74.30%	235.5	0.71
5/20/2019 12:23	245	20.922	7.285	17.524	245	17.524	0.704	74.60%	236	0.704
5/20/2019 12:23	245.5	20.926	7.282	17.53	245.5	17.53	0.71	74.30%	236.5	0.71
5/20/2019 12:23	246	20.933	7.283	17.527	246	17.527	0.707	74.40%	237	0.707
5/20/2019 12:23	246.5	20.916	7.284	17.525	246.5	17.525	0.705	74.50%	237.5	0.705
5/20/2019 12:23	247	20.913	7.285	17.523	247	17.523	0.703	74.60%	238	0.703
5/20/2019 12:23	247.5	20.936	7.286	17.521	247.5	17.521	0.701	74.70%	238.5	0.701
5/20/2019 12:23	248	20.926	7.287	17.518	248	17.518	0.698	74.80%	239	0.698
5/20/2019 12:23	248.5	20.907	7.287	17.518	248.5	17.518	0.698	74.80%	239.5	0.698
5/20/2019 12:23	249	20.938	7.291	17.51	249	17.51	0.69	75.10%	240	0.69
5/20/2019 12:23	249.5	20.929	7.288	17.515	249.5	17.515	0.695	74.90%	240.5	0.695
5/20/2019 12:23	250	20.932	7.289	17.515	250	17.515	0.695	74.90%	241	0.695
5/20/2019 12:23	250.5	20.917	7.293	17.505	250.5	17.505	0.685	75.20%	241.5	0.685
5/20/2019 12:23	251	20.912	7.293	17.506	251	17.506	0.686	75.20%	242	0.686
5/20/2019 12:23	251.5	20.914	7.292	17.506	251.5	17.506	0.686	75.20%	242.5	0.686
5/20/2019 12:23	252	20.933	7.294	17.503	252	17.503	0.683	75.30%	243	0.683
5/20/2019 12:23	252.5	20.922	7.296	17.497	252.5	17.497	0.677	75.50%	243.5	0.677
5/20/2019 12:23	253	20.915	7.296	17.497	253	17.497	0.677	75.50%	244	0.677
5/20/2019 12:23	253.5	20.928	7.295	17.499	253.5	17.499	0.679	75.50%	244.5	0.679
5/20/2019 12:23	254	20.946	7.299	17.491	254	17.491	0.671	75.70%	245	0.671
5/20/2019 12:23	254.5	20.929	7.298	17.494	254.5	17.494	0.674	75.60%	245.5	0.674
5/20/2019 12:23	255	20.925	7.299	17.49	255	17.49	0.67	75.80%	246	0.67
5/20/2019 12:23	255.5	20.921	7.3	17.488	255.5	17.488	0.668	75.90%	246.5	0.668
5/20/2019 12:23	256	20.908	7.302	17.484	256	17.484	0.664	76.00%	247	0.664
5/20/2019 12:23	256.501	20.94	7.302	17.483	256.501	17.483	0.663	76.00%	247.501	0.663
5/20/2019 12:23	257.001	20.925	7.304	17.48	257.001	17.48	0.66	76.10%	248.001	0.66
5/20/2019 12:23	257.501	20.917	7.306	17.475	257.501	17.475	0.655	76.30%	248.501	0.655
5/20/2019 12:23	258.001	20.922	7.303	17.48	258.001	17.48	0.66	76.10%	249.001	0.66
5/20/2019 12:23	258.501	20.925	7.304	17.478	258.501	17.478	0.658	76.20%	249.501	0.658
5/20/2019 12:23	259.001	20.938	7.306	17.474	259.001	17.474	0.654	76.40%	250.001	0.654
5/20/2019 12:23	259.501	20.969	7.306	17.475	259.501	17.475	0.655	76.30%	250.501	0.655
5/20/2019 12:23	260.001	20.912	7.308	17.47	260.001	17.47	0.65	76.50%	251.001	0.65
5/20/2019 12:23	260.501	20.919	7.308	17.47	260.501	17.47	0.65	76.50%	251.501	0.65
5/20/2019 12:23	261.001	20.93	7.311	17.464	261.001	17.464	0.644	76.70%	252.001	0.644
5/20/2019 12:23	261.501	20.936	7.31	17.464	261.501	17.464	0.644	76.70%	252.501	0.644
5/20/2019 12:23	262	20.913	7.31	17.465	262	17.465	0.645	76.70%	253	0.645
5/20/2019 12:23	262.5	20.926	7.313	17.459	262.5	17.459	0.639	76.90%	253.5	0.639
5/20/2019 12:23	263	20.935	7.313	17.458	263	17.458	0.638	76.90%	254	0.638
5/20/2019 12:23	263.5	20.935	7.315	17.454	263.5	17.454	0.634	77.10%	254.5	0.634
5/20/2019 12:23	264	20.922	7.316	17.451	264	17.451	0.631	77.20%	255	0.631
5/20/2019 12:23	264.5	20.911	7.317	17.45	264.5	17.45	0.63	77.20%	255.5	0.63
5/20/2019 12:23	265	20.913	7.316	17.45	265	17.45	0.63	77.20%	256	0.63
5/20/2019 12:23	265.5	20.928	7.314	17.455	265.5	17.455	0.635	77.10%	256.5	0.635
5/20/2019 12:23	266	20.914	7.317	17.449	266	17.449	0.629	77.30%	257	0.629
5/20/2019 12:23	266.5	20.927	7.319	17.443	266.5	17.443	0.623	77.50%	257.5	0.623
5/20/2019 12:23	267	20.893	7.32	17.443	267	17.443	0.623	77.50%	258	0.623

5/20/2019 12:23	267.5	20.937	7.32	17.442	267.5	17.442	0.622	77.50%	258.5	0.622
5/20/2019 12:23	268	20.915	7.321	17.439	268	17.439	0.619	77.60%	259	0.619
5/20/2019 12:23	268.5	20.935	7.32	17.441	268.5	17.441	0.621	77.60%	259.5	0.621
5/20/2019 12:23	269	20.926	7.323	17.436	269	17.436	0.616	77.70%	260	0.616
5/20/2019 12:23	269.5	20.946	7.324	17.432	269.5	17.432	0.612	77.90%	260.5	0.612
5/20/2019 12:23	270	20.924	7.323	17.436	270	17.436	0.616	77.70%	261	0.616
5/20/2019 12:23	270.5	20.929	7.324	17.433	270.5	17.433	0.613	77.80%	261.5	0.613
5/20/2019 12:23	271	20.927	7.325	17.431	271	17.431	0.611	77.90%	262	0.611
5/20/2019 12:23	271.5	20.915	7.326	17.427	271.5	17.427	0.607	78.10%	262.5	0.607
5/20/2019 12:23	272	20.919	7.326	17.429	272	17.429	0.609	78.00%	263	0.609
5/20/2019 12:23	272.5	20.919	7.328	17.424	272.5	17.424	0.604	78.20%	263.5	0.604
5/20/2019 12:23	273	20.92	7.329	17.422	273	17.422	0.602	78.20%	264	0.602
5/20/2019 12:23	273.5	20.897	7.33	17.419	273.5	17.419	0.599	78.40%	264.5	0.599
5/20/2019 12:23	274	20.927	7.332	17.415	274	17.415	0.595	78.50%	265	0.595
5/20/2019 12:23	274.5	20.915	7.331	17.417	274.5	17.417	0.597	78.40%	265.5	0.597
5/20/2019 12:23	275	20.925	7.33	17.419	275	17.419	0.599	78.40%	266	0.599
5/20/2019 12:23	275.5	20.935	7.335	17.408	275.5	17.408	0.588	78.70%	266.5	0.588
5/20/2019 12:23	276	20.907	7.333	17.412	276	17.412	0.592	78.60%	267	0.592
5/20/2019 12:23	276.5	20.909	7.336	17.406	276.5	17.406	0.586	78.80%	267.5	0.586
5/20/2019 12:23	277	20.922	7.336	17.406	277	17.406	0.586	78.80%	268	0.586
5/20/2019 12:23	277.5	20.951	7.337	17.403	277.5	17.403	0.583	78.90%	268.5	0.583
5/20/2019 12:24	278	20.925	7.339	17.399	278	17.399	0.579	79.10%	269	0.579
5/20/2019 12:24	278.5	20.925	7.338	17.401	278.5	17.401	0.581	79.00%	269.5	0.581
5/20/2019 12:24	279	20.933	7.34	17.396	279	17.396	0.576	79.20%	270	0.576
5/20/2019 12:24	279.5	20.948	7.339	17.398	279.5	17.398	0.578	79.10%	270.5	0.578
5/20/2019 12:24	280	20.912	7.34	17.396	280	17.396	0.576	79.20%	271	0.576
5/20/2019 12:24	280.5	20.946	7.342	17.392	280.5	17.392	0.572	79.30%	271.5	0.572
5/20/2019 12:24	281	20.932	7.343	17.389	281	17.389	0.569	79.40%	272	0.569
5/20/2019 12:24	281.5	20.911	7.345	17.384	281.5	17.384	0.564	79.60%	272.5	0.564
5/20/2019 12:24	282.013	20.952	7.344	17.386	282.013	17.386	0.566	79.50%	273.013	0.566
5/20/2019 12:24	282.5	20.928	7.345	17.385	282.5	17.385	0.565	79.60%	273.5	0.565
5/20/2019 12:24	283	20.921	7.346	17.383	283	17.383	0.563	79.70%	274	0.563
5/20/2019 12:24	283.5	20.933	7.343	17.388	283.5	17.388	0.568	79.50%	274.5	0.568
5/20/2019 12:24	284	20.907	7.35	17.373	284	17.373	0.553	80.00%	275	0.553
5/20/2019 12:24	284.5	20.922	7.348	17.378	284.5	17.378	0.558	79.80%	275.5	0.558
5/20/2019 12:24	285	20.907	7.346	17.381	285	17.381	0.561	79.70%	276	0.561
5/20/2019 12:24	285.5	20.919	7.348	17.377	285.5	17.377	0.557	79.90%	276.5	0.557
5/20/2019 12:24	286	20.942	7.351	17.37	286	17.37	0.55	80.10%	277	0.55
5/20/2019 12:24	286.5	20.924	7.351	17.371	286.5	17.371	0.551	80.10%	277.5	0.551
5/20/2019 12:24	287	20.912	7.352	17.369	287	17.369	0.549	80.20%	278	0.549
5/20/2019 12:24	287.5	20.92	7.353	17.366	287.5	17.366	0.546	80.30%	278.5	0.546
5/20/2019 12:24	288	20.921	7.354	17.365	288	17.365	0.545	80.30%	279	0.545
5/20/2019 12:24	288.5	20.916	7.353	17.367	288.5	17.367	0.547	80.20%	279.5	0.547
5/20/2019 12:24	289	20.91	7.355	17.361	289	17.361	0.541	80.40%	280	0.541
5/20/2019 12:24	289.5	20.943	7.355	17.362	289.5	17.362	0.542	80.40%	280.5	0.542
5/20/2019 12:24	290	20.928	7.358	17.354	290	17.354	0.534	80.70%	281	0.534
5/20/2019 12:24	290.5	20.934	7.359	17.353	290.5	17.353	0.533	80.70%	281.5	0.533
5/20/2019 12:24	291	20.918	7.355	17.362	291	17.362	0.542	80.40%	282	0.542
5/20/2019 12:24	291.5	20.929	7.359	17.352	291.5	17.352	0.532	80.80%	282.5	0.532
5/20/2019 12:24	292	20.929	7.359	17.353	292	17.353	0.533	80.70%	283	0.533
5/20/2019 12:24	292.5	20.937	7.358	17.355	292.5	17.355	0.535	80.70%	283.5	0.535
5/20/2019 12:24	293	20.906	7.36	17.349	293	17.349	0.529	80.90%	284	0.529
5/20/2019 12:24	293.5	20.95	7.361	17.348	293.5	17.348	0.528	80.90%	284.5	0.528
5/20/2019 12:24	294	20.928	7.363	17.343	294	17.343	0.523	81.10%	285	0.523
5/20/2019 12:24	294.501	20.901	7.363	17.343	294.501	17.343	0.523	81.10%	285.501	0.523
5/20/2019 12:24	295.001	20.917	7.364	17.341	295.001	17.341	0.521	81.20%	286.001	0.521
5/20/2019 12:24	295.501	20.893	7.364	17.342	295.501	17.342	0.522	81.10%	286.501	0.522
5/20/2019 12:24	296.001	20.914	7.367	17.335	296.001	17.335	0.515	81.40%	287.001	0.515
5/20/2019 12:24	296.501	20.927	7.365	17.337	296.501	17.337	0.517	81.30%	287.501	0.517
5/20/2019 12:24	297.001	20.915	7.364	17.34	297.001	17.34	0.52	81.20%	288.001	0.52
5/20/2019 12:24	297.501	20.922	7.368	17.33	297.501	17.33	0.51	81.60%	288.501	0.51
5/20/2019 12:24	298.001	20.903	7.368	17.331	298.001	17.331	0.511	81.50%	289.001	0.511
5/20/2019 12:24	298.501	20.938	7.368	17.332	298.501	17.332	0.512	81.50%	289.501	0.512
5/20/2019 12:24	299.001	20.922	7.367	17.333	299.001	17.333	0.513	81.50%	290.001	0.513
5/20/2019 12:24	299.501	20.929	7.369	17.328	299.501	17.328	0.508	81.60%	290.501	0.508
5/20/2019 12:24	300	20.933	7.369	17.329	300	17.329	0.509	81.60%	291	0.509
5/20/2019 12:24	300.5	20.913	7.37	17.326	300.5	17.326	0.506	81.70%	291.5	0.506
5/20/2019 12:24	301	20.912	7.372	17.323	301	17.323	0.503	81.80%	292	0.503

5/20/2019 12:24	301.5	20.93	7.373	17.32	301.5	17.32	0.5	81.90%	292.5	0.5
5/20/2019 12:24	302	20.926	7.374	17.318	302	17.318	0.498	82.00%	293	0.498
5/20/2019 12:24	302.5	20.93	7.375	17.315	302.5	17.315	0.495	82.10%	293.5	0.495
5/20/2019 12:24	303	20.923	7.376	17.313	303	17.313	0.493	82.20%	294	0.493
5/20/2019 12:24	303.5	20.905	7.374	17.318	303.5	17.318	0.498	82.00%	294.5	0.498
5/20/2019 12:24	304	20.911	7.377	17.311	304	17.311	0.491	82.30%	295	0.491
5/20/2019 12:24	304.5	20.916	7.376	17.313	304.5	17.313	0.493	82.20%	295.5	0.493
5/20/2019 12:24	305	20.929	7.378	17.308	305	17.308	0.488	82.40%	296	0.488
5/20/2019 12:24	305.5	20.91	7.38	17.305	305.5	17.305	0.485	82.50%	296.5	0.485
5/20/2019 12:24	306	20.904	7.38	17.304	306	17.304	0.484	82.50%	297	0.484
5/20/2019 12:24	306.5	20.928	7.379	17.306	306.5	17.306	0.486	82.40%	297.5	0.486
5/20/2019 12:24	307	20.913	7.383	17.297	307	17.297	0.477	82.80%	298	0.477
5/20/2019 12:24	307.5	20.911	7.381	17.302	307.5	17.302	0.482	82.60%	298.5	0.482
5/20/2019 12:24	308	20.907	7.383	17.296	308	17.296	0.476	82.80%	299	0.476
5/20/2019 12:24	308.5	20.947	7.381	17.301	308.5	17.301	0.481	82.60%	299.5	0.481
5/20/2019 12:24	309	20.93	7.384	17.295	309	17.295	0.475	82.80%	300	0.475
5/20/2019 12:24	309.5	20.925	7.386	17.29	309.5	17.29	0.47	83.00%	300.5	0.47
5/20/2019 12:24	310	20.916	7.385	17.293	310	17.293	0.473	82.90%	301	0.473
5/20/2019 12:24	310.5	20.907	7.385	17.292	310.5	17.292	0.472	82.90%	301.5	0.472
5/20/2019 12:24	311	20.903	7.388	17.286	311	17.286	0.466	83.20%	302	0.466
5/20/2019 12:24	311.5	20.922	7.388	17.284	311.5	17.284	0.464	83.20%	302.5	0.464
5/20/2019 12:24	312	20.93	7.389	17.284	312	17.284	0.464	83.20%	303	0.464
5/20/2019 12:24	312.5	20.93	7.387	17.288	312.5	17.288	0.468	83.10%	303.5	0.468
5/20/2019 12:24	313	20.912	7.391	17.279	313	17.279	0.459	83.40%	304	0.459
5/20/2019 12:24	313.5	20.891	7.39	17.282	313.5	17.282	0.462	83.30%	304.5	0.462
5/20/2019 12:24	314	20.938	7.39	17.282	314	17.282	0.462	83.30%	305	0.462
5/20/2019 12:24	314.5	20.902	7.39	17.28	314.5	17.28	0.46	83.40%	305.5	0.46
5/20/2019 12:24	315	20.93	7.395	17.269	315	17.269	0.449	83.80%	306	0.449
5/20/2019 12:24	315.5	20.937	7.391	17.278	315.5	17.278	0.458	83.40%	306.5	0.458
5/20/2019 12:24	316	20.902	7.393	17.274	316	17.274	0.454	83.60%	307	0.454
5/20/2019 12:24	316.5	20.909	7.395	17.268	316.5	17.268	0.448	83.80%	307.5	0.448
5/20/2019 12:24	317	20.912	7.394	17.27	317	17.27	0.45	83.70%	308	0.45
5/20/2019 12:24	317.5	20.912	7.394	17.271	317.5	17.271	0.451	83.70%	308.5	0.451
5/20/2019 12:24	318	20.921	7.395	17.269	318	17.269	0.449	83.80%	309	0.449
5/20/2019 12:24	318.5	20.935	7.396	17.268	318.5	17.268	0.448	83.80%	309.5	0.448
5/20/2019 12:24	319	20.92	7.397	17.264	319	17.264	0.444	84.00%	310	0.444
5/20/2019 12:24	319.5	20.922	7.398	17.261	319.5	17.261	0.441	84.10%	310.5	0.441
5/20/2019 12:24	320	20.905	7.398	17.262	320	17.262	0.442	84.00%	311	0.442
5/20/2019 12:24	320.5	20.916	7.397	17.264	320.5	17.264	0.444	84.00%	311.5	0.444
5/20/2019 12:24	321	20.922	7.401	17.254	321	17.254	0.434	84.30%	312	0.434
5/20/2019 12:24	321.5	20.903	7.401	17.254	321.5	17.254	0.434	84.30%	312.5	0.434
5/20/2019 12:24	322	20.916	7.404	17.248	322	17.248	0.428	84.50%	313	0.428
5/20/2019 12:24	322.5	20.938	7.403	17.25	322.5	17.25	0.43	84.50%	313.5	0.43
5/20/2019 12:24	323	20.92	7.402	17.252	323	17.252	0.432	84.40%	314	0.432
5/20/2019 12:24	323.5	20.919	7.404	17.248	323.5	17.248	0.428	84.50%	314.5	0.428
5/20/2019 12:24	324	20.936	7.405	17.246	324	17.246	0.426	84.60%	315	0.426
5/20/2019 12:24	324.5	20.925	7.404	17.248	324.5	17.248	0.428	84.50%	315.5	0.428
5/20/2019 12:24	325	20.926	7.405	17.245	325	17.245	0.425	84.60%	316	0.425
5/20/2019 12:24	325.5	20.933	7.406	17.243	325.5	17.243	0.423	84.70%	316.5	0.423
5/20/2019 12:24	326	20.918	7.408	17.238	326	17.238	0.418	84.90%	317	0.418
5/20/2019 12:24	326.5	20.898	7.406	17.243	326.5	17.243	0.423	84.70%	317.5	0.423
5/20/2019 12:24	327	20.913	7.408	17.238	327	17.238	0.418	84.90%	318	0.418
5/20/2019 12:24	327.5	20.923	7.409	17.236	327.5	17.236	0.416	85.00%	318.5	0.416
5/20/2019 12:24	328	20.936	7.409	17.236	328	17.236	0.416	85.00%	319	0.416
5/20/2019 12:24	328.5	20.909	7.41	17.235	328.5	17.235	0.415	85.00%	319.5	0.415
5/20/2019 12:24	329	20.894	7.41	17.234	329	17.234	0.414	85.00%	320	0.414
5/20/2019 12:24	329.5	20.899	7.412	17.231	329.5	17.231	0.411	85.10%	320.5	0.411
5/20/2019 12:24	330	20.928	7.41	17.235	330	17.235	0.415	85.00%	321	0.415
5/20/2019 12:24	330.5	20.918	7.414	17.225	330.5	17.225	0.405	85.40%	321.5	0.405
5/20/2019 12:24	331	20.934	7.413	17.227	331	17.227	0.407	85.30%	322	0.407
5/20/2019 12:24	331.5	20.909	7.415	17.222	331.5	17.222	0.402	85.50%	322.5	0.402
5/20/2019 12:24	332	20.915	7.414	17.224	332	17.224	0.404	85.40%	323	0.404
5/20/2019 12:24	332.5	20.952	7.417	17.218	332.5	17.218	0.398	85.60%	323.5	0.398
5/20/2019 12:24	333	20.899	7.415	17.222	333	17.222	0.402	85.50%	324	0.402
5/20/2019 12:24	333.5	20.912	7.415	17.223	333.5	17.223	0.403	85.40%	324.5	0.403
5/20/2019 12:24	334	20.94	7.418	17.215	334	17.215	0.395	85.70%	325	0.395
5/20/2019 12:24	334.5	20.917	7.418	17.216	334.5	17.216	0.396	85.70%	325.5	0.396
5/20/2019 12:24	335	20.909	7.418	17.216	335	17.216	0.396	85.70%	326	0.396

5/20/2019 12:24	335.5	20.92	7.422	17.207	335.5	17.207	0.387	86.00%	326.5	0.387
5/20/2019 12:24	336	20.929	7.422	17.208	336	17.208	0.388	86.00%	327	0.388
5/20/2019 12:24	336.5	20.914	7.423	17.203	336.5	17.203	0.383	86.20%	327.5	0.383
5/20/2019 12:24	337	20.922	7.422	17.206	337	17.206	0.386	86.00%	328	0.386
5/20/2019 12:24	337.5	20.898	7.421	17.21	337.5	17.21	0.39	85.90%	328.5	0.39
5/20/2019 12:25	338	20.932	7.422	17.206	338	17.206	0.386	86.00%	329	0.386
5/20/2019 12:25	338.5	20.908	7.423	17.203	338.5	17.203	0.383	86.20%	329.5	0.383
5/20/2019 12:25	339	20.907	7.424	17.203	339	17.203	0.383	86.20%	330	0.383
5/20/2019 12:25	339.5	20.93	7.425	17.2	339.5	17.2	0.38	86.30%	330.5	0.38
5/20/2019 12:25	340	20.902	7.425	17.2	340	17.2	0.38	86.30%	331	0.38
5/20/2019 12:25	340.5	20.891	7.426	17.197	340.5	17.197	0.377	86.40%	331.5	0.377
5/20/2019 12:25	341	20.934	7.427	17.195	341	17.195	0.375	86.40%	332	0.375
5/20/2019 12:25	341.5	20.925	7.428	17.194	341.5	17.194	0.374	86.50%	332.5	0.374
5/20/2019 12:25	342	20.911	7.428	17.193	342	17.193	0.373	86.50%	333	0.373
5/20/2019 12:25	342.5	20.92	7.426	17.198	342.5	17.198	0.378	86.30%	333.5	0.378
5/20/2019 12:25	343	20.915	7.428	17.192	343	17.192	0.372	86.60%	334	0.372
5/20/2019 12:25	343.5	20.933	7.43	17.189	343.5	17.189	0.369	86.70%	334.5	0.369
5/20/2019 12:25	344	20.924	7.431	17.185	344	17.185	0.365	86.80%	335	0.365
5/20/2019 12:25	344.5	20.902	7.43	17.189	344.5	17.189	0.369	86.70%	335.5	0.369
5/20/2019 12:25	345	20.926	7.433	17.181	345	17.181	0.361	87.00%	336	0.361
5/20/2019 12:25	345.5	20.898	7.432	17.185	345.5	17.185	0.365	86.80%	336.5	0.365
5/20/2019 12:25	346	20.908	7.432	17.183	346	17.183	0.363	86.90%	337	0.363
5/20/2019 12:25	346.5	20.9	7.434	17.18	346.5	17.18	0.36	87.00%	337.5	0.36
5/20/2019 12:25	347	20.91	7.437	17.173	347	17.173	0.353	87.20%	338	0.353
5/20/2019 12:25	347.5	20.918	7.434	17.179	347.5	17.179	0.359	87.00%	338.5	0.359
5/20/2019 12:25	348	20.925	7.436	17.174	348	17.174	0.354	87.20%	339	0.354
5/20/2019 12:25	348.5	20.925	7.437	17.172	348.5	17.172	0.352	87.30%	339.5	0.352
5/20/2019 12:25	349	20.907	7.438	17.17	349	17.17	0.35	87.40%	340	0.35
5/20/2019 12:25	349.5	20.928	7.441	17.164	349.5	17.164	0.344	87.60%	340.5	0.344
5/20/2019 12:25	350	20.93	7.437	17.171	350	17.171	0.351	87.30%	341	0.351
5/20/2019 12:25	350.5	20.895	7.438	17.169	350.5	17.169	0.349	87.40%	341.5	0.349
5/20/2019 12:25	351	20.894	7.438	17.17	351	17.17	0.35	87.40%	342	0.35
5/20/2019 12:25	351.5	20.927	7.439	17.168	351.5	17.168	0.348	87.40%	342.5	0.348
5/20/2019 12:25	352	20.901	7.441	17.164	352	17.164	0.344	87.60%	343	0.344
5/20/2019 12:25	352.5	20.916	7.441	17.163	352.5	17.163	0.343	87.60%	343.5	0.343
5/20/2019 12:25	353	20.906	7.44	17.165	353	17.165	0.345	87.50%	344	0.345
5/20/2019 12:25	353.5	20.921	7.443	17.158	353.5	17.158	0.338	87.80%	344.5	0.338
5/20/2019 12:25	354	20.948	7.443	17.159	354	17.159	0.339	87.70%	345	0.339
5/20/2019 12:25	354.5	20.901	7.445	17.155	354.5	17.155	0.335	87.90%	345.5	0.335
5/20/2019 12:25	355	20.941	7.445	17.154	355	17.154	0.334	87.90%	346	0.334
5/20/2019 12:25	355.5	20.926	7.447	17.149	355.5	17.149	0.329	88.10%	346.5	0.329
5/20/2019 12:25	356	20.901	7.447	17.148	356	17.148	0.328	88.10%	347	0.328
5/20/2019 12:25	356.5	20.912	7.446	17.152	356.5	17.152	0.332	88.00%	347.5	0.332
5/20/2019 12:25	357	20.902	7.447	17.15	357	17.15	0.33	88.10%	348	0.33
5/20/2019 12:25	357.5	20.927	7.446	17.151	357.5	17.151	0.331	88.00%	348.5	0.331
5/20/2019 12:25	358.001	20.941	7.447	17.148	358.001	17.148	0.328	88.10%	349.001	0.328
5/20/2019 12:25	358.501	20.903	7.448	17.147	358.501	17.147	0.327	88.20%	349.501	0.327
5/20/2019 12:25	359.001	20.925	7.449	17.143	359.001	17.143	0.323	88.30%	350.001	0.323
5/20/2019 12:25	359.501	20.911	7.45	17.143	359.501	17.143	0.323	88.30%	350.501	0.323
5/20/2019 12:25	360.001	20.903	7.45	17.141	360.001	17.141	0.321	88.40%	351.001	0.321
5/20/2019 12:25	360.501	20.92	7.451	17.139	360.501	17.139	0.319	88.50%	351.501	0.319
5/20/2019 12:25	361.001	20.911	7.452	17.137	361.001	17.137	0.317	88.50%	352.001	0.317
5/20/2019 12:25	361.501	20.912	7.452	17.138	361.501	17.138	0.318	88.50%	352.501	0.318
5/20/2019 12:25	362.001	20.925	7.453	17.136	362.001	17.136	0.316	88.60%	353.001	0.316
5/20/2019 12:25	362.501	20.938	7.452	17.137	362.501	17.137	0.317	88.50%	353.501	0.317
5/20/2019 12:25	363.001	20.923	7.454	17.133	363.001	17.133	0.313	88.70%	354.001	0.313
5/20/2019 12:25	363.5	20.907	7.453	17.135	363.5	17.135	0.315	88.60%	354.5	0.315
5/20/2019 12:25	364	20.908	7.455	17.131	364	17.131	0.311	88.80%	355	0.311
5/20/2019 12:25	364.5	20.925	7.456	17.128	364.5	17.128	0.308	88.90%	355.5	0.308
5/20/2019 12:25	365	20.909	7.456	17.129	365	17.129	0.309	88.80%	356	0.309
5/20/2019 12:25	365.5	20.934	7.455	17.13	365.5	17.13	0.31	88.80%	356.5	0.31
5/20/2019 12:25	366	20.909	7.457	17.126	366	17.126	0.306	88.90%	357	0.306
5/20/2019 12:25	366.5	20.896	7.459	17.122	366.5	17.122	0.302	89.10%	357.5	0.302
5/20/2019 12:25	367	20.94	7.458	17.125	367	17.125	0.305	89.00%	358	0.305
5/20/2019 12:25	367.5	20.922	7.458	17.124	367.5	17.124	0.304	89.00%	358.5	0.304
5/20/2019 12:25	368	20.91	7.46	17.12	368	17.12	0.3	89.20%	359	0.3
5/20/2019 12:25	368.5	20.898	7.458	17.123	368.5	17.123	0.303	89.00%	359.5	0.303
5/20/2019 12:25	369	20.936	7.46	17.118	369	17.118	0.298	89.20%	360	0.298



5/20/2019 12:25	369.5	20.92	7.462	17.114	369.5	17.114	0.294	89.40%	360.5	0.294
5/20/2019 12:25	370	20.902	7.46	17.119	370	17.119	0.299	89.20%	361	0.299
5/20/2019 12:25	370.5	20.899	7.463	17.112	370.5	17.112	0.292	89.40%	361.5	0.292
5/20/2019 12:25	371	20.924	7.463	17.113	371	17.113	0.293	89.40%	362	0.293
5/20/2019 12:25	371.5	20.933	7.464	17.11	371.5	17.11	0.29	89.50%	362.5	0.29
5/20/2019 12:25	372	20.922	7.464	17.109	372	17.109	0.289	89.60%	363	0.289
5/20/2019 12:25	372.5	20.892	7.464	17.109	372.5	17.109	0.289	89.60%	363.5	0.289
5/20/2019 12:25	373	20.896	7.466	17.106	373	17.106	0.286	89.70%	364	0.286
5/20/2019 12:25	373.5	20.921	7.467	17.102	373.5	17.102	0.282	89.80%	364.5	0.282
5/20/2019 12:25	374	20.928	7.466	17.105	374	17.105	0.285	89.70%	365	0.285
5/20/2019 12:25	374.5	20.924	7.468	17.101	374.5	17.101	0.281	89.80%	365.5	0.281
5/20/2019 12:25	375	20.915	7.466	17.104	375	17.104	0.284	89.70%	366	0.284
5/20/2019 12:25	375.5	20.904	7.466	17.104	375.5	17.104	0.284	89.70%	366.5	0.284
5/20/2019 12:25	376	20.93	7.468	17.099	376	17.099	0.279	89.90%	367	0.279
5/20/2019 12:25	376.5	20.918	7.47	17.095	376.5	17.095	0.275	90.10%	367.5	0.275
5/20/2019 12:25	377	20.918	7.469	17.097	377	17.097	0.277	90.00%		
5/20/2019 12:25	377.5	20.888	7.469	17.097	377.5	17.097	0.277	90.00%		
5/20/2019 12:25	378	20.934	7.472	17.091	378	17.091	0.271	90.20%		
5/20/2019 12:25	378.5	20.921	7.473	17.09	378.5	17.09	0.27	90.20%		
5/20/2019 12:25	379	20.909	7.473	17.089	379	17.089	0.269	90.30%		
5/20/2019 12:25	379.5	20.899	7.475	17.085	379.5	17.085	0.265	90.40%		
5/20/2019 12:25	380	20.907	7.474	17.088	380	17.088	0.268	90.30%		
5/20/2019 12:25	380.5	20.918	7.473	17.089	380.5	17.089	0.269	90.30%		
5/20/2019 12:25	381	20.925	7.473	17.088	381	17.088	0.268	90.30%		
5/20/2019 12:25	381.5	20.922	7.474	17.088	381.5	17.088	0.268	90.30%		
5/20/2019 12:25	382	20.927	7.477	17.08	382	17.08	0.26	90.60%		
5/20/2019 12:25	382.5	20.889	7.474	17.087	382.5	17.087	0.267	90.40%		
5/20/2019 12:25	383	20.943	7.478	17.077	383	17.077	0.257	90.70%		
5/20/2019 12:25	383.511	20.904	7.477	17.08	383.511	17.08	0.26	90.60%		
5/20/2019 12:25	384	20.93	7.478	17.078	384	17.078	0.258	90.70%		
5/20/2019 12:25	384.5	20.915	7.478	17.078	384.5	17.078	0.258	90.70%		
5/20/2019 12:25	385	20.919	7.478	17.078	385	17.078	0.258	90.70%		
5/20/2019 12:25	385.5	20.904	7.479	17.074	385.5	17.074	0.254	90.80%		
5/20/2019 12:25	386	20.912	7.479	17.075	386	17.075	0.255	90.80%		
5/20/2019 12:25	386.5	20.896	7.482	17.067	386.5	17.067	0.247	91.10%		
5/20/2019 12:25	387	20.914	7.482	17.069	387	17.069	0.249	91.00%		
5/20/2019 12:25	387.5	20.912	7.481	17.07	387.5	17.07	0.25	91.00%		
5/20/2019 12:25	388	20.92	7.482	17.069	388	17.069	0.249	91.00%		
5/20/2019 12:25	388.5	20.91	7.481	17.07	388.5	17.07	0.25	91.00%		
5/20/2019 12:25	389	20.934	7.485	17.062	389	17.062	0.242	91.30%		
5/20/2019 12:25	389.5	20.935	7.483	17.065	389.5	17.065	0.245	91.10%		
5/20/2019 12:25	390	20.922	7.485	17.061	390	17.061	0.241	91.30%		
5/20/2019 12:25	390.5	20.923	7.486	17.059	390.5	17.059	0.239	91.40%		
5/20/2019 12:25	391	20.924	7.485	17.061	391	17.061	0.241	91.30%		
5/20/2019 12:25	391.5	20.918	7.486	17.058	391.5	17.058	0.238	91.40%		
5/20/2019 12:25	392	20.932	7.485	17.061	392	17.061	0.241	91.30%		
5/20/2019 12:25	392.5	20.923	7.487	17.057	392.5	17.057	0.237	91.40%		
5/20/2019 12:25	393	20.925	7.485	17.06	393	17.06	0.24	91.30%		
5/20/2019 12:25	393.5	20.924	7.488	17.054	393.5	17.054	0.234	91.50%		
5/20/2019 12:25	394	20.899	7.486	17.059	394	17.059	0.239	91.40%		
5/20/2019 12:25	394.5	20.922	7.491	17.048	394.5	17.048	0.228	91.80%		
5/20/2019 12:25	395	20.896	7.489	17.051	395	17.051	0.231	91.70%		
5/20/2019 12:25	395.5	20.899	7.49	17.049	395.5	17.049	0.229	91.70%		
5/20/2019 12:25	396.001	20.913	7.492	17.044	396.001	17.044	0.224	91.90%		
5/20/2019 12:25	396.501	20.921	7.491	17.046	396.501	17.046	0.226	91.80%		
5/20/2019 12:25	397.001	20.905	7.491	17.047	397.001	17.047	0.227	91.80%		
5/20/2019 12:25	397.501	20.917	7.494	17.041	397.501	17.041	0.221	92.00%		
5/20/2019 12:26	398.001	20.911	7.492	17.044	398.001	17.044	0.224	91.90%		
5/20/2019 12:26	398.501	20.919	7.492	17.044	398.501	17.044	0.224	91.90%		
5/20/2019 12:26	399.001	20.915	7.492	17.045	399.001	17.045	0.225	91.90%		
5/20/2019 12:26	399.501	20.915	7.495	17.038	399.501	17.038	0.218	92.10%		
5/20/2019 12:26	400.001	20.914	7.493	17.043	400.001	17.043	0.223	91.90%		
5/20/2019 12:26	400.501	20.905	7.494	17.041	400.501	17.041	0.221	92.00%		
5/20/2019 12:26	401.001	20.939	7.498	17.031	401.001	17.031	0.211	92.40%		
5/20/2019 12:26	401.5	20.916	7.496	17.035	401.5	17.035	0.215	92.20%		
5/20/2019 12:26	402	20.913	7.499	17.029	402	17.029	0.209	92.40%		
5/20/2019 12:26	402.5	20.909	7.5	17.027	402.5	17.027	0.207	92.50%		
5/20/2019 12:26	403	20.909	7.498	17.03	403	17.03	0.21	92.40%		

5/20/2019 12:26	403.5	20.936	7.499	17.03	403.5	17.03	0.21	92.40%
5/20/2019 12:26	404	20.905	7.498	17.031	404	17.031	0.211	92.40%
5/20/2019 12:26	404.5	20.909	7.498	17.031	404.5	17.031	0.211	92.40%
5/20/2019 12:26	405	20.925	7.5	17.026	405	17.026	0.206	92.60%
5/20/2019 12:26	405.5	20.925	7.501	17.024	405.5	17.024	0.204	92.60%
5/20/2019 12:26	406	20.933	7.502	17.023	406	17.023	0.203	92.70%
5/20/2019 12:26	406.5	20.902	7.503	17.02	406.5	17.02	0.2	92.80%
5/20/2019 12:26	407	20.914	7.503	17.02	407	17.02	0.2	92.80%
5/20/2019 12:26	407.5	20.907	7.504	17.018	407.5	17.018	0.198	92.80%
5/20/2019 12:26	408	20.901	7.502	17.022	408	17.022	0.202	92.70%
5/20/2019 12:26	408.5	20.922	7.503	17.021	408.5	17.021	0.201	92.70%
5/20/2019 12:26	409	20.94	7.508	17.009	409	17.009	0.189	93.20%
5/20/2019 12:26	409.5	20.92	7.503	17.019	409.5	17.019	0.199	92.80%
5/20/2019 12:26	410	20.914	7.505	17.016	410	17.016	0.196	92.90%
5/20/2019 12:26	410.5	20.907	7.507	17.01	410.5	17.01	0.19	93.10%
5/20/2019 12:26	411	20.906	7.507	17.011	411	17.011	0.191	93.10%
5/20/2019 12:26	411.5	20.894	7.507	17.01	411.5	17.01	0.19	93.10%
5/20/2019 12:26	412	20.906	7.507	17.009	412	17.009	0.189	93.20%
5/20/2019 12:26	412.5	20.929	7.507	17.012	412.5	17.012	0.192	93.10%
5/20/2019 12:26	413	20.906	7.507	17.011	413	17.011	0.191	93.10%
5/20/2019 12:26	413.5	20.919	7.51	17.004	413.5	17.004	0.184	93.40%
5/20/2019 12:26	414	20.912	7.51	17.004	414	17.004	0.184	93.40%
5/20/2019 12:26	414.5	20.92	7.509	17.006	414.5	17.006	0.186	93.30%
5/20/2019 12:26	415	20.922	7.512	16.998	415	16.998	0.178	93.60%
5/20/2019 12:26	415.5	20.899	7.51	17.005	415.5	17.005	0.185	93.30%
5/20/2019 12:26	416	20.917	7.511	17.001	416	17.001	0.181	93.50%
5/20/2019 12:26	416.5	20.909	7.514	16.995	416.5	16.995	0.175	93.70%
5/20/2019 12:26	417	20.924	7.51	17.004	417	17.004	0.184	93.40%
5/20/2019 12:26	417.5	20.902	7.512	16.999	417.5	16.999	0.179	93.50%
5/20/2019 12:26	418	20.919	7.511	17	418	17	0.18	93.50%
5/20/2019 12:26	418.5	20.921	7.512	17	418.5	17	0.18	93.50%
5/20/2019 12:26	419	20.943	7.515	16.992	419	16.992	0.172	93.80%
5/20/2019 12:26	419.5	20.928	7.515	16.992	419.5	16.992	0.172	93.80%
5/20/2019 12:26	420	20.936	7.516	16.989	420	16.989	0.169	93.90%
5/20/2019 12:26	420.5	20.933	7.517	16.987	420.5	16.987	0.167	94.00%
5/20/2019 12:26	421	20.907	7.516	16.991	421	16.991	0.171	93.80%
5/20/2019 12:26	421.5	20.912	7.516	16.99	421.5	16.99	0.17	93.90%
5/20/2019 12:26	422	20.935	7.517	16.987	422	16.987	0.167	94.00%
5/20/2019 12:26	422.5	20.906	7.518	16.984	422.5	16.984	0.164	94.10%
5/20/2019 12:26	423	20.908	7.517	16.986	423	16.986	0.166	94.00%
5/20/2019 12:26	423.5	20.904	7.52	16.981	423.5	16.981	0.161	94.20%
5/20/2019 12:26	424	20.904	7.519	16.983	424	16.983	0.163	94.10%
5/20/2019 12:26	424.5	20.913	7.521	16.979	424.5	16.979	0.159	94.30%
5/20/2019 12:26	425	20.904	7.519	16.983	425	16.983	0.163	94.10%
5/20/2019 12:26	425.5	20.908	7.521	16.978	425.5	16.978	0.158	94.30%
5/20/2019 12:26	426	20.889	7.522	16.975	426	16.975	0.155	94.40%
5/20/2019 12:26	426.5	20.935	7.522	16.976	426.5	16.976	0.156	94.40%
5/20/2019 12:26	427	20.926	7.522	16.976	427	16.976	0.156	94.40%
5/20/2019 12:26	427.5	20.907	7.523	16.973	427.5	16.973	0.153	94.50%
5/20/2019 12:26	428	20.914	7.524	16.971	428	16.971	0.151	94.50%
5/20/2019 12:26	428.5	20.93	7.522	16.975	428.5	16.975	0.155	94.40%
5/20/2019 12:26	429	20.899	7.522	16.976	429	16.976	0.156	94.40%
5/20/2019 12:26	429.5	20.905	7.524	16.972	429.5	16.972	0.152	94.50%
5/20/2019 12:26	430	20.925	7.526	16.966	430	16.966	0.146	94.70%
5/20/2019 12:26	430.5	20.907	7.524	16.971	430.5	16.971	0.151	94.50%
5/20/2019 12:26	431	20.928	7.526	16.968	431	16.968	0.148	94.70%
5/20/2019 12:26	431.5	20.902	7.527	16.964	431.5	16.964	0.144	94.80%
5/20/2019 12:26	432	20.919	7.525	16.969	432	16.969	0.149	94.60%
5/20/2019 12:26	432.5	20.907	7.525	16.969	432.5	16.969	0.149	94.60%
5/20/2019 12:26	433	20.92	7.525	16.968	433	16.968	0.148	94.70%
5/20/2019 12:26	433.5	20.896	7.529	16.96	433.5	16.96	0.14	94.90%
5/20/2019 12:26	434	20.912	7.528	16.961	434	16.961	0.141	94.90%
5/20/2019 12:26	434.5	20.899	7.53	16.958	434.5	16.958	0.138	95.00%
5/20/2019 12:26	435	20.896	7.529	16.959	435	16.959	0.139	95.00%
5/20/2019 12:26	435.5	20.924	7.53	16.956	435.5	16.956	0.136	95.10%
5/20/2019 12:26	436	20.898	7.529	16.961	436	16.961	0.141	94.90%
5/20/2019 12:26	436.5	20.903	7.532	16.954	436.5	16.954	0.134	95.20%
5/20/2019 12:26	437	20.909	7.529	16.96	437	16.96	0.14	94.90%

5/20/2019 12:26	437.5	20.917	7.531	16.954	437.5	16.954	0.134	95.20%
5/20/2019 12:26	438	20.9	7.531	16.954	438	16.954	0.134	95.20%
5/20/2019 12:26	438.5	20.916	7.532	16.952	438.5	16.952	0.132	95.20%
5/20/2019 12:26	439	20.9	7.533	16.95	439	16.95	0.13	95.30%
5/20/2019 12:26	439.5	20.894	7.534	16.948	439.5	16.948	0.128	95.40%
5/20/2019 12:26	440	20.917	7.534	16.948	440	16.948	0.128	95.40%
5/20/2019 12:26	440.5	20.919	7.535	16.945	440.5	16.945	0.125	95.50%
5/20/2019 12:26	441	20.896	7.536	16.943	441	16.943	0.123	95.60%
5/20/2019 12:26	441.5	20.915	7.534	16.947	441.5	16.947	0.127	95.40%
5/20/2019 12:26	442	20.894	7.535	16.946	442	16.946	0.126	95.40%
5/20/2019 12:26	442.5	20.936	7.536	16.944	442.5	16.944	0.124	95.50%
5/20/2019 12:26	443	20.899	7.537	16.941	443	16.941	0.121	95.60%
5/20/2019 12:26	443.5	20.917	7.537	16.941	443.5	16.941	0.121	95.60%
5/20/2019 12:26	444	20.938	7.54	16.934	444	16.934	0.114	95.90%
5/20/2019 12:26	444.5	20.922	7.535	16.946	444.5	16.946	0.126	95.40%
5/20/2019 12:26	445	20.922	7.538	16.939	445	16.939	0.119	95.70%
5/20/2019 12:26	445.5	20.902	7.542	16.931	445.5	16.931	0.111	96.00%
5/20/2019 12:26	446	20.884	7.538	16.939	446	16.939	0.119	95.70%
5/20/2019 12:26	446.501	20.904	7.539	16.937	446.501	16.937	0.117	95.80%
5/20/2019 12:26	447.001	20.906	7.542	16.93	447.001	16.93	0.11	96.00%
5/20/2019 12:26	447.501	20.91	7.541	16.933	447.501	16.933	0.113	95.90%
5/20/2019 12:26	448.001	20.916	7.544	16.924	448.001	16.924	0.104	96.20%
5/20/2019 12:26	448.501	20.914	7.54	16.934	448.501	16.934	0.114	95.90%
5/20/2019 12:26	449.001	20.904	7.543	16.928	449.001	16.928	0.108	96.10%
5/20/2019 12:26	449.501	20.917	7.542	16.929	449.501	16.929	0.109	96.10%
5/20/2019 12:26	450.001	20.922	7.543	16.928	450.001	16.928	0.108	96.10%
5/20/2019 12:26	450.501	20.912	7.544	16.926	450.501	16.926	0.106	96.20%
5/20/2019 12:26	451.001	20.904	7.546	16.921	451.001	16.921	0.101	96.30%
5/20/2019 12:26	451.501	20.903	7.542	16.93	451.501	16.93	0.11	96.00%
5/20/2019 12:26	452.001	20.911	7.548	16.916	452.001	16.916	0.096	96.50%
5/20/2019 12:26	452.5	20.932	7.543	16.928	452.5	16.928	0.108	96.10%
5/20/2019 12:26	453	20.915	7.545	16.924	453	16.924	0.104	96.20%
5/20/2019 12:26	453.5	20.889	7.547	16.918	453.5	16.918	0.098	96.50%
5/20/2019 12:26	454	20.903	7.547	16.919	454	16.919	0.099	96.40%
5/20/2019 12:26	454.5	20.914	7.547	16.918	454.5	16.918	0.098	96.50%
5/20/2019 12:26	455	20.902	7.548	16.916	455	16.916	0.096	96.50%
5/20/2019 12:26	455.5	20.899	7.55	16.912	455.5	16.912	0.092	96.70%
5/20/2019 12:26	456	20.935	7.548	16.916	456	16.916	0.096	96.50%
5/20/2019 12:26	456.5	20.907	7.549	16.914	456.5	16.914	0.094	96.60%
5/20/2019 12:26	457	20.917	7.551	16.908	457	16.908	0.088	96.80%
5/20/2019 12:26	457.5	20.914	7.55	16.911	457.5	16.911	0.091	96.70%
5/20/2019 12:27	458	20.912	7.552	16.907	458	16.907	0.087	96.90%
5/20/2019 12:27	458.5	20.917	7.55	16.911	458.5	16.911	0.091	96.70%
5/20/2019 12:27	459	20.921	7.549	16.914	459	16.914	0.094	96.60%
5/20/2019 12:27	459.501	20.925	7.55	16.91	459.501	16.91	0.09	96.70%
5/20/2019 12:27	460.001	20.92	7.553	16.903	460.001	16.903	0.083	97.00%
5/20/2019 12:27	460.501	20.931	7.551	16.908	460.501	16.908	0.088	96.80%
5/20/2019 12:27	461.001	20.901	7.551	16.908	461.001	16.908	0.088	96.80%
5/20/2019 12:27	461.501	20.909	7.551	16.91	461.501	16.91	0.09	96.70%
5/20/2019 12:27	462.001	20.898	7.552	16.907	462.001	16.907	0.087	96.90%
5/20/2019 12:27	462.501	20.92	7.554	16.902	462.501	16.902	0.082	97.00%
5/20/2019 12:27	463.001	20.91	7.554	16.901	463.001	16.901	0.081	97.10%
5/20/2019 12:27	463.501	20.907	7.555	16.901	463.501	16.901	0.081	97.10%
5/20/2019 12:27	464.001	20.913	7.555	16.899	464.001	16.899	0.079	97.10%
5/20/2019 12:27	464.501	20.912	7.556	16.897	464.501	16.897	0.077	97.20%
5/20/2019 12:27	465	20.902	7.554	16.902	465	16.902	0.082	97.00%
5/20/2019 12:27	465.5	20.902	7.555	16.9	465.5	16.9	0.08	97.10%
5/20/2019 12:27	466	20.909	7.555	16.9	466	16.9	0.08	97.10%
5/20/2019 12:27	466.5	20.904	7.558	16.892	466.5	16.892	0.072	97.40%
5/20/2019 12:27	467	20.922	7.558	16.893	467	16.893	0.073	97.40%
5/20/2019 12:27	467.5	20.915	7.558	16.892	467.5	16.892	0.072	97.40%
5/20/2019 12:27	468	20.899	7.556	16.896	468	16.896	0.076	97.30%
5/20/2019 12:27	468.5	20.934	7.559	16.891	468.5	16.891	0.071	97.40%
5/20/2019 12:27	469	20.911	7.559	16.891	469	16.891	0.071	97.40%
5/20/2019 12:27	469.5	20.905	7.56	16.888	469.5	16.888	0.068	97.50%
5/20/2019 12:27	470	20.902	7.558	16.892	470	16.892	0.072	97.40%
5/20/2019 12:27	470.5	20.909	7.561	16.886	470.5	16.886	0.066	97.60%
5/20/2019 12:27	471	20.891	7.562	16.883	471	16.883	0.063	97.70%

5/20/2019 12:27	471.5	20.904	7.56	16.888	471.5	16.888	0.068	97.50%
5/20/2019 12:27	472	20.916	7.563	16.882	472	16.882	0.062	97.80%
5/20/2019 12:27	472.5	20.895	7.559	16.889	472.5	16.889	0.069	97.50%
5/20/2019 12:27	473	20.914	7.563	16.881	473	16.881	0.061	97.80%
5/20/2019 12:27	473.5	20.904	7.563	16.882	473.5	16.882	0.062	97.80%
5/20/2019 12:27	474	20.915	7.562	16.884	474	16.884	0.064	97.70%
5/20/2019 12:27	474.5	20.907	7.563	16.882	474.5	16.882	0.062	97.80%
5/20/2019 12:27	475	20.915	7.566	16.875	475	16.875	0.055	98.00%
5/20/2019 12:27	475.5	20.911	7.562	16.883	475.5	16.883	0.063	97.70%
5/20/2019 12:27	476	20.912	7.56	16.887	476	16.887	0.067	97.60%
5/20/2019 12:27	476.5	20.91	7.567	16.871	476.5	16.871	0.051	98.20%
5/20/2019 12:27	477	20.92	7.566	16.874	477	16.874	0.054	98.00%
5/20/2019 12:27	477.5	20.906	7.566	16.873	477.5	16.873	0.053	98.10%
5/20/2019 12:27	478	20.917	7.568	16.869	478	16.869	0.049	98.20%
5/20/2019 12:27	478.5	20.898	7.565	16.876	478.5	16.876	0.056	98.00%
5/20/2019 12:27	479	20.928	7.569	16.868	479	16.868	0.048	98.30%
5/20/2019 12:27	479.5	20.92	7.568	16.869	479.5	16.869	0.049	98.20%
5/20/2019 12:27	480	20.912	7.569	16.867	480	16.867	0.047	98.30%
5/20/2019 12:27	480.5	20.897	7.569	16.868	480.5	16.868	0.048	98.30%
5/20/2019 12:27	481	20.937	7.568	16.87	481	16.87	0.05	98.20%
5/20/2019 12:27	481.5	20.911	7.569	16.866	481.5	16.866	0.046	98.30%
5/20/2019 12:27	482	20.899	7.569	16.867	482	16.867	0.047	98.30%
5/20/2019 12:27	482.5	20.926	7.57	16.865	482.5	16.865	0.045	98.40%
5/20/2019 12:27	483	20.899	7.57	16.866	483	16.866	0.046	98.30%
5/20/2019 12:27	483.5	20.885	7.571	16.863	483.5	16.863	0.043	98.40%
5/20/2019 12:27	484	20.901	7.569	16.867	484	16.867	0.047	98.30%
5/20/2019 12:27	484.5	20.923	7.572	16.86	484.5	16.86	0.04	98.60%
5/20/2019 12:27	485.014	20.909	7.571	16.862	485.014	16.862	0.042	98.50%
5/20/2019 12:27	485.5	20.915	7.572	16.859	485.5	16.859	0.039	98.60%
5/20/2019 12:27	486	20.896	7.573	16.859	486	16.859	0.039	98.60%
5/20/2019 12:27	486.5	20.92	7.573	16.858	486.5	16.858	0.038	98.60%
5/20/2019 12:27	487	20.915	7.572	16.861	487	16.861	0.041	98.50%
5/20/2019 12:27	487.5	20.904	7.574	16.857	487.5	16.857	0.037	98.70%
5/20/2019 12:27	488	20.923	7.574	16.855	488	16.855	0.035	98.70%
5/20/2019 12:27	488.5	20.931	7.575	16.854	488.5	16.854	0.034	98.80%
5/20/2019 12:27	489	20.905	7.575	16.854	489	16.854	0.034	98.80%
5/20/2019 12:27	489.5	20.929	7.575	16.852	489.5	16.852	0.032	98.80%
5/20/2019 12:27	490	20.928	7.574	16.855	490	16.855	0.035	98.70%
5/20/2019 12:27	490.5	20.911	7.577	16.85	490.5	16.85	0.03	98.90%
5/20/2019 12:27	491	20.921	7.577	16.85	491	16.85	0.03	98.90%
5/20/2019 12:27	491.5	20.93	7.577	16.849	491.5	16.849	0.029	99.00%
5/20/2019 12:27	492	20.925	7.576	16.852	492	16.852	0.032	98.80%
5/20/2019 12:27	492.5	20.933	7.58	16.842	492.5	16.842	0.022	99.20%
5/20/2019 12:27	493	20.924	7.579	16.844	493	16.844	0.024	99.10%
5/20/2019 12:27	493.5	20.907	7.579	16.844	493.5	16.844	0.024	99.10%
5/20/2019 12:27	494	20.901	7.578	16.847	494	16.847	0.027	99.00%
5/20/2019 12:27	494.5	20.909	7.579	16.843	494.5	16.843	0.023	99.20%
5/20/2019 12:27	495	20.91	7.581	16.841	495	16.841	0.021	99.20%
5/20/2019 12:27	495.5	20.916	7.58	16.843	495.5	16.843	0.023	99.20%
5/20/2019 12:27	496	20.925	7.579	16.844	496	16.844	0.024	99.10%
5/20/2019 12:27	496.5	20.915	7.581	16.84	496.5	16.84	0.02	99.30%
5/20/2019 12:27	497	20.909	7.581	16.839	497	16.839	0.019	99.30%
5/20/2019 12:27	497.501	20.923	7.582	16.837	497.501	16.837	0.017	99.40%
5/20/2019 12:27	498.001	20.938	7.581	16.84	498.001	16.84	0.02	99.30%
5/20/2019 12:27	498.501	20.922	7.582	16.838	498.501	16.838	0.018	99.30%
5/20/2019 12:27	499.001	20.943	7.584	16.833	499.001	16.833	0.013	99.50%
5/20/2019 12:27	499.501	20.925	7.583	16.835	499.501	16.835	0.015	99.50%
5/20/2019 12:27	500.001	20.909	7.584	16.833	500.001	16.833	0.013	99.50%
5/20/2019 12:27	500.501	20.914	7.585	16.83	500.501	16.83	0.01	99.60%
5/20/2019 12:27	501.001	20.936	7.584	16.832	501.001	16.832	0.012	99.60%
5/20/2019 12:27	501.501	20.917	7.585	16.83	501.501	16.83	0.01	99.60%
5/20/2019 12:27	502.001	20.932	7.585	16.83	502.001	16.83	0.01	99.60%
5/20/2019 12:27	502.501	20.904	7.587	16.826	502.501	16.826	0.006	99.80%
5/20/2019 12:27	503	20.91	7.586	16.828	503	16.828	0.008	99.70%
5/20/2019 12:27	503.5	20.91	7.587	16.826	503.5	16.826	0.006	99.80%
5/20/2019 12:27	504	20.934	7.586	16.828	504	16.828	0.008	99.70%
5/20/2019 12:27	504.5	20.919	7.586	16.827	504.5	16.827	0.007	99.70%
5/20/2019 12:27	505	20.912	7.587	16.826	505	16.826	0.006	99.80%

5/20/2019 12:27	505.5	20.899	7.588	16.823	505.5	16.823	0.003	99.90%
5/20/2019 12:27	506	20.934	7.588	16.823	506	16.823	0.003	99.90%
5/20/2019 12:27	506.5	20.914	7.59	16.819	506.5	16.819	-0.001	100.00%
5/20/2019 12:27	507	20.917	7.589	16.821	507	16.821	0.001	100.00%
5/20/2019 12:27	507.5	20.935	7.589	16.822	507.5	16.822	0.002	99.90%
5/20/2019 12:27	508	20.92	7.589	16.82	508	16.82	0	100.00%
5/20/2019 12:27	508.5	20.902	7.592	16.815	508.5	16.815	-0.005	100.20%
5/20/2019 12:27	509	20.908	7.591	16.816	509	16.816	-0.004	100.10%
5/20/2019 12:27	509.5	20.916	7.59	16.819	509.5	16.819	-0.001	100.00%
5/20/2019 12:27	510	20.912	7.589	16.82	510	16.82	0	100.00%
5/20/2019 12:27	510.5	20.896	7.59	16.819	510.5	16.819	-0.001	100.00%
5/20/2019 12:27	511	20.92	7.591	16.817	511	16.817	-0.003	100.10%
5/20/2019 12:27	511.5	20.904	7.591	16.816	511.5	16.816	-0.004	100.10%
5/20/2019 12:27	512	20.909	7.591	16.815	512	16.815	-0.005	100.20%
5/20/2019 12:27	512.5	20.913	7.593	16.811	512.5	16.811	-0.009	100.30%
5/20/2019 12:27	513	20.925	7.593	16.811	513	16.811	-0.009	100.30%
5/20/2019 12:27	513.5	20.907	7.594	16.81	513.5	16.81	-0.01	100.40%
5/20/2019 12:27	514	20.922	7.595	16.807	514	16.807	-0.013	100.50%
5/20/2019 12:27	514.5	20.894	7.593	16.812	514.5	16.812	-0.008	100.30%
5/20/2019 12:27	515	20.908	7.594	16.811	515	16.811	-0.009	100.30%
5/20/2019 12:27	515.5	20.917	7.596	16.804	515.5	16.804	-0.016	100.60%
5/20/2019 12:27	516	20.905	7.597	16.802	516	16.802	-0.018	100.70%
5/20/2019 12:27	516.5	20.933	7.595	16.808	516.5	16.808	-0.012	100.40%
5/20/2019 12:27	517	20.904	7.597	16.803	517	16.803	-0.017	100.60%
5/20/2019 12:27	517.5	20.902	7.595	16.806	517.5	16.806	-0.014	100.50%
5/20/2019 12:28	518	20.912	7.597	16.803	518	16.803	-0.017	100.60%
5/20/2019 12:28	518.5	20.881	7.597	16.802	518.5	16.802	-0.018	100.70%
5/20/2019 12:28	519	20.951	7.597	16.803	519	16.803	-0.017	100.60%
5/20/2019 12:28	519.5	20.915	7.598	16.8	519.5	16.8	-0.02	100.70%
5/20/2019 12:28	520	20.892	7.596	16.805	520	16.805	-0.015	100.50%
5/20/2019 12:28	520.5	20.911	7.6	16.795	520.5	16.795	-0.025	100.90%
5/20/2019 12:28	521	20.916	7.598	16.801	521	16.801	-0.019	100.70%
5/20/2019 12:28	521.5	20.927	7.598	16.799	521.5	16.799	-0.021	100.80%
5/20/2019 12:28	522	20.907	7.601	16.794	522	16.794	-0.026	100.90%
5/20/2019 12:28	522.5	20.919	7.601	16.793	522.5	16.793	-0.027	101.00%
5/20/2019 12:28	523	20.895	7.6	16.796	523	16.796	-0.024	100.90%
5/20/2019 12:28	523.5	20.928	7.6	16.796	523.5	16.796	-0.024	100.90%
5/20/2019 12:28	524	20.896	7.602	16.792	524	16.792	-0.028	101.00%
5/20/2019 12:28	524.5	20.896	7.602	16.79	524.5	16.79	-0.03	101.10%
5/20/2019 12:28	525	20.904	7.601	16.793	525	16.793	-0.027	101.00%
5/20/2019 12:28	525.5	20.891	7.602	16.79	525.5	16.79	-0.03	101.10%
5/20/2019 12:28	526	20.922	7.601	16.794	526	16.794	-0.026	100.90%
5/20/2019 12:28	526.5	20.9	7.603	16.788	526.5	16.788	-0.032	101.20%
5/20/2019 12:28	527	20.921	7.602	16.79	527	16.79	-0.03	101.10%
5/20/2019 12:28	527.5	20.907	7.602	16.791	527.5	16.791	-0.029	101.00%
5/20/2019 12:28	528	20.904	7.603	16.788	528	16.788	-0.032	101.20%
5/20/2019 12:28	528.5	20.895	7.604	16.786	528.5	16.786	-0.034	101.20%
5/20/2019 12:28	529	20.922	7.602	16.791	529	16.791	-0.029	101.00%
5/20/2019 12:28	529.5	20.894	7.603	16.788	529.5	16.788	-0.032	101.20%
5/20/2019 12:28	530	20.922	7.604	16.786	530	16.786	-0.034	101.20%
5/20/2019 12:28	530.5	20.907	7.606	16.782	530.5	16.782	-0.038	101.40%
5/20/2019 12:28	531	20.922	7.608	16.777	531	16.777	-0.043	101.60%
5/20/2019 12:28	531.5	20.893	7.607	16.779	531.5	16.779	-0.041	101.50%
5/20/2019 12:28	532	20.918	7.606	16.782	532	16.782	-0.038	101.40%
5/20/2019 12:28	532.5	20.925	7.607	16.779	532.5	16.779	-0.041	101.50%
5/20/2019 12:28	533	20.922	7.609	16.775	533	16.775	-0.045	101.60%
5/20/2019 12:28	533.5	20.893	7.609	16.776	533.5	16.776	-0.044	101.60%
5/20/2019 12:28	534	20.915	7.607	16.779	534	16.779	-0.041	101.50%
5/20/2019 12:28	534.5	20.892	7.609	16.775	534.5	16.775	-0.045	101.60%
5/20/2019 12:28	535	20.908	7.61	16.773	535	16.773	-0.047	101.70%
5/20/2019 12:28	535.5	20.909	7.609	16.774	535.5	16.774	-0.046	101.70%
5/20/2019 12:28	536	20.891	7.61	16.774	536	16.774	-0.046	101.70%
5/20/2019 12:28	536.5	20.916	7.611	16.771	536.5	16.771	-0.049	101.80%
5/20/2019 12:28	537	20.912	7.61	16.772	537	16.772	-0.048	101.70%
5/20/2019 12:28	537.5	20.904	7.61	16.772	537.5	16.772	-0.048	101.70%
5/20/2019 12:28	538	20.922	7.61	16.772	538	16.772	-0.048	101.70%
5/20/2019 12:28	538.5	20.931	7.61	16.772	538.5	16.772	-0.048	101.70%
5/20/2019 12:28	539	20.914	7.612	16.767	539	16.767	-0.053	101.90%

5/20/2019 12:28	539.5	20.899	7.612	16.769	539.5	16.769	-0.051	101.80%
5/20/2019 12:28	540	20.919	7.613	16.765	540	16.765	-0.055	102.00%
5/20/2019 12:28	540.5	20.927	7.613	16.765	540.5	16.765	-0.055	102.00%
5/20/2019 12:28	541	20.897	7.612	16.768	541	16.768	-0.052	101.90%
5/20/2019 12:28	541.5	20.906	7.615	16.76	541.5	16.76	-0.06	102.20%
5/20/2019 12:28	542	20.904	7.614	16.762	542	16.762	-0.058	102.10%
5/20/2019 12:28	542.5	20.906	7.612	16.768	542.5	16.768	-0.052	101.90%
5/20/2019 12:28	543	20.892	7.612	16.769	543	16.769	-0.051	101.80%
5/20/2019 12:28	543.5	20.925	7.613	16.766	543.5	16.766	-0.054	102.00%
5/20/2019 12:28	544	20.915	7.614	16.762	544	16.762	-0.058	102.10%
5/20/2019 12:28	544.5	20.928	7.615	16.761	544.5	16.761	-0.059	102.10%
5/20/2019 12:28	545	20.906	7.615	16.762	545	16.762	-0.058	102.10%
5/20/2019 12:28	545.5	20.912	7.617	16.755	545.5	16.755	-0.065	102.30%
5/20/2019 12:28	546	20.928	7.615	16.761	546	16.761	-0.059	102.10%
5/20/2019 12:28	546.5	20.921	7.616	16.759	546.5	16.759	-0.061	102.20%
5/20/2019 12:28	547	20.909	7.617	16.757	547	16.757	-0.063	102.30%
5/20/2019 12:28	547.5	20.906	7.615	16.76	547.5	16.76	-0.06	102.20%
5/20/2019 12:28	548	20.923	7.617	16.755	548	16.755	-0.065	102.30%
5/20/2019 12:28	548.5	20.93	7.617	16.756	548.5	16.756	-0.064	102.30%
5/20/2019 12:28	549	20.912	7.62	16.75	549	16.75	-0.07	102.50%
5/20/2019 12:28	549.5	20.909	7.62	16.751	549.5	16.751	-0.069	102.50%
5/20/2019 12:28	550	20.903	7.617	16.757	550	16.757	-0.063	102.30%
5/20/2019 12:28	550.5	20.918	7.62	16.75	550.5	16.75	-0.07	102.50%
5/20/2019 12:28	551	20.921	7.62	16.749	551	16.749	-0.071	102.60%
5/20/2019 12:28	551.5	20.899	7.622	16.745	551.5	16.745	-0.075	102.70%
5/20/2019 12:28	552	20.916	7.62	16.749	552	16.749	-0.071	102.60%
5/20/2019 12:28	552.5	20.913	7.619	16.752	552.5	16.752	-0.068	102.50%
5/20/2019 12:28	553	20.907	7.62	16.749	553	16.749	-0.071	102.60%
5/20/2019 12:28	553.5	20.929	7.621	16.748	553.5	16.748	-0.072	102.60%
5/20/2019 12:28	554	20.893	7.621	16.748	554	16.748	-0.072	102.60%
5/20/2019 12:28	554.5	20.9	7.621	16.746	554.5	16.746	-0.074	102.70%
5/20/2019 12:28	555	20.903	7.622	16.744	555	16.744	-0.076	102.70%
5/20/2019 12:28	555.5	20.925	7.621	16.747	555.5	16.747	-0.073	102.60%
5/20/2019 12:28	556	20.899	7.621	16.748	556	16.748	-0.072	102.60%
5/20/2019 12:28	556.5	20.884	7.623	16.743	556.5	16.743	-0.077	102.80%
5/20/2019 12:28	557	20.885	7.623	16.743	557	16.743	-0.077	102.80%
5/20/2019 12:28	557.5	20.905	7.621	16.747	557.5	16.747	-0.073	102.60%
5/20/2019 12:28	558	20.905	7.624	16.741	558	16.741	-0.079	102.90%
5/20/2019 12:28	558.5	20.913	7.622	16.746	558.5	16.746	-0.074	102.70%
5/20/2019 12:28	559	20.918	7.625	16.739	559	16.739	-0.081	102.90%
5/20/2019 12:28	559.5	20.902	7.625	16.739	559.5	16.739	-0.081	102.90%
5/20/2019 12:28	560	20.912	7.625	16.739	560	16.739	-0.081	102.90%
5/20/2019 12:28	560.5	20.921	7.624	16.74	560.5	16.74	-0.08	102.90%
5/20/2019 12:28	561.001	20.904	7.625	16.738	561.001	16.738	-0.082	103.00%
5/20/2019 12:28	561.501	20.903	7.625	16.738	561.501	16.738	-0.082	103.00%
5/20/2019 12:28	562.001	20.928	7.626	16.736	562.001	16.736	-0.084	103.00%
5/20/2019 12:28	562.501	20.916	7.628	16.732	562.501	16.732	-0.088	103.20%
5/20/2019 12:28	563.001	20.912	7.626	16.736	563.001	16.736	-0.084	103.00%
5/20/2019 12:28	563.501	20.896	7.627	16.733	563.501	16.733	-0.087	103.10%
5/20/2019 12:28	564.001	20.909	7.629	16.728	564.001	16.728	-0.092	103.30%
5/20/2019 12:28	564.501	20.905	7.628	16.731	564.501	16.731	-0.089	103.20%
5/20/2019 12:28	565.001	20.9	7.626	16.737	565.001	16.737	-0.083	103.00%
5/20/2019 12:28	565.501	20.897	7.63	16.727	565.501	16.727	-0.093	103.40%
5/20/2019 12:28	566.001	20.921	7.629	16.728	566.001	16.728	-0.092	103.30%
5/20/2019 12:28	566.5	20.891	7.63	16.727	566.5	16.727	-0.093	103.40%
5/20/2019 12:28	567	20.927	7.628	16.732	567	16.732	-0.088	103.20%
5/20/2019 12:28	567.5	20.908	7.628	16.732	567.5	16.732	-0.088	103.20%
5/20/2019 12:28	568	20.922	7.627	16.733	568	16.733	-0.087	103.10%
5/20/2019 12:28	568.5	20.896	7.63	16.727	568.5	16.727	-0.093	103.40%
5/20/2019 12:28	569	20.907	7.629	16.73	569	16.73	-0.09	103.30%
5/20/2019 12:28	569.5	20.923	7.631	16.725	569.5	16.725	-0.095	103.40%
5/20/2019 12:28	570	20.896	7.63	16.727	570	16.727	-0.093	103.40%
5/20/2019 12:28	570.5	20.913	7.63	16.727	570.5	16.727	-0.093	103.40%
5/20/2019 12:28	571	20.911	7.633	16.72	571	16.72	-0.1	103.60%
5/20/2019 12:28	571.5	20.909	7.632	16.723	571.5	16.723	-0.097	103.50%
5/20/2019 12:28	572	20.916	7.632	16.723	572	16.723	-0.097	103.50%
5/20/2019 12:28	572.5	20.934	7.633	16.719	572.5	16.719	-0.101	103.70%
5/20/2019 12:28	573	20.898	7.633	16.72	573	16.72	-0.1	103.60%

5/20/2019 12:28	573.5	20.886	7.633	16.72	573.5	16.72	-0.1	103.60%
5/20/2019 12:28	574	20.911	7.634	16.718	574	16.718	-0.102	103.70%
5/20/2019 12:28	574.5	20.891	7.632	16.721	574.5	16.721	-0.099	103.60%
5/20/2019 12:28	575	20.93	7.635	16.716	575	16.716	-0.104	103.80%
5/20/2019 12:28	575.5	20.881	7.634	16.717	575.5	16.717	-0.103	103.70%
5/20/2019 12:28	576	20.915	7.634	16.716	576	16.716	-0.104	103.80%
5/20/2019 12:28	576.5	20.916	7.632	16.721	576.5	16.721	-0.099	103.60%
5/20/2019 12:28	577	20.902	7.633	16.72	577	16.72	-0.1	103.60%
5/20/2019 12:28	577.5	20.921	7.634	16.717	577.5	16.717	-0.103	103.70%
5/20/2019 12:29	578	20.901	7.634	16.717	578	16.717	-0.103	103.70%
5/20/2019 12:29	578.5	20.916	7.634	16.716	578.5	16.716	-0.104	103.80%
5/20/2019 12:29	579	20.898	7.635	16.715	579	16.715	-0.105	103.80%
5/20/2019 12:29	579.5	20.906	7.635	16.716	579.5	16.716	-0.104	103.80%
5/20/2019 12:29	580	20.895	7.638	16.708	580	16.708	-0.112	104.00%
5/20/2019 12:29	580.5	20.906	7.638	16.707	580.5	16.707	-0.113	104.10%
5/20/2019 12:29	581	20.907	7.635	16.715	581	16.715	-0.105	103.80%
5/20/2019 12:29	581.5	20.91	7.639	16.706	581.5	16.706	-0.114	104.10%
5/20/2019 12:29	582	20.892	7.635	16.715	582	16.715	-0.105	103.80%
5/20/2019 12:29	582.5	20.895	7.639	16.705	582.5	16.705	-0.115	104.20%
5/20/2019 12:29	583	20.909	7.636	16.712	583	16.712	-0.108	103.90%
5/20/2019 12:29	583.5	20.902	7.638	16.708	583.5	16.708	-0.112	104.00%
5/20/2019 12:29	584	20.92	7.638	16.708	584	16.708	-0.112	104.00%
5/20/2019 12:29	584.5	20.901	7.64	16.703	584.5	16.703	-0.117	104.20%
5/20/2019 12:29	585	20.898	7.64	16.703	585	16.703	-0.117	104.20%
5/20/2019 12:29	585.5	20.921	7.639	16.705	585.5	16.705	-0.115	104.20%
5/20/2019 12:29	586	20.907	7.64	16.704	586	16.704	-0.116	104.20%
5/20/2019 12:29	586.5	20.934	7.641	16.7	586.5	16.7	-0.12	104.30%
5/20/2019 12:29	587	20.907	7.641	16.701	587	16.701	-0.119	104.30%
5/20/2019 12:29	587.5	20.909	7.641	16.701	587.5	16.701	-0.119	104.30%
5/20/2019 12:29	588	20.909	7.641	16.701	588	16.701	-0.119	104.30%
5/20/2019 12:29	588.5	20.918	7.641	16.7	588.5	16.7	-0.12	104.30%
5/20/2019 12:29	589	20.915	7.642	16.698	589	16.698	-0.122	104.40%
5/20/2019 12:29	589.5	20.895	7.642	16.7	589.5	16.7	-0.12	104.30%
5/20/2019 12:29	590	20.91	7.642	16.698	590	16.698	-0.122	104.40%
5/20/2019 12:29	590.5	20.932	7.644	16.695	590.5	16.695	-0.125	104.50%
5/20/2019 12:29	591	20.896	7.643	16.696	591	16.696	-0.124	104.50%
5/20/2019 12:29	591.5	20.912	7.643	16.696	591.5	16.696	-0.124	104.50%
5/20/2019 12:29	592	20.917	7.645	16.693	592	16.693	-0.127	104.60%
5/20/2019 12:29	592.5	20.912	7.644	16.695	592.5	16.695	-0.125	104.50%
5/20/2019 12:29	593	20.907	7.642	16.7	593	16.7	-0.12	104.30%
5/20/2019 12:29	593.5	20.926	7.644	16.693	593.5	16.693	-0.127	104.60%
5/20/2019 12:29	594	20.918	7.642	16.698	594	16.698	-0.122	104.40%
5/20/2019 12:29	594.5	20.901	7.645	16.693	594.5	16.693	-0.127	104.60%
5/20/2019 12:29	595	20.898	7.644	16.693	595	16.693	-0.127	104.60%
5/20/2019 12:29	595.5	20.905	7.644	16.693	595.5	16.693	-0.127	104.60%
5/20/2019 12:29	596	20.922	7.644	16.694	596	16.694	-0.126	104.60%
5/20/2019 12:29	596.5	20.908	7.647	16.688	596.5	16.688	-0.132	104.80%
5/20/2019 12:29	597	20.904	7.646	16.691	597	16.691	-0.129	104.70%
5/20/2019 12:29	597.5	20.884	7.647	16.686	597.5	16.686	-0.134	104.80%
5/20/2019 12:29	598	20.906	7.647	16.686	598	16.686	-0.134	104.80%
5/20/2019 12:29	598.5	20.912	7.644	16.694	598.5	16.694	-0.126	104.60%
5/20/2019 12:29	599	20.901	7.647	16.687	599	16.687	-0.133	104.80%
5/20/2019 12:29	599.5	20.917	7.648	16.686	599.5	16.686	-0.134	104.80%
5/20/2019 12:29	600	20.926	7.646	16.689	600	16.689	-0.131	104.70%
5/20/2019 12:29	600.5	20.901	7.648	16.685	600.5	16.685	-0.135	104.90%
5/20/2019 12:29	601	20.903	7.649	16.683	601	16.683	-0.137	105.00%
5/20/2019 12:29	601.5	20.894	7.646	16.69	601.5	16.69	-0.13	104.70%
5/20/2019 12:29	602	20.901	7.648	16.684	602	16.684	-0.136	104.90%
5/20/2019 12:29	602.5	20.907	7.649	16.684	602.5	16.684	-0.136	104.90%
5/20/2019 12:29	603	20.898	7.648	16.686	603	16.686	-0.134	104.80%
5/20/2019 12:29	603.5	20.915	7.651	16.677	603.5	16.677	-0.143	105.20%
5/20/2019 12:29	604	20.928	7.652	16.675	604	16.675	-0.145	105.20%
5/20/2019 12:29	604.5	20.917	7.65	16.68	604.5	16.68	-0.14	105.10%
5/20/2019 12:29	605	20.909	7.649	16.682	605	16.682	-0.138	105.00%
5/20/2019 12:29	605.5	20.928	7.651	16.677	605.5	16.677	-0.143	105.20%
5/20/2019 12:29	606	20.897	7.65	16.68	606	16.68	-0.14	105.10%
5/20/2019 12:29	606.5	20.881	7.651	16.677	606.5	16.677	-0.143	105.20%
5/20/2019 12:29	607	20.922	7.648	16.684	607	16.684	-0.136	104.90%



5/20/2019 12:29	607.5	20.9	7.65	16.679	607.5	16.679	-0.141	105.10%
5/20/2019 12:29	608	20.878	7.651	16.677	608	16.677	-0.143	105.20%
5/20/2019 12:29	608.5	20.906	7.651	16.677	608.5	16.677	-0.143	105.20%
5/20/2019 12:29	609	20.886	7.651	16.678	609	16.678	-0.142	105.10%
5/20/2019 12:29	609.5	20.917	7.651	16.678	609.5	16.678	-0.142	105.10%
5/20/2019 12:29	610	20.903	7.652	16.675	610	16.675	-0.145	105.20%
5/20/2019 12:29	610.5	20.875	7.653	16.674	610.5	16.674	-0.146	105.30%
5/20/2019 12:29	611	20.915	7.653	16.673	611	16.673	-0.147	105.30%
5/20/2019 12:29	611.5	20.904	7.652	16.675	611.5	16.675	-0.145	105.20%
5/20/2019 12:29	612	20.916	7.653	16.673	612	16.673	-0.147	105.30%
5/20/2019 12:29	612.5	20.938	7.655	16.669	612.5	16.669	-0.151	105.50%
5/20/2019 12:29	613	20.894	7.655	16.668	613	16.668	-0.152	105.50%
5/20/2019 12:29	613.5	20.905	7.653	16.674	613.5	16.674	-0.146	105.30%
5/20/2019 12:29	614	20.922	7.654	16.671	614	16.671	-0.149	105.40%
5/20/2019 12:29	614.5	20.904	7.655	16.669	614.5	16.669	-0.151	105.50%
5/20/2019 12:29	615	20.9	7.656	16.666	615	16.666	-0.154	105.60%
5/20/2019 12:29	615.5	20.902	7.655	16.669	615.5	16.669	-0.151	105.50%
5/20/2019 12:29	616	20.92	7.656	16.666	616	16.666	-0.154	105.60%
5/20/2019 12:29	616.5	20.896	7.657	16.664	616.5	16.664	-0.156	105.60%
5/20/2019 12:29	617	20.92	7.656	16.667	617	16.667	-0.153	105.50%
5/20/2019 12:29	617.5	20.899	7.656	16.665	617.5	16.665	-0.155	105.60%
5/20/2019 12:29	618	20.903	7.656	16.666	618	16.666	-0.154	105.60%
5/20/2019 12:29	618.5	20.912	7.658	16.662	618.5	16.662	-0.158	105.70%
5/20/2019 12:29	619	20.9	7.655	16.668	619	16.668	-0.152	105.50%
5/20/2019 12:29	619.5	20.926	7.659	16.66	619.5	16.66	-0.16	105.80%
5/20/2019 12:29	620	20.899	7.658	16.663	620	16.663	-0.157	105.70%
5/20/2019 12:29	620.5	20.922	7.658	16.663	620.5	16.663	-0.157	105.70%
5/20/2019 12:29	621	20.925	7.659	16.659	621	16.659	-0.161	105.80%
5/20/2019 12:29	621.5	20.907	7.658	16.662	621.5	16.662	-0.158	105.70%
5/20/2019 12:29	622	20.892	7.659	16.66	622	16.66	-0.16	105.80%
5/20/2019 12:29	622.5	20.899	7.658	16.663	622.5	16.663	-0.157	105.70%
5/20/2019 12:29	623	20.912	7.659	16.66	623	16.66	-0.16	105.80%
5/20/2019 12:29	623.5	20.88	7.661	16.654	623.5	16.654	-0.166	106.00%
5/20/2019 12:29	624	20.912	7.662	16.653	624	16.653	-0.167	106.00%
5/20/2019 12:29	624.501	20.9	7.659	16.659	624.501	16.659	-0.161	105.80%
5/20/2019 12:29	625.001	20.92	7.66	16.657	625.001	16.657	-0.163	105.90%
5/20/2019 12:29	625.501	20.915	7.658	16.661	625.501	16.661	-0.159	105.70%
5/20/2019 12:29	626.001	20.923	7.661	16.655	626.001	16.655	-0.165	106.00%
5/20/2019 12:29	626.501	20.891	7.662	16.652	626.501	16.652	-0.168	106.10%
5/20/2019 12:29	627.001	20.888	7.659	16.659	627.001	16.659	-0.161	105.80%
5/20/2019 12:29	627.501	20.913	7.661	16.655	627.501	16.655	-0.165	106.00%
5/20/2019 12:29	628.001	20.91	7.661	16.654	628.001	16.654	-0.166	106.00%
5/20/2019 12:29	628.501	20.902	7.662	16.653	628.501	16.653	-0.167	106.00%
5/20/2019 12:29	629.001	20.92	7.663	16.65	629.001	16.65	-0.17	106.10%
5/20/2019 12:29	629.501	20.898	7.664	16.648	629.501	16.648	-0.172	106.20%
5/20/2019 12:29	630	20.915	7.664	16.648	630	16.648	-0.172	106.20%
5/20/2019 12:29	630.5	20.9	7.662	16.652	630.5	16.652	-0.168	106.10%
5/20/2019 12:29	631	20.911	7.663	16.649	631	16.649	-0.171	106.20%
5/20/2019 12:29	631.5	20.924	7.663	16.65	631.5	16.65	-0.17	106.10%
5/20/2019 12:29	632	20.893	7.663	16.651	632	16.651	-0.169	106.10%
5/20/2019 12:29	632.5	20.903	7.663	16.65	632.5	16.65	-0.17	106.10%
5/20/2019 12:29	633	20.92	7.663	16.651	633	16.651	-0.169	106.10%
5/20/2019 12:29	633.5	20.905	7.664	16.648	633.5	16.648	-0.172	106.20%
5/20/2019 12:29	634	20.891	7.665	16.645	634	16.645	-0.175	106.30%
5/20/2019 12:29	634.5	20.909	7.665	16.645	634.5	16.645	-0.175	106.30%
5/20/2019 12:29	635	20.885	7.664	16.647	635	16.647	-0.173	106.30%
5/20/2019 12:29	635.5	20.902	7.663	16.65	635.5	16.65	-0.17	106.10%
5/20/2019 12:29	636	20.891	7.664	16.647	636	16.647	-0.173	106.30%
5/20/2019 12:29	636.5	20.915	7.667	16.64	636.5	16.64	-0.18	106.50%
5/20/2019 12:29	637	20.899	7.665	16.646	637	16.646	-0.174	106.30%
5/20/2019 12:29	637.5	20.909	7.666	16.644	637.5	16.644	-0.176	106.40%
5/20/2019 12:30	638	20.895	7.665	16.645	638	16.645	-0.175	106.30%
5/20/2019 12:30	638.5	20.92	7.667	16.641	638.5	16.641	-0.179	106.50%
5/20/2019 12:30	639	20.891	7.666	16.643	639	16.643	-0.177	106.40%
5/20/2019 12:30	639.5	20.923	7.667	16.642	639.5	16.642	-0.178	106.40%
5/20/2019 12:30	640	20.904	7.667	16.641	640	16.641	-0.179	106.50%
5/20/2019 12:30	640.5	20.88	7.668	16.639	640.5	16.639	-0.181	106.50%
5/20/2019 12:30	641	20.918	7.666	16.643	641	16.643	-0.177	106.40%

5/20/2019 12:30	641.5	20.931	7.668	16.639	641.5	16.639	-0.181	106.50%
5/20/2019 12:30	642	20.898	7.668	16.64	642	16.64	-0.18	106.50%
5/20/2019 12:30	642.5	20.907	7.668	16.639	642.5	16.639	-0.181	106.50%
5/20/2019 12:30	643	20.933	7.667	16.64	643	16.64	-0.18	106.50%
5/20/2019 12:30	643.5	20.896	7.668	16.638	643.5	16.638	-0.182	106.60%
5/20/2019 12:30	644	20.924	7.669	16.637	644	16.637	-0.183	106.60%
5/20/2019 12:30	644.5	20.935	7.669	16.636	644.5	16.636	-0.184	106.60%
5/20/2019 12:30	645	20.902	7.672	16.63	645	16.63	-0.19	106.90%
5/20/2019 12:30	645.5	20.916	7.67	16.633	645.5	16.633	-0.187	106.80%
5/20/2019 12:30	646	20.896	7.67	16.634	646	16.634	-0.186	106.70%
5/20/2019 12:30	646.5	20.899	7.67	16.634	646.5	16.634	-0.186	106.70%
5/20/2019 12:30	647	20.91	7.672	16.63	647	16.63	-0.19	106.90%
5/20/2019 12:30	647.5	20.911	7.672	16.63	647.5	16.63	-0.19	106.90%
5/20/2019 12:30	648	20.906	7.673	16.627	648	16.627	-0.193	107.00%
5/20/2019 12:30	648.5	20.898	7.673	16.626	648.5	16.626	-0.194	107.00%
5/20/2019 12:30	649	20.89	7.672	16.631	649	16.631	-0.189	106.80%
5/20/2019 12:30	649.5	20.912	7.672	16.63	649.5	16.63	-0.19	106.90%
5/20/2019 12:30	650.016	20.917	7.673	16.628	650.016	16.628	-0.192	106.90%
5/20/2019 12:30	650.5	20.924	7.673	16.626	650.5	16.626	-0.194	107.00%
5/20/2019 12:30	651	20.914	7.671	16.632	651	16.632	-0.188	106.80%
5/20/2019 12:30	651.5	20.898	7.673	16.628	651.5	16.628	-0.192	106.90%
5/20/2019 12:30	652	20.911	7.673	16.628	652	16.628	-0.192	106.90%
5/20/2019 12:30	652.5	20.888	7.674	16.624	652.5	16.624	-0.196	107.10%
5/20/2019 12:30	653	20.875	7.672	16.629	653	16.629	-0.191	106.90%
5/20/2019 12:30	653.5	20.92	7.673	16.627	653.5	16.627	-0.193	107.00%
5/20/2019 12:30	654	20.918	7.672	16.629	654	16.629	-0.191	106.90%
5/20/2019 12:30	654.5	20.917	7.674	16.625	654.5	16.625	-0.195	107.00%
5/20/2019 12:30	655	20.91	7.675	16.623	655	16.623	-0.197	107.10%
5/20/2019 12:30	655.5	20.913	7.674	16.625	655.5	16.625	-0.195	107.00%
5/20/2019 12:30	656	20.891	7.675	16.622	656	16.622	-0.198	107.20%
5/20/2019 12:30	656.5	20.898	7.674	16.625	656.5	16.625	-0.195	107.00%
5/20/2019 12:30	657	20.899	7.674	16.625	657	16.625	-0.195	107.00%
5/20/2019 12:30	657.5	20.904	7.675	16.623	657.5	16.623	-0.197	107.10%
5/20/2019 12:30	658	20.916	7.677	16.619	658	16.619	-0.201	107.30%
5/20/2019 12:30	658.5	20.894	7.675	16.621	658.5	16.621	-0.199	107.20%
5/20/2019 12:30	659	20.902	7.677	16.618	659	16.618	-0.202	107.30%
5/20/2019 12:30	659.5	20.904	7.676	16.621	659.5	16.621	-0.199	107.20%
5/20/2019 12:30	660	20.918	7.677	16.618	660	16.618	-0.202	107.30%
5/20/2019 12:30	660.5	20.906	7.676	16.62	660.5	16.62	-0.2	107.20%
5/20/2019 12:30	661	20.884	7.68	16.611	661	16.611	-0.209	107.60%
5/20/2019 12:30	661.5	20.908	7.677	16.619	661.5	16.619	-0.201	107.30%
5/20/2019 12:30	662	20.932	7.678	16.616	662	16.616	-0.204	107.40%
5/20/2019 12:30	662.501	20.912	7.679	16.614	662.501	16.614	-0.206	107.40%
5/20/2019 12:30	663.001	20.909	7.679	16.613	663.001	16.613	-0.207	107.50%
5/20/2019 12:30	663.501	20.903	7.68	16.611	663.501	16.611	-0.209	107.60%
5/20/2019 12:30	664.001	20.907	7.677	16.618	664.001	16.618	-0.202	107.30%
5/20/2019 12:30	664.501	20.905	7.679	16.614	664.501	16.614	-0.206	107.40%
5/20/2019 12:30	665.001	20.938	7.676	16.619	665.001	16.619	-0.201	107.30%
5/20/2019 12:30	665.501	20.91	7.681	16.609	665.501	16.609	-0.211	107.60%
5/20/2019 12:30	666.001	20.916	7.679	16.614	666.001	16.614	-0.206	107.40%
5/20/2019 12:30	666.501	20.909	7.678	16.615	666.501	16.615	-0.205	107.40%
5/20/2019 12:30	667.001	20.909	7.679	16.612	667.001	16.612	-0.208	107.50%
5/20/2019 12:30	667.501	20.916	7.68	16.611	667.501	16.611	-0.209	107.60%
5/20/2019 12:30	668	20.897	7.679	16.614	668	16.614	-0.206	107.40%
5/20/2019 12:30	668.5	20.902	7.682	16.606	668.5	16.606	-0.214	107.70%
5/20/2019 12:30	669	20.913	7.68	16.611	669	16.611	-0.209	107.60%
5/20/2019 12:30	669.5	20.903	7.681	16.608	669.5	16.608	-0.212	107.70%
5/20/2019 12:30	670	20.922	7.68	16.611	670	16.611	-0.209	107.60%
5/20/2019 12:30	670.5	20.891	7.68	16.61	670.5	16.61	-0.21	107.60%
5/20/2019 12:30	671	20.908	7.68	16.61	671	16.61	-0.21	107.60%
5/20/2019 12:30	671.5	20.894	7.682	16.607	671.5	16.607	-0.213	107.70%
5/20/2019 12:30	672	20.894	7.683	16.605	672	16.605	-0.215	107.80%
5/20/2019 12:30	672.5	20.902	7.681	16.609	672.5	16.609	-0.211	107.60%
5/20/2019 12:30	673	20.916	7.683	16.604	673	16.604	-0.216	107.80%
5/20/2019 12:30	673.5	20.896	7.682	16.605	673.5	16.605	-0.215	107.80%
5/20/2019 12:30	674	20.912	7.683	16.605	674	16.605	-0.215	107.80%
5/20/2019 12:30	674.5	20.886	7.682	16.606	674.5	16.606	-0.214	107.70%
5/20/2019 12:30	675	20.917	7.681	16.609	675	16.609	-0.211	107.60%

5/20/2019 12:30	675.5	20.906	7.683	16.604	675.5	16.604	-0.216	107.80%
5/20/2019 12:30	676	20.904	7.685	16.6	676	16.6	-0.22	108.00%
5/20/2019 12:30	676.5	20.906	7.684	16.601	676.5	16.601	-0.219	107.90%
5/20/2019 12:30	677	20.935	7.683	16.604	677	16.604	-0.216	107.80%
5/20/2019 12:30	677.5	20.914	7.684	16.602	677.5	16.602	-0.218	107.90%
5/20/2019 12:30	678	20.895	7.685	16.6	678	16.6	-0.22	108.00%
5/20/2019 12:30	678.5	20.908	7.683	16.603	678.5	16.603	-0.217	107.80%
5/20/2019 12:30	679	20.911	7.684	16.601	679	16.601	-0.219	107.90%
5/20/2019 12:30	679.5	20.905	7.683	16.605	679.5	16.605	-0.215	107.80%
5/20/2019 12:30	680	20.904	7.683	16.605	680	16.605	-0.215	107.80%
5/20/2019 12:30	680.5	20.911	7.683	16.603	680.5	16.603	-0.217	107.80%
5/20/2019 12:30	681	20.887	7.688	16.593	681	16.593	-0.227	108.20%
5/20/2019 12:30	681.5	20.908	7.685	16.599	681.5	16.599	-0.221	108.00%
5/20/2019 12:30	682	20.916	7.688	16.593	682	16.593	-0.227	108.20%
5/20/2019 12:30	682.5	20.909	7.688	16.592	682.5	16.592	-0.228	108.20%
5/20/2019 12:30	683	20.906	7.686	16.598	683	16.598	-0.222	108.00%
5/20/2019 12:30	683.5	20.913	7.687	16.594	683.5	16.594	-0.226	108.20%
5/20/2019 12:30	684	20.916	7.686	16.597	684	16.597	-0.223	108.10%
5/20/2019 12:30	684.5	20.891	7.684	16.601	684.5	16.601	-0.219	107.90%
5/20/2019 12:30	685	20.903	7.689	16.591	685	16.591	-0.229	108.30%
5/20/2019 12:30	685.5	20.916	7.688	16.591	685.5	16.591	-0.229	108.30%
5/20/2019 12:30	686	20.912	7.687	16.595	686	16.595	-0.225	108.10%
5/20/2019 12:30	686.5	20.927	7.689	16.591	686.5	16.591	-0.229	108.30%
5/20/2019 12:30	687	20.915	7.687	16.596	687	16.596	-0.224	108.10%
5/20/2019 12:30	687.5	20.883	7.688	16.593	687.5	16.593	-0.227	108.20%
5/20/2019 12:30	688	20.91	7.687	16.594	688	16.594	-0.226	108.20%
5/20/2019 12:30	688.5	20.896	7.688	16.593	688.5	16.593	-0.227	108.20%
5/20/2019 12:30	689	20.903	7.689	16.59	689	16.59	-0.23	108.30%
5/20/2019 12:30	689.5	20.933	7.69	16.588	689.5	16.588	-0.232	108.40%
5/20/2019 12:30	690	20.904	7.69	16.589	690	16.589	-0.231	108.30%
5/20/2019 12:30	690.5	20.917	7.689	16.59	690.5	16.59	-0.23	108.30%
5/20/2019 12:30	691	20.895	7.689	16.59	691	16.59	-0.23	108.30%
5/20/2019 12:30	691.5	20.919	7.689	16.589	691.5	16.589	-0.231	108.30%
5/20/2019 12:30	692	20.912	7.69	16.588	692	16.588	-0.232	108.40%
5/20/2019 12:30	692.5	20.91	7.689	16.59	692.5	16.59	-0.23	108.30%
5/20/2019 12:30	693	20.925	7.694	16.579	693	16.579	-0.241	108.70%
5/20/2019 12:30	693.5	20.915	7.691	16.587	693.5	16.587	-0.233	108.40%
5/20/2019 12:30	694	20.898	7.691	16.585	694	16.585	-0.235	108.50%
5/20/2019 12:30	694.5	20.887	7.691	16.586	694.5	16.586	-0.234	108.50%
5/20/2019 12:30	695	20.926	7.691	16.585	695	16.585	-0.235	108.50%
5/20/2019 12:30	695.5	20.904	7.69	16.587	695.5	16.587	-0.233	108.40%
5/20/2019 12:30	696	20.903	7.69	16.587	696	16.587	-0.233	108.40%
5/20/2019 12:30	696.5	20.927	7.693	16.582	696.5	16.582	-0.238	108.60%
5/20/2019 12:30	697	20.911	7.691	16.585	697	16.585	-0.235	108.50%
5/20/2019 12:30	697.5	20.897	7.691	16.585	697.5	16.585	-0.235	108.50%
5/20/2019 12:31	698	20.94	7.693	16.581	698	16.581	-0.239	108.60%
5/20/2019 12:31	698.5	20.907	7.692	16.584	698.5	16.584	-0.236	108.50%
5/20/2019 12:31	699	20.925	7.694	16.579	699	16.579	-0.241	108.70%
5/20/2019 12:31	699.5	20.914	7.693	16.581	699.5	16.581	-0.239	108.60%
5/20/2019 12:31	700	20.901	7.693	16.582	700	16.582	-0.238	108.60%
5/20/2019 12:31	700.5	20.909	7.694	16.578	700.5	16.578	-0.242	108.70%
5/20/2019 12:31	701	20.911	7.695	16.577	701	16.577	-0.243	108.80%
5/20/2019 12:31	701.5	20.898	7.696	16.575	701.5	16.575	-0.245	108.90%
5/20/2019 12:31	702	20.901	7.695	16.576	702	16.576	-0.244	108.80%
5/20/2019 12:31	702.5	20.925	7.694	16.579	702.5	16.579	-0.241	108.70%
5/20/2019 12:31	703	20.922	7.694	16.578	703	16.578	-0.242	108.70%
5/20/2019 12:31	703.5	20.902	7.695	16.577	703.5	16.577	-0.243	108.80%
5/20/2019 12:31	704	20.887	7.695	16.577	704	16.577	-0.243	108.80%
5/20/2019 12:31	704.5	20.911	7.695	16.577	704.5	16.577	-0.243	108.80%
5/20/2019 12:31	705	20.886	7.695	16.577	705	16.577	-0.243	108.80%
5/20/2019 12:31	705.5	20.887	7.696	16.573	705.5	16.573	-0.247	108.90%
5/20/2019 12:31	706	20.889	7.695	16.577	706	16.577	-0.243	108.80%
5/20/2019 12:31	706.5	20.883	7.695	16.576	706.5	16.576	-0.244	108.80%
5/20/2019 12:31	707	20.912	7.699	16.568	707	16.568	-0.252	109.10%
5/20/2019 12:31	707.5	20.898	7.695	16.576	707.5	16.576	-0.244	108.80%
5/20/2019 12:31	708	20.911	7.699	16.568	708	16.568	-0.252	109.10%
5/20/2019 12:31	708.5	20.915	7.698	16.57	708.5	16.57	-0.25	109.00%
5/20/2019 12:31	709	20.888	7.696	16.574	709	16.574	-0.246	108.90%

5/20/2019 12:31	709.5	20.922	7.697	16.573	709.5	16.573	-0.247	108.90%
5/20/2019 12:31	710	20.907	7.699	16.568	710	16.568	-0.252	109.10%
5/20/2019 12:31	710.5	20.902	7.697	16.572	710.5	16.572	-0.248	109.00%
5/20/2019 12:31	711	20.904	7.699	16.568	711	16.568	-0.252	109.10%
5/20/2019 12:31	711.5	20.91	7.697	16.571	711.5	16.571	-0.249	109.00%
5/20/2019 12:31	712	20.884	7.699	16.566	712	16.566	-0.254	109.20%
5/20/2019 12:31	712.5	20.929	7.697	16.571	712.5	16.571	-0.249	109.00%
5/20/2019 12:31	713	20.917	7.697	16.573	713	16.573	-0.247	108.90%
5/20/2019 12:31	713.5	20.904	7.698	16.569	713.5	16.569	-0.251	109.10%
5/20/2019 12:31	714	20.919	7.698	16.569	714	16.569	-0.251	109.10%
5/20/2019 12:31	714.5	20.917	7.7	16.564	714.5	16.564	-0.256	109.30%
5/20/2019 12:31	715	20.909	7.7	16.564	715	16.564	-0.256	109.30%
5/20/2019 12:31	715.5	20.918	7.698	16.569	715.5	16.569	-0.251	109.10%
5/20/2019 12:31	716	20.897	7.701	16.563	716	16.563	-0.257	109.30%
5/20/2019 12:31	716.5	20.907	7.7	16.564	716.5	16.564	-0.256	109.30%
5/20/2019 12:31	717	20.905	7.701	16.563	717	16.563	-0.257	109.30%
5/20/2019 12:31	717.5	20.903	7.702	16.561	717.5	16.561	-0.259	109.40%
5/20/2019 12:31	718	20.909	7.7	16.564	718	16.564	-0.256	109.30%
5/20/2019 12:31	718.5	20.902	7.702	16.559	718.5	16.559	-0.261	109.40%
5/20/2019 12:31	719	20.903	7.7	16.565	719	16.565	-0.255	109.20%
5/20/2019 12:31	719.5	20.904	7.702	16.561	719.5	16.561	-0.259	109.40%
5/20/2019 12:31	720	20.909	7.7	16.564	720	16.564	-0.256	109.30%
5/20/2019 12:31	720.5	20.906	7.7	16.565	720.5	16.565	-0.255	109.20%
5/20/2019 12:31	721	20.893	7.702	16.56	721	16.56	-0.26	109.40%
5/20/2019 12:31	721.5	20.891	7.702	16.561	721.5	16.561	-0.259	109.40%
5/20/2019 12:31	722	20.897	7.703	16.557	722	16.557	-0.263	109.50%
5/20/2019 12:31	722.5	20.891	7.701	16.562	722.5	16.562	-0.258	109.30%
5/20/2019 12:31	723	20.894	7.704	16.556	723	16.556	-0.264	109.50%
5/20/2019 12:31	723.5	20.903	7.704	16.556	723.5	16.556	-0.264	109.50%
5/20/2019 12:31	724	20.909	7.703	16.558	724	16.558	-0.262	109.50%
5/20/2019 12:31	724.5	20.881	7.702	16.559	724.5	16.559	-0.261	109.40%
5/20/2019 12:31	725	20.899	7.704	16.555	725	16.555	-0.265	109.60%
5/20/2019 12:31	725.5	20.9	7.702	16.561	725.5	16.561	-0.259	109.40%
5/20/2019 12:31	726.001	20.897	7.702	16.56	726.001	16.56	-0.26	109.40%
5/20/2019 12:31	726.501	20.907	7.702	16.56	726.501	16.56	-0.26	109.40%
5/20/2019 12:31	727.001	20.908	7.705	16.554	727.001	16.554	-0.266	109.60%
5/20/2019 12:31	727.501	20.92	7.702	16.561	727.501	16.561	-0.259	109.40%
5/20/2019 12:31	728.001	20.922	7.705	16.554	728.001	16.554	-0.266	109.60%
5/20/2019 12:31	728.501	20.894	7.703	16.559	728.501	16.559	-0.261	109.40%
5/20/2019 12:31	729.001	20.914	7.703	16.557	729.001	16.557	-0.263	109.50%
5/20/2019 12:31	729.501	20.912	7.708	16.546	729.501	16.546	-0.274	109.90%
5/20/2019 12:31	730.001	20.912	7.705	16.553	730.001	16.553	-0.267	109.60%
5/20/2019 12:31	730.501	20.912	7.703	16.558	730.501	16.558	-0.262	109.50%
5/20/2019 12:31	731.001	20.903	7.706	16.551	731.001	16.551	-0.269	109.70%
5/20/2019 12:31	731.5	20.915	7.704	16.554	731.5	16.554	-0.266	109.60%
5/20/2019 12:31	732	20.894	7.706	16.552	732	16.552	-0.268	109.70%
5/20/2019 12:31	732.5	20.905	7.705	16.553	732.5	16.553	-0.267	109.60%
5/20/2019 12:31	733	20.933	7.707	16.548	733	16.548	-0.272	109.80%
5/20/2019 12:31	733.5	20.907	7.707	16.549	733.5	16.549	-0.271	109.80%
5/20/2019 12:31	734	20.905	7.706	16.551	734	16.551	-0.269	109.70%
5/20/2019 12:31	734.5	20.906	7.707	16.549	734.5	16.549	-0.271	109.80%
5/20/2019 12:31	735	20.907	7.705	16.552	735	16.552	-0.268	109.70%
5/20/2019 12:31	735.5	20.909	7.709	16.545	735.5	16.545	-0.275	109.90%
5/20/2019 12:31	736	20.922	7.708	16.546	736	16.546	-0.274	109.90%
5/20/2019 12:31	736.5	20.899	7.707	16.55	736.5	16.55	-0.27	109.80%
5/20/2019 12:31	737	20.906	7.706	16.55	737	16.55	-0.27	109.80%
5/20/2019 12:31	737.5	20.904	7.708	16.547	737.5	16.547	-0.273	109.90%
5/20/2019 12:31	738	20.899	7.706	16.552	738	16.552	-0.268	109.70%
5/20/2019 12:31	738.5	20.917	7.707	16.549	738.5	16.549	-0.271	109.80%
5/20/2019 12:31	739	20.928	7.707	16.549	739	16.549	-0.271	109.80%
5/20/2019 12:31	739.5	20.876	7.707	16.549	739.5	16.549	-0.271	109.80%
5/20/2019 12:31	740	20.895	7.708	16.546	740	16.546	-0.274	109.90%
5/20/2019 12:31	740.5	20.916	7.708	16.546	740.5	16.546	-0.274	109.90%
5/20/2019 12:31	741	20.914	7.707	16.549	741	16.549	-0.271	109.80%
5/20/2019 12:31	741.5	20.915	7.707	16.548	741.5	16.548	-0.272	109.80%
5/20/2019 12:31	742	20.907	7.709	16.543	742	16.543	-0.277	110.00%
5/20/2019 12:31	742.5	20.907	7.709	16.544	742.5	16.544	-0.276	110.00%
5/20/2019 12:31	743	20.912	7.71	16.541	743	16.541	-0.279	110.10%

5/20/2019 12:31	743.5	20.903	7.71	16.542	743.5	16.542	-0.278	110.00%
5/20/2019 12:31	744	20.9	7.71	16.541	744	16.541	-0.279	110.10%
5/20/2019 12:31	744.5	20.914	7.711	16.539	744.5	16.539	-0.281	110.20%
5/20/2019 12:31	745	20.915	7.71	16.542	745	16.542	-0.278	110.00%
5/20/2019 12:31	745.5	20.892	7.71	16.541	745.5	16.541	-0.279	110.10%
5/20/2019 12:31	746	20.907	7.711	16.54	746	16.54	-0.28	110.10%
5/20/2019 12:31	746.5	20.911	7.711	16.54	746.5	16.54	-0.28	110.10%
5/20/2019 12:31	747	20.913	7.708	16.547	747	16.547	-0.273	109.90%
5/20/2019 12:31	747.5	20.892	7.711	16.539	747.5	16.539	-0.281	110.20%
5/20/2019 12:31	748	20.92	7.712	16.536	748	16.536	-0.284	110.30%
5/20/2019 12:31	748.5	20.914	7.711	16.539	748.5	16.539	-0.281	110.20%
5/20/2019 12:31	749	20.896	7.711	16.54	749	16.54	-0.28	110.10%
5/20/2019 12:31	749.5	20.893	7.709	16.544	749.5	16.544	-0.276	110.00%
5/20/2019 12:31	750	20.897	7.711	16.539	750	16.539	-0.281	110.20%
5/20/2019 12:31	750.5	20.919	7.714	16.532	750.5	16.532	-0.288	110.40%
5/20/2019 12:31	751	20.908	7.71	16.542	751	16.542	-0.278	110.00%
5/20/2019 12:31	751.515	20.892	7.711	16.539	751.515	16.539	-0.281	110.20%
5/20/2019 12:31	752	20.896	7.71	16.542	752	16.542	-0.278	110.00%
5/20/2019 12:31	752.5	20.9	7.712	16.538	752.5	16.538	-0.282	110.20%
5/20/2019 12:31	753	20.895	7.712	16.537	753	16.537	-0.283	110.20%
5/20/2019 12:31	753.5	20.91	7.711	16.54	753.5	16.54	-0.28	110.10%
5/20/2019 12:31	754	20.899	7.713	16.535	754	16.535	-0.285	110.30%
5/20/2019 12:31	754.5	20.924	7.715	16.531	754.5	16.531	-0.289	110.40%
5/20/2019 12:31	755	20.91	7.712	16.538	755	16.538	-0.282	110.20%
5/20/2019 12:31	755.5	20.916	7.712	16.537	755.5	16.537	-0.283	110.20%
5/20/2019 12:31	756	20.946	7.713	16.535	756	16.535	-0.285	110.30%
5/20/2019 12:31	756.5	20.902	7.714	16.532	756.5	16.532	-0.288	110.40%
5/20/2019 12:31	757	20.923	7.712	16.538	757	16.538	-0.282	110.20%
5/20/2019 12:31	757.5	20.899	7.715	16.531	757.5	16.531	-0.289	110.40%
5/20/2019 12:32	758	20.917	7.714	16.532	758	16.532	-0.288	110.40%
5/20/2019 12:32	758.5	20.905	7.715	16.531	758.5	16.531	-0.289	110.40%
5/20/2019 12:32	759	20.917	7.713	16.534	759	16.534	-0.286	110.30%
5/20/2019 12:32	759.5	20.898	7.713	16.534	759.5	16.534	-0.286	110.30%
5/20/2019 12:32	760	20.915	7.714	16.532	760	16.532	-0.288	110.40%
5/20/2019 12:32	760.5	20.901	7.715	16.531	760.5	16.531	-0.289	110.40%
5/20/2019 12:32	761	20.909	7.715	16.531	761	16.531	-0.289	110.40%
5/20/2019 12:32	761.5	20.912	7.714	16.532	761.5	16.532	-0.288	110.40%
5/20/2019 12:32	762	20.891	7.715	16.531	762	16.531	-0.289	110.40%
5/20/2019 12:32	762.5	20.894	7.718	16.523	762.5	16.523	-0.297	110.70%
5/20/2019 12:32	763	20.928	7.714	16.532	763	16.532	-0.288	110.40%
5/20/2019 12:32	763.5	20.899	7.714	16.532	763.5	16.532	-0.288	110.40%
5/20/2019 12:32	764.001	20.907	7.714	16.533	764.001	16.533	-0.287	110.40%
5/20/2019 12:32	764.501	20.895	7.717	16.527	764.501	16.527	-0.293	110.60%
5/20/2019 12:32	765.001	20.896	7.718	16.523	765.001	16.523	-0.297	110.70%
5/20/2019 12:32	765.501	20.917	7.716	16.527	765.501	16.527	-0.293	110.60%
5/20/2019 12:32	766.001	20.899	7.716	16.527	766.001	16.527	-0.293	110.60%
5/20/2019 12:32	766.501	20.912	7.717	16.525	766.501	16.525	-0.295	110.70%
5/20/2019 12:32	767.001	20.886	7.716	16.528	767.001	16.528	-0.292	110.60%
5/20/2019 12:32	767.501	20.894	7.717	16.526	767.501	16.526	-0.294	110.60%
5/20/2019 12:32	768.001	20.886	7.718	16.524	768.001	16.524	-0.296	110.70%
5/20/2019 12:32	768.501	20.907	7.718	16.524	768.501	16.524	-0.296	110.70%
5/20/2019 12:32	769.001	20.891	7.718	16.523	769.001	16.523	-0.297	110.70%
5/20/2019 12:32	769.5	20.89	7.716	16.528	769.5	16.528	-0.292	110.60%
5/20/2019 12:32	770	20.907	7.719	16.521	770	16.521	-0.299	110.80%
5/20/2019 12:32	770.5	20.91	7.718	16.524	770.5	16.524	-0.296	110.70%
5/20/2019 12:32	771	20.904	7.718	16.524	771	16.524	-0.296	110.70%
5/20/2019 12:32	771.5	20.886	7.718	16.523	771.5	16.523	-0.297	110.70%
5/20/2019 12:32	772	20.895	7.718	16.523	772	16.523	-0.297	110.70%
5/20/2019 12:32	772.5	20.899	7.72	16.518	772.5	16.518	-0.302	110.90%
5/20/2019 12:32	773	20.9	7.72	16.519	773	16.519	-0.301	110.90%
5/20/2019 12:32	773.5	20.899	7.719	16.52	773.5	16.52	-0.3	110.80%
5/20/2019 12:32	774	20.9	7.719	16.522	774	16.522	-0.298	110.80%
5/20/2019 12:32	774.5	20.893	7.721	16.516	774.5	16.516	-0.304	111.00%
5/20/2019 12:32	775	20.922	7.72	16.52	775	16.52	-0.3	110.80%
5/20/2019 12:32	775.5	20.889	7.718	16.524	775.5	16.524	-0.296	110.70%
5/20/2019 12:32	776	20.903	7.718	16.524	776	16.524	-0.296	110.70%
5/20/2019 12:32	776.5	20.898	7.719	16.521	776.5	16.521	-0.299	110.80%
5/20/2019 12:32	777	20.907	7.718	16.524	777	16.524	-0.296	110.70%

5/20/2019 12:32	777.5	20.886	7.719	16.521	777.5	16.521	-0.299	110.80%
5/20/2019 12:32	778	20.876	7.72	16.518	778	16.518	-0.302	110.90%
5/20/2019 12:32	778.5	20.902	7.718	16.524	778.5	16.524	-0.296	110.70%
5/20/2019 12:32	779	20.901	7.721	16.517	779	16.517	-0.303	111.00%
5/20/2019 12:32	779.5	20.895	7.72	16.518	779.5	16.518	-0.302	110.90%
5/20/2019 12:32	780	20.92	7.719	16.52	780	16.52	-0.3	110.80%
5/20/2019 12:32	780.5	20.903	7.72	16.52	780.5	16.52	-0.3	110.80%
5/20/2019 12:32	781	20.888	7.721	16.516	781	16.516	-0.304	111.00%
5/20/2019 12:32	781.5	20.909	7.722	16.514	781.5	16.514	-0.306	111.10%
5/20/2019 12:32	782	20.914	7.722	16.515	782	16.515	-0.305	111.00%
5/20/2019 12:32	782.5	20.892	7.723	16.513	782.5	16.513	-0.307	111.10%
5/20/2019 12:32	783	20.908	7.721	16.517	783	16.517	-0.303	111.00%
5/20/2019 12:32	783.5	20.914	7.722	16.515	783.5	16.515	-0.305	111.00%
5/20/2019 12:32	784	20.915	7.723	16.512	784	16.512	-0.308	111.10%
5/20/2019 12:32	784.5	20.918	7.723	16.512	784.5	16.512	-0.308	111.10%
5/20/2019 12:32	785	20.902	7.725	16.507	785	16.507	-0.313	111.30%
5/20/2019 12:32	785.5	20.915	7.723	16.511	785.5	16.511	-0.309	111.20%
5/20/2019 12:32	786	20.925	7.725	16.508	786	16.508	-0.312	111.30%
5/20/2019 12:32	786.5	20.93	7.721	16.516	786.5	16.516	-0.304	111.00%
5/20/2019 12:32	787	20.913	7.723	16.511	787	16.511	-0.309	111.20%
5/20/2019 12:32	787.5	20.89	7.725	16.507	787.5	16.507	-0.313	111.30%
5/20/2019 12:32	788	20.914	7.724	16.51	788	16.51	-0.31	111.20%
5/20/2019 12:32	788.5	20.914	7.722	16.513	788.5	16.513	-0.307	111.10%
5/20/2019 12:32	789	20.899	7.722	16.514	789	16.514	-0.306	111.10%
5/20/2019 12:32	789.5	20.914	7.723	16.511	789.5	16.511	-0.309	111.20%
5/20/2019 12:32	790	20.926	7.721	16.517	790	16.517	-0.303	111.00%
5/20/2019 12:32	790.5	20.891	7.723	16.512	790.5	16.512	-0.308	111.10%
5/20/2019 12:32	791	20.92	7.725	16.507	791	16.507	-0.313	111.30%
5/20/2019 12:32	791.5	20.895	7.724	16.509	791.5	16.509	-0.311	111.20%
5/20/2019 12:32	792	20.884	7.724	16.51	792	16.51	-0.31	111.20%
5/20/2019 12:32	792.5	20.898	7.725	16.506	792.5	16.506	-0.314	111.30%
5/20/2019 12:32	793	20.92	7.722	16.514	793	16.514	-0.306	111.10%
5/20/2019 12:32	793.5	20.908	7.725	16.508	793.5	16.508	-0.312	111.30%
5/20/2019 12:32	794	20.899	7.725	16.507	794	16.507	-0.313	111.30%
5/20/2019 12:32	794.5	20.92	7.723	16.511	794.5	16.511	-0.309	111.20%
5/20/2019 12:32	795	20.918	7.725	16.506	795	16.506	-0.314	111.30%
5/20/2019 12:32	795.5	20.893	7.726	16.504	795.5	16.504	-0.316	111.40%
5/20/2019 12:32	796	20.913	7.727	16.503	796	16.503	-0.317	111.50%
5/20/2019 12:32	796.5	20.895	7.727	16.501	796.5	16.501	-0.319	111.50%
5/20/2019 12:32	797	20.899	7.721	16.516	797	16.516	-0.304	111.00%
5/20/2019 12:32	797.5	20.917	7.726	16.504	797.5	16.504	-0.316	111.40%
5/20/2019 12:32	798	20.922	7.728	16.5	798	16.5	-0.32	111.60%
5/20/2019 12:32	798.5	20.915	7.727	16.502	798.5	16.502	-0.318	111.50%
5/20/2019 12:32	799	20.899	7.726	16.504	799	16.504	-0.316	111.40%
5/20/2019 12:32	799.5	20.908	7.725	16.506	799.5	16.506	-0.314	111.30%
5/20/2019 12:32	800	20.925	7.727	16.501	800	16.501	-0.319	111.50%
5/20/2019 12:32	800.5	20.906	7.729	16.497	800.5	16.497	-0.323	111.70%
5/20/2019 12:32	801	20.902	7.729	16.498	801	16.498	-0.322	111.60%
5/20/2019 12:32	801.5	20.89	7.727	16.502	801.5	16.502	-0.318	111.50%
5/20/2019 12:32	802	20.92	7.726	16.505	802	16.505	-0.315	111.40%
5/20/2019 12:32	802.5	20.886	7.727	16.502	802.5	16.502	-0.318	111.50%
5/20/2019 12:32	803	20.923	7.73	16.496	803	16.496	-0.324	111.70%
5/20/2019 12:32	803.5	20.894	7.728	16.501	803.5	16.501	-0.319	111.50%
5/20/2019 12:32	804	20.902	7.728	16.5	804	16.5	-0.32	111.60%
5/20/2019 12:32	804.5	20.93	7.727	16.503	804.5	16.503	-0.317	111.50%
5/20/2019 12:32	805	20.905	7.727	16.503	805	16.503	-0.317	111.50%
5/20/2019 12:32	805.5	20.908	7.727	16.503	805.5	16.503	-0.317	111.50%
5/20/2019 12:32	806	20.895	7.728	16.501	806	16.501	-0.319	111.50%
5/20/2019 12:32	806.5	20.906	7.728	16.499	806.5	16.499	-0.321	111.60%
5/20/2019 12:32	807	20.907	7.728	16.499	807	16.499	-0.321	111.60%
5/20/2019 12:32	807.5	20.909	7.728	16.5	807.5	16.5	-0.32	111.60%
5/20/2019 12:32	808	20.889	7.729	16.497	808	16.497	-0.323	111.70%
5/20/2019 12:32	808.5	20.904	7.73	16.496	808.5	16.496	-0.324	111.70%
5/20/2019 12:32	809	20.916	7.73	16.495	809	16.495	-0.325	111.70%
5/20/2019 12:32	809.5	20.895	7.73	16.495	809.5	16.495	-0.325	111.70%
5/20/2019 12:32	810	20.914	7.728	16.501	810	16.501	-0.319	111.50%
5/20/2019 12:32	810.5	20.901	7.729	16.499	810.5	16.499	-0.321	111.60%
5/20/2019 12:32	811	20.909	7.73	16.496	811	16.496	-0.324	111.70%

5/20/2019 12:32	811.5	20.912	7.729	16.498	811.5	16.498	-0.322	111.60%
5/20/2019 12:32	812	20.881	7.73	16.496	812	16.496	-0.324	111.70%
5/20/2019 12:32	812.5	20.907	7.73	16.496	812.5	16.496	-0.324	111.70%
5/20/2019 12:32	813	20.918	7.733	16.489	813	16.489	-0.331	112.00%
5/20/2019 12:32	813.5	20.897	7.733	16.489	813.5	16.489	-0.331	112.00%
5/20/2019 12:32	814	20.907	7.73	16.496	814	16.496	-0.324	111.70%
5/20/2019 12:32	814.5	20.903	7.733	16.49	814.5	16.49	-0.33	111.90%
5/20/2019 12:32	815	20.919	7.731	16.494	815	16.494	-0.326	111.80%
5/20/2019 12:32	815.5	20.906	7.729	16.498	815.5	16.498	-0.322	111.60%
5/20/2019 12:32	816	20.891	7.732	16.491	816	16.491	-0.329	111.90%
5/20/2019 12:32	816.5	20.917	7.733	16.489	816.5	16.489	-0.331	112.00%
5/20/2019 12:32	817	20.908	7.733	16.489	817	16.489	-0.331	112.00%
5/20/2019 12:32	817.5	20.915	7.73	16.495	817.5	16.495	-0.325	111.70%
5/20/2019 12:33	818	20.907	7.73	16.495	818	16.495	-0.325	111.70%
5/20/2019 12:33	818.5	20.906	7.732	16.49	818.5	16.49	-0.33	111.90%
5/20/2019 12:33	819	20.904	7.732	16.49	819	16.49	-0.33	111.90%
5/20/2019 12:33	819.5	20.904	7.731	16.492	819.5	16.492	-0.328	111.90%
5/20/2019 12:33	820	20.893	7.732	16.49	820	16.49	-0.33	111.90%
5/20/2019 12:33	820.5	20.91	7.732	16.492	820.5	16.492	-0.328	111.90%
5/20/2019 12:33	821	20.921	7.731	16.493	821	16.493	-0.327	111.80%
5/20/2019 12:33	821.5	20.913	7.732	16.49	821.5	16.49	-0.33	111.90%
5/20/2019 12:33	822	20.92	7.733	16.488	822	16.488	-0.332	112.00%
5/20/2019 12:33	822.5	20.89	7.733	16.489	822.5	16.489	-0.331	112.00%
5/20/2019 12:33	823	20.896	7.732	16.492	823	16.492	-0.328	111.90%
5/20/2019 12:33	823.5	20.899	7.733	16.489	823.5	16.489	-0.331	112.00%
5/20/2019 12:33	824	20.917	7.734	16.486	824	16.486	-0.334	112.10%
5/20/2019 12:33	824.5	20.922	7.735	16.484	824.5	16.484	-0.336	112.10%
5/20/2019 12:33	825	20.902	7.733	16.488	825	16.488	-0.332	112.00%
5/20/2019 12:33	825.5	20.907	7.736	16.483	825.5	16.483	-0.337	112.20%
5/20/2019 12:33	826	20.895	7.736	16.482	826	16.482	-0.338	112.20%
5/20/2019 12:33	826.5	20.918	7.733	16.488	826.5	16.488	-0.332	112.00%
5/20/2019 12:33	827	20.897	7.733	16.489	827	16.489	-0.331	112.00%
5/20/2019 12:33	827.501	20.898	7.735	16.484	827.501	16.484	-0.336	112.10%
5/20/2019 12:33	828.001	20.9	7.736	16.482	828.001	16.482	-0.338	112.20%
5/20/2019 12:33	828.501	20.917	7.734	16.485	828.501	16.485	-0.335	112.10%
5/20/2019 12:33	829.001	20.908	7.735	16.485	829.001	16.485	-0.335	112.10%
5/20/2019 12:33	829.501	20.916	7.735	16.485	829.501	16.485	-0.335	112.10%
5/20/2019 12:33	830.001	20.894	7.735	16.483	830.001	16.483	-0.337	112.20%
5/20/2019 12:33	830.501	20.912	7.734	16.487	830.501	16.487	-0.333	112.00%
5/20/2019 12:33	831.001	20.874	7.737	16.48	831.001	16.48	-0.34	112.30%
5/20/2019 12:33	831.501	20.902	7.736	16.481	831.501	16.481	-0.339	112.30%
5/20/2019 12:33	832.001	20.927	7.735	16.484	832.001	16.484	-0.336	112.10%
5/20/2019 12:33	832.501	20.904	7.736	16.482	832.501	16.482	-0.338	112.20%
5/20/2019 12:33	833	20.895	7.734	16.486	833	16.486	-0.334	112.10%
5/20/2019 12:33	833.5	20.917	7.735	16.484	833.5	16.484	-0.336	112.10%
5/20/2019 12:33	834	20.902	7.732	16.49	834	16.49	-0.33	111.90%
5/20/2019 12:33	834.5	20.906	7.735	16.484	834.5	16.484	-0.336	112.10%
5/20/2019 12:33	835	20.915	7.737	16.48	835	16.48	-0.34	112.30%
5/20/2019 12:33	835.5	20.879	7.734	16.486	835.5	16.486	-0.334	112.10%
5/20/2019 12:33	836	20.9	7.735	16.485	836	16.485	-0.335	112.10%
5/20/2019 12:33	836.5	20.913	7.735	16.484	836.5	16.484	-0.336	112.10%
5/20/2019 12:33	837	20.919	7.736	16.482	837	16.482	-0.338	112.20%
5/20/2019 12:33	837.5	20.911	7.736	16.482	837.5	16.482	-0.338	112.20%
5/20/2019 12:33	838	20.886	7.738	16.478	838	16.478	-0.342	112.40%
5/20/2019 12:33	838.5	20.899	7.737	16.48	838.5	16.48	-0.34	112.30%
5/20/2019 12:33	839	20.913	7.737	16.48	839	16.48	-0.34	112.30%
5/20/2019 12:33	839.5	20.915	7.739	16.474	839.5	16.474	-0.346	112.50%
5/20/2019 12:33	840	20.884	7.737	16.48	840	16.48	-0.34	112.30%
5/20/2019 12:33	840.5	20.892	7.738	16.477	840.5	16.477	-0.343	112.40%
5/20/2019 12:33	841	20.897	7.737	16.478	841	16.478	-0.342	112.40%
5/20/2019 12:33	841.5	20.9	7.739	16.474	841.5	16.474	-0.346	112.50%
5/20/2019 12:33	842	20.903	7.737	16.479	842	16.479	-0.341	112.30%
5/20/2019 12:33	842.5	20.899	7.737	16.48	842.5	16.48	-0.34	112.30%
5/20/2019 12:33	843	20.907	7.739	16.476	843	16.476	-0.344	112.40%
5/20/2019 12:33	843.5	20.896	7.739	16.475	843.5	16.475	-0.345	112.50%
5/20/2019 12:33	844	20.912	7.739	16.474	844	16.474	-0.346	112.50%
5/20/2019 12:33	844.5	20.909	7.737	16.479	844.5	16.479	-0.341	112.30%
5/20/2019 12:33	845	20.894	7.736	16.482	845	16.482	-0.338	112.20%



5/20/2019 12:33	845.5	20.884	7.737	16.479	845.5	16.479	-0.341	112.30%
5/20/2019 12:33	846	20.914	7.74	16.473	846	16.473	-0.347	112.50%
5/20/2019 12:33	846.5	20.907	7.737	16.478	846.5	16.478	-0.342	112.40%
5/20/2019 12:33	847	20.907	7.741	16.471	847	16.471	-0.349	112.60%
5/20/2019 12:33	847.5	20.907	7.74	16.473	847.5	16.473	-0.347	112.50%
5/20/2019 12:33	848	20.92	7.738	16.476	848	16.476	-0.344	112.40%
5/20/2019 12:33	848.5	20.91	7.737	16.478	848.5	16.478	-0.342	112.40%
5/20/2019 12:33	849	20.915	7.74	16.472	849	16.472	-0.348	112.60%
5/20/2019 12:33	849.5	20.894	7.741	16.47	849.5	16.47	-0.35	112.60%
5/20/2019 12:33	850	20.912	7.737	16.479	850	16.479	-0.341	112.30%
5/20/2019 12:33	850.5	20.907	7.74	16.473	850.5	16.473	-0.347	112.50%
5/20/2019 12:33	851	20.914	7.74	16.472	851	16.472	-0.348	112.60%
5/20/2019 12:33	851.5	20.894	7.74	16.473	851.5	16.473	-0.347	112.50%
5/20/2019 12:33	852	20.886	7.74	16.473	852	16.473	-0.347	112.50%
5/20/2019 12:33	852.5	20.889	7.741	16.469	852.5	16.469	-0.351	112.70%
5/20/2019 12:33	853.014	20.928	7.741	16.471	853.014	16.471	-0.349	112.60%
5/20/2019 12:33	853.5	20.902	7.741	16.471	853.5	16.471	-0.349	112.60%
5/20/2019 12:33	854	20.894	7.741	16.469	854	16.469	-0.351	112.70%
5/20/2019 12:33	854.5	20.929	7.743	16.466	854.5	16.466	-0.354	112.80%
5/20/2019 12:33	855	20.899	7.742	16.467	855	16.467	-0.353	112.80%
5/20/2019 12:33	855.5	20.918	7.741	16.47	855.5	16.47	-0.35	112.60%
5/20/2019 12:33	856	20.902	7.742	16.467	856	16.467	-0.353	112.80%
5/20/2019 12:33	856.5	20.909	7.74	16.473	856.5	16.473	-0.347	112.50%
5/20/2019 12:33	857	20.899	7.743	16.466	857	16.466	-0.354	112.80%
5/20/2019 12:33	857.5	20.925	7.743	16.465	857.5	16.465	-0.355	112.80%
5/20/2019 12:33	858	20.891	7.741	16.47	858	16.47	-0.35	112.60%
5/20/2019 12:33	858.5	20.929	7.741	16.469	858.5	16.469	-0.351	112.70%
5/20/2019 12:33	859	20.9	7.742	16.468	859	16.468	-0.352	112.70%
5/20/2019 12:33	859.5	20.894	7.742	16.467	859.5	16.467	-0.353	112.80%
5/20/2019 12:33	860	20.913	7.744	16.464	860	16.464	-0.356	112.90%
5/20/2019 12:33	860.5	20.909	7.743	16.465	860.5	16.465	-0.355	112.80%
5/20/2019 12:33	861	20.884	7.743	16.466	861	16.466	-0.354	112.80%
5/20/2019 12:33	861.5	20.904	7.745	16.462	861.5	16.462	-0.358	112.90%
5/20/2019 12:33	862	20.894	7.741	16.471	862	16.471	-0.349	112.60%
5/20/2019 12:33	862.5	20.896	7.743	16.464	862.5	16.464	-0.356	112.90%
5/20/2019 12:33	863	20.884	7.743	16.465	863	16.465	-0.355	112.80%
5/20/2019 12:33	863.5	20.902	7.743	16.466	863.5	16.466	-0.354	112.80%
5/20/2019 12:33	864	20.921	7.741	16.469	864	16.469	-0.351	112.70%
5/20/2019 12:33	864.5	20.907	7.744	16.462	864.5	16.462	-0.358	112.90%
5/20/2019 12:33	865	20.891	7.744	16.463	865	16.463	-0.357	112.90%
5/20/2019 12:33	865.501	20.915	7.744	16.463	865.501	16.463	-0.357	112.90%
5/20/2019 12:33	866.001	20.906	7.741	16.471	866.001	16.471	-0.349	112.60%
5/20/2019 12:33	866.501	20.902	7.744	16.463	866.501	16.463	-0.357	112.90%
5/20/2019 12:33	867.001	20.893	7.744	16.464	867.001	16.464	-0.356	112.90%
5/20/2019 12:33	867.501	20.903	7.742	16.468	867.501	16.468	-0.352	112.70%
5/20/2019 12:33	868.001	20.878	7.744	16.462	868.001	16.462	-0.358	112.90%
5/20/2019 12:33	868.501	20.899	7.745	16.462	868.501	16.462	-0.358	112.90%
5/20/2019 12:33	869.001	20.914	7.745	16.462	869.001	16.462	-0.358	112.90%
5/20/2019 12:33	869.501	20.899	7.745	16.46	869.501	16.46	-0.36	113.00%
5/20/2019 12:33	870.001	20.902	7.744	16.464	870.001	16.464	-0.356	112.90%
5/20/2019 12:33	870.501	20.925	7.745	16.46	870.501	16.46	-0.36	113.00%
5/20/2019 12:33	871	20.885	7.746	16.46	871	16.46	-0.36	113.00%
5/20/2019 12:33	871.5	20.894	7.745	16.462	871.5	16.462	-0.358	112.90%
5/20/2019 12:33	872	20.91	7.746	16.458	872	16.458	-0.362	113.10%
5/20/2019 12:33	872.5	20.918	7.747	16.457	872.5	16.457	-0.363	113.10%
5/20/2019 12:33	873	20.899	7.745	16.461	873	16.461	-0.359	113.00%
5/20/2019 12:33	873.5	20.917	7.746	16.458	873.5	16.458	-0.362	113.10%
5/20/2019 12:33	874	20.915	7.747	16.457	874	16.457	-0.363	113.10%
5/20/2019 12:33	874.5	20.915	7.747	16.456	874.5	16.456	-0.364	113.20%
5/20/2019 12:33	875	20.923	7.747	16.457	875	16.457	-0.363	113.10%
5/20/2019 12:33	875.5	20.902	7.745	16.462	875.5	16.462	-0.358	112.90%
5/20/2019 12:33	876	20.92	7.746	16.458	876	16.458	-0.362	113.10%
5/20/2019 12:33	876.5	20.903	7.746	16.459	876.5	16.459	-0.361	113.00%
5/20/2019 12:33	877	20.903	7.746	16.458	877	16.458	-0.362	113.10%
5/20/2019 12:33	877.5	20.883	7.745	16.461	877.5	16.461	-0.359	113.00%
5/20/2019 12:34	878	20.909	7.745	16.461	878	16.461	-0.359	113.00%
5/20/2019 12:34	878.5	20.891	7.747	16.456	878.5	16.456	-0.364	113.20%
5/20/2019 12:34	879	20.9	7.745	16.46	879	16.46	-0.36	113.00%

5/20/2019 12:34	879.5	20.901	7.746	16.458	879.5	16.458	-0.362	113.10%
5/20/2019 12:34	880	20.907	7.748	16.454	880	16.454	-0.366	113.20%
5/20/2019 12:34	880.5	20.895	7.747	16.456	880.5	16.456	-0.364	113.20%
5/20/2019 12:34	881	20.907	7.747	16.457	881	16.457	-0.363	113.10%
5/20/2019 12:34	881.5	20.912	7.746	16.46	881.5	16.46	-0.36	113.00%
5/20/2019 12:34	882	20.912	7.747	16.457	882	16.457	-0.363	113.10%
5/20/2019 12:34	882.5	20.903	7.747	16.456	882.5	16.456	-0.364	113.20%
5/20/2019 12:34	883	20.903	7.746	16.459	883	16.459	-0.361	113.00%
5/20/2019 12:34	883.5	20.917	7.747	16.455	883.5	16.455	-0.365	113.20%
5/20/2019 12:34	884	20.907	7.747	16.457	884	16.457	-0.363	113.10%
5/20/2019 12:34	884.5	20.906	7.75	16.449	884.5	16.449	-0.371	113.40%
5/20/2019 12:34	885	20.881	7.748	16.453	885	16.453	-0.367	113.30%
5/20/2019 12:34	885.5	20.893	7.747	16.456	885.5	16.456	-0.364	113.20%
5/20/2019 12:34	886	20.912	7.747	16.457	886	16.457	-0.363	113.10%
5/20/2019 12:34	886.5	20.905	7.748	16.453	886.5	16.453	-0.367	113.30%
5/20/2019 12:34	887	20.895	7.749	16.451	887	16.451	-0.369	113.30%
5/20/2019 12:34	887.5	20.912	7.749	16.452	887.5	16.452	-0.368	113.30%
5/20/2019 12:34	888	20.922	7.749	16.453	888	16.453	-0.367	113.30%
5/20/2019 12:34	888.5	20.93	7.748	16.454	888.5	16.454	-0.366	113.20%
5/20/2019 12:34	889	20.891	7.747	16.455	889	16.455	-0.365	113.20%
5/20/2019 12:34	889.5	20.916	7.746	16.459	889.5	16.459	-0.361	113.00%
5/20/2019 12:34	890	20.902	7.748	16.453	890	16.453	-0.367	113.30%
5/20/2019 12:34	890.5	20.925	7.748	16.453	890.5	16.453	-0.367	113.30%
5/20/2019 12:34	891	20.909	7.749	16.452	891	16.452	-0.368	113.30%
5/20/2019 12:34	891.5	20.929	7.75	16.449	891.5	16.449	-0.371	113.40%
5/20/2019 12:34	892	20.904	7.75	16.45	892	16.45	-0.37	113.40%
5/20/2019 12:34	892.5	20.919	7.748	16.453	892.5	16.453	-0.367	113.30%
5/20/2019 12:34	893	20.887	7.75	16.449	893	16.449	-0.371	113.40%
5/20/2019 12:34	893.5	20.909	7.749	16.452	893.5	16.452	-0.368	113.30%
5/20/2019 12:34	894	20.889	7.749	16.451	894	16.451	-0.369	113.30%
5/20/2019 12:34	894.5	20.892	7.75	16.449	894.5	16.449	-0.371	113.40%
5/20/2019 12:34	895	20.911	7.75	16.449	895	16.449	-0.371	113.40%
5/20/2019 12:34	895.5	20.907	7.751	16.448	895.5	16.448	-0.372	113.40%
5/20/2019 12:34	896	20.892	7.751	16.446	896	16.446	-0.374	113.50%
5/20/2019 12:34	896.5	20.903	7.749	16.451	896.5	16.451	-0.369	113.30%
5/20/2019 12:34	897	20.899	7.75	16.449	897	16.449	-0.371	113.40%
5/20/2019 12:34	897.5	20.891	7.751	16.446	897.5	16.446	-0.374	113.50%
5/20/2019 12:34	898	20.909	7.751	16.448	898	16.448	-0.372	113.40%
5/20/2019 12:34	898.5	20.892	7.752	16.446	898.5	16.446	-0.374	113.50%
5/20/2019 12:34	899	20.911	7.75	16.449	899	16.449	-0.371	113.40%
5/20/2019 12:34	899.5	20.892	7.751	16.447	899.5	16.447	-0.373	113.50%
5/20/2019 12:34	900	20.906	7.751	16.446	900	16.446	-0.374	113.50%
5/20/2019 12:34	900.5	20.918	7.75	16.448	900.5	16.448	-0.372	113.40%
5/20/2019 12:34	901	20.905	7.751	16.447	901	16.447	-0.373	113.50%
5/20/2019 12:34	901.5	20.896	7.751	16.447	901.5	16.447	-0.373	113.50%
5/20/2019 12:34	902	20.93	7.751	16.447	902	16.447	-0.373	113.50%
5/20/2019 12:34	902.5	20.875	7.751	16.448	902.5	16.448	-0.372	113.40%
5/20/2019 12:34	903	20.908	7.752	16.444	903	16.444	-0.376	113.60%
5/20/2019 12:34	903.5	20.923	7.751	16.448	903.5	16.448	-0.372	113.40%
5/20/2019 12:34	904	20.912	7.752	16.444	904	16.444	-0.376	113.60%
5/20/2019 12:34	904.5	20.892	7.751	16.447	904.5	16.447	-0.373	113.50%
5/20/2019 12:34	905	20.909	7.752	16.445	905	16.445	-0.375	113.60%
5/20/2019 12:34	905.5	20.909	7.751	16.446	905.5	16.446	-0.374	113.50%
5/20/2019 12:34	906	20.905	7.752	16.444	906	16.444	-0.376	113.60%
5/20/2019 12:34	906.5	20.908	7.753	16.442	906.5	16.442	-0.378	113.70%
5/20/2019 12:34	907	20.906	7.753	16.443	907	16.443	-0.377	113.60%
5/20/2019 12:34	907.5	20.913	7.753	16.442	907.5	16.442	-0.378	113.70%
5/20/2019 12:34	908	20.905	7.752	16.444	908	16.444	-0.376	113.60%
5/20/2019 12:34	908.5	20.919	7.752	16.444	908.5	16.444	-0.376	113.60%
5/20/2019 12:34	909	20.899	7.753	16.443	909	16.443	-0.377	113.60%
5/20/2019 12:34	909.5	20.904	7.751	16.446	909.5	16.446	-0.374	113.50%
5/20/2019 12:34	910	20.907	7.754	16.439	910	16.439	-0.381	113.80%
5/20/2019 12:34	910.5	20.914	7.751	16.447	910.5	16.447	-0.373	113.50%
5/20/2019 12:34	911	20.907	7.754	16.441	911	16.441	-0.379	113.70%
5/20/2019 12:34	911.5	20.916	7.754	16.44	911.5	16.44	-0.38	113.70%
5/20/2019 12:34	912	20.89	7.753	16.442	912	16.442	-0.378	113.70%
5/20/2019 12:34	912.5	20.899	7.753	16.443	912.5	16.443	-0.377	113.60%
5/20/2019 12:34	913	20.892	7.756	16.436	913	16.436	-0.384	113.90%

5/20/2019 12:34	913.5	20.895	7.753	16.443	913.5	16.443	-0.377	113.60%
5/20/2019 12:34	914	20.9	7.754	16.439	914	16.439	-0.381	113.80%
5/20/2019 12:34	914.5	20.901	7.753	16.442	914.5	16.442	-0.378	113.70%
5/20/2019 12:34	915	20.888	7.754	16.441	915	16.441	-0.379	113.70%
5/20/2019 12:34	915.5	20.898	7.753	16.441	915.5	16.441	-0.379	113.70%
5/20/2019 12:34	916.001	20.902	7.754	16.441	916.001	16.441	-0.379	113.70%
5/20/2019 12:34	916.501	20.905	7.754	16.44	916.501	16.44	-0.38	113.70%
5/20/2019 12:34	917.001	20.902	7.754	16.44	917.001	16.44	-0.38	113.70%
5/20/2019 12:34	917.501	20.903	7.754	16.441	917.501	16.441	-0.379	113.70%
5/20/2019 12:34	918.001	20.92	7.754	16.439	918.001	16.439	-0.381	113.80%
5/20/2019 12:34	918.501	20.92	7.755	16.437	918.501	16.437	-0.383	113.80%
5/20/2019 12:34	919.001	20.929	7.755	16.439	919.001	16.439	-0.381	113.80%
5/20/2019 12:34	919.501	20.904	7.754	16.439	919.501	16.439	-0.381	113.80%
5/20/2019 12:34	920.001	20.916	7.755	16.438	920.001	16.438	-0.382	113.80%
5/20/2019 12:34	920.501	20.918	7.756	16.436	920.501	16.436	-0.384	113.90%
5/20/2019 12:34	921.001	20.909	7.755	16.438	921.001	16.438	-0.382	113.80%
5/20/2019 12:34	921.501	20.909	7.754	16.439	921.501	16.439	-0.381	113.80%
5/20/2019 12:34	922	20.913	7.755	16.437	922	16.437	-0.383	113.80%
5/20/2019 12:34	922.5	20.903	7.754	16.44	922.5	16.44	-0.38	113.70%
5/20/2019 12:34	923	20.912	7.756	16.435	923	16.435	-0.385	113.90%
5/20/2019 12:34	923.5	20.914	7.754	16.44	923.5	16.44	-0.38	113.70%
5/20/2019 12:34	924	20.884	7.758	16.431	924	16.431	-0.389	114.10%
5/20/2019 12:34	924.5	20.875	7.755	16.438	924.5	16.438	-0.382	113.80%
5/20/2019 12:34	925	20.915	7.756	16.436	925	16.436	-0.384	113.90%
5/20/2019 12:34	925.5	20.907	7.757	16.432	925.5	16.432	-0.388	114.00%
5/20/2019 12:34	926	20.893	7.756	16.435	926	16.435	-0.385	113.90%
5/20/2019 12:34	926.5	20.907	7.755	16.437	926.5	16.437	-0.383	113.80%
5/20/2019 12:34	927	20.904	7.757	16.434	927	16.434	-0.386	114.00%
5/20/2019 12:34	927.5	20.917	7.757	16.434	927.5	16.434	-0.386	114.00%
5/20/2019 12:34	928	20.923	7.757	16.434	928	16.434	-0.386	114.00%
5/20/2019 12:34	928.5	20.901	7.756	16.436	928.5	16.436	-0.384	113.90%
5/20/2019 12:34	929.001	20.879	7.755	16.437	929.001	16.437	-0.383	113.80%
5/20/2019 12:34	929.501	20.895	7.756	16.435	929.501	16.435	-0.385	113.90%
5/20/2019 12:34	930.001	20.896	7.756	16.435	930.001	16.435	-0.385	113.90%
5/20/2019 12:34	930.501	20.908	7.757	16.434	930.501	16.434	-0.386	114.00%
5/20/2019 12:34	931.001	20.904	7.757	16.432	931.001	16.432	-0.388	114.00%
5/20/2019 12:34	931.501	20.892	7.756	16.435	931.501	16.435	-0.385	113.90%
5/20/2019 12:34	932.001	20.904	7.757	16.433	932.001	16.433	-0.387	114.00%
5/20/2019 12:34	932.501	20.899	7.757	16.433	932.501	16.433	-0.387	114.00%
5/20/2019 12:34	933.001	20.913	7.758	16.432	933.001	16.432	-0.388	114.00%
5/20/2019 12:34	933.501	20.893	7.758	16.43	933.501	16.43	-0.39	114.10%
5/20/2019 12:34	934.001	20.892	7.759	16.43	934.001	16.43	-0.39	114.10%
5/20/2019 12:34	934.5	20.902	7.759	16.428	934.5	16.428	-0.392	114.20%
5/20/2019 12:34	935	20.884	7.757	16.432	935	16.432	-0.388	114.00%
5/20/2019 12:34	935.5	20.874	7.758	16.431	935.5	16.431	-0.389	114.10%
5/20/2019 12:34	936	20.889	7.758	16.431	936	16.431	-0.389	114.10%
5/20/2019 12:34	936.5	20.881	7.757	16.432	936.5	16.432	-0.388	114.00%
5/20/2019 12:34	937	20.9	7.759	16.428	937	16.428	-0.392	114.20%
5/20/2019 12:34	937.5	20.917	7.759	16.428	937.5	16.428	-0.392	114.20%
5/20/2019 12:35	938	20.922	7.76	16.427	938	16.427	-0.393	114.20%
5/20/2019 12:35	938.5	20.894	7.76	16.427	938.5	16.427	-0.393	114.20%
5/20/2019 12:35	939	20.904	7.757	16.434	939	16.434	-0.386	114.00%
5/20/2019 12:35	939.5	20.925	7.76	16.426	939.5	16.426	-0.394	114.20%
5/20/2019 12:35	940	20.889	7.76	16.427	940	16.427	-0.393	114.20%
5/20/2019 12:35	940.5	20.92	7.759	16.427	940.5	16.427	-0.393	114.20%
5/20/2019 12:35	941	20.888	7.762	16.421	941	16.421	-0.399	114.40%
5/20/2019 12:35	941.5	20.92	7.758	16.431	941.5	16.431	-0.389	114.10%
5/20/2019 12:35	942	20.912	7.76	16.427	942	16.427	-0.393	114.20%
5/20/2019 12:35	942.5	20.884	7.76	16.426	942.5	16.426	-0.394	114.20%
5/20/2019 12:35	943	20.911	7.76	16.427	943	16.427	-0.393	114.20%
5/20/2019 12:35	943.5	20.888	7.759	16.43	943.5	16.43	-0.39	114.10%
5/20/2019 12:35	944	20.885	7.759	16.429	944	16.429	-0.391	114.10%
5/20/2019 12:35	944.5	20.903	7.76	16.426	944.5	16.426	-0.394	114.20%
5/20/2019 12:35	945	20.915	7.76	16.427	945	16.427	-0.393	114.20%
5/20/2019 12:35	945.5	20.907	7.761	16.425	945.5	16.425	-0.395	114.30%
5/20/2019 12:35	946	20.912	7.758	16.432	946	16.432	-0.388	114.00%
5/20/2019 12:35	946.5	20.91	7.758	16.432	946.5	16.432	-0.388	114.00%
5/20/2019 12:35	947	20.923	7.759	16.429	947	16.429	-0.391	114.10%

5/20/2019 12:35	947.5	20.918	7.76	16.426	947.5	16.426	-0.394	114.20%
5/20/2019 12:35	948	20.915	7.76	16.426	948	16.426	-0.394	114.20%
5/20/2019 12:35	948.5	20.925	7.762	16.423	948.5	16.423	-0.397	114.30%
5/20/2019 12:35	949	20.911	7.761	16.424	949	16.424	-0.396	114.30%
5/20/2019 12:35	949.5	20.897	7.761	16.424	949.5	16.424	-0.396	114.30%
5/20/2019 12:35	950	20.917	7.76	16.426	950	16.426	-0.394	114.20%
5/20/2019 12:35	950.5	20.902	7.76	16.425	950.5	16.425	-0.395	114.30%
5/20/2019 12:35	951	20.887	7.759	16.427	951	16.427	-0.393	114.20%
5/20/2019 12:35	951.5	20.903	7.761	16.423	951.5	16.423	-0.397	114.30%
5/20/2019 12:35	952	20.907	7.761	16.423	952	16.423	-0.397	114.30%
5/20/2019 12:35	952.5	20.911	7.762	16.422	952.5	16.422	-0.398	114.40%
5/20/2019 12:35	953	20.894	7.76	16.427	953	16.427	-0.393	114.20%
5/20/2019 12:35	953.5	20.912	7.76	16.426	953.5	16.426	-0.394	114.20%
5/20/2019 12:35	954	20.912	7.761	16.424	954	16.424	-0.396	114.30%
5/20/2019 12:35	954.515	20.891	7.76	16.426	954.515	16.426	-0.394	114.20%
5/20/2019 12:35	955	20.909	7.761	16.423	955	16.423	-0.397	114.30%
5/20/2019 12:35	955.5	20.924	7.762	16.422	955.5	16.422	-0.398	114.40%
5/20/2019 12:35	956	20.911	7.762	16.422	956	16.422	-0.398	114.40%
5/20/2019 12:35	956.5	20.904	7.762	16.423	956.5	16.423	-0.397	114.30%
5/20/2019 12:35	957	20.905	7.759	16.429	957	16.429	-0.391	114.10%
5/20/2019 12:35	957.5	20.894	7.762	16.421	957.5	16.421	-0.399	114.40%
5/20/2019 12:35	958	20.901	7.764	16.416	958	16.416	-0.404	114.60%
5/20/2019 12:35	958.5	20.904	7.763	16.42	958.5	16.42	-0.4	114.50%
5/20/2019 12:35	959	20.9	7.76	16.427	959	16.427	-0.393	114.20%
5/20/2019 12:35	959.5	20.904	7.762	16.422	959.5	16.422	-0.398	114.40%
5/20/2019 12:35	960	20.913	7.762	16.421	960	16.421	-0.399	114.40%
5/20/2019 12:35	960.5	20.902	7.761	16.423	960.5	16.423	-0.397	114.30%
5/20/2019 12:35	961	20.898	7.761	16.424	961	16.424	-0.396	114.30%
5/20/2019 12:35	961.5	20.889	7.764	16.418	961.5	16.418	-0.402	114.50%
5/20/2019 12:35	962	20.886	7.762	16.422	962	16.422	-0.398	114.40%
5/20/2019 12:35	962.5	20.909	7.76	16.425	962.5	16.425	-0.395	114.30%
5/20/2019 12:35	963	20.894	7.763	16.418	963	16.418	-0.402	114.50%
5/20/2019 12:35	963.5	20.912	7.763	16.42	963.5	16.42	-0.4	114.50%
5/20/2019 12:35	964	20.898	7.765	16.415	964	16.415	-0.405	114.60%
5/20/2019 12:35	964.5	20.9	7.764	16.418	964.5	16.418	-0.402	114.50%
5/20/2019 12:35	965	20.896	7.763	16.42	965	16.42	-0.4	114.50%
5/20/2019 12:35	965.5	20.907	7.763	16.419	965.5	16.419	-0.401	114.50%
5/20/2019 12:35	966	20.886	7.762	16.421	966	16.421	-0.399	114.40%
5/20/2019 12:35	966.5	20.894	7.765	16.415	966.5	16.415	-0.405	114.60%
5/20/2019 12:35	967.001	20.899	7.765	16.415	967.001	16.415	-0.405	114.60%
5/20/2019 12:35	967.501	20.885	7.764	16.418	967.501	16.418	-0.402	114.50%
5/20/2019 12:35	968.001	20.906	7.765	16.415	968.001	16.415	-0.405	114.60%
5/20/2019 12:35	968.501	20.902	7.764	16.416	968.501	16.416	-0.404	114.60%
5/20/2019 12:35	969.001	20.907	7.761	16.423	969.001	16.423	-0.397	114.30%
5/20/2019 12:35	969.501	20.894	7.763	16.418	969.501	16.418	-0.402	114.50%
5/20/2019 12:35	970.001	20.894	7.763	16.419	970.001	16.419	-0.401	114.50%
5/20/2019 12:35	970.501	20.907	7.765	16.415	970.501	16.415	-0.405	114.60%
5/20/2019 12:35	971.001	20.875	7.765	16.415	971.001	16.415	-0.405	114.60%
5/20/2019 12:35	971.501	20.906	7.764	16.417	971.501	16.417	-0.403	114.60%
5/20/2019 12:35	972.001	20.887	7.763	16.42	972.001	16.42	-0.4	114.50%
5/20/2019 12:35	972.5	20.893	7.766	16.413	972.5	16.413	-0.407	114.70%
5/20/2019 12:35	973	20.909	7.764	16.416	973	16.416	-0.404	114.60%
5/20/2019 12:35	973.5	20.899	7.764	16.418	973.5	16.418	-0.402	114.50%
5/20/2019 12:35	974	20.909	7.766	16.412	974	16.412	-0.408	114.70%
5/20/2019 12:35	974.5	20.903	7.767	16.411	974.5	16.411	-0.409	114.80%
5/20/2019 12:35	975	20.909	7.765	16.415	975	16.415	-0.405	114.60%
5/20/2019 12:35	975.5	20.915	7.766	16.413	975.5	16.413	-0.407	114.70%
5/20/2019 12:35	976	20.901	7.765	16.416	976	16.416	-0.404	114.60%
5/20/2019 12:35	976.5	20.901	7.765	16.415	976.5	16.415	-0.405	114.60%
5/20/2019 12:35	977	20.906	7.765	16.414	977	16.414	-0.406	114.70%
5/20/2019 12:35	977.5	20.917	7.766	16.412	977.5	16.412	-0.408	114.70%
5/20/2019 12:35	978	20.902	7.765	16.416	978	16.416	-0.404	114.60%
5/20/2019 12:35	978.5	20.896	7.765	16.414	978.5	16.414	-0.406	114.70%
5/20/2019 12:35	979	20.894	7.764	16.418	979	16.418	-0.402	114.50%
5/20/2019 12:35	979.5	20.911	7.767	16.41	979.5	16.41	-0.41	114.80%
5/20/2019 12:35	980	20.915	7.766	16.411	980	16.411	-0.409	114.80%
5/20/2019 12:35	980.5	20.913	7.764	16.417	980.5	16.417	-0.403	114.60%
5/20/2019 12:35	981	20.882	7.766	16.413	981	16.413	-0.407	114.70%

5/20/2019 12:35	981.5	20.893	7.767	16.41	981.5	16.41	-0.41	114.80%
5/20/2019 12:35	982	20.899	7.766	16.413	982	16.413	-0.407	114.70%
5/20/2019 12:35	982.5	20.911	7.764	16.417	982.5	16.417	-0.403	114.60%
5/20/2019 12:35	983	20.888	7.767	16.41	983	16.41	-0.41	114.80%
5/20/2019 12:35	983.5	20.916	7.766	16.413	983.5	16.413	-0.407	114.70%
5/20/2019 12:35	984	20.915	7.766	16.412	984	16.412	-0.408	114.70%
5/20/2019 12:35	984.5	20.899	7.766	16.411	984.5	16.411	-0.409	114.80%
5/20/2019 12:35	985	20.911	7.767	16.41	985	16.41	-0.41	114.80%
5/20/2019 12:35	985.5	20.908	7.768	16.408	985.5	16.408	-0.412	114.90%
5/20/2019 12:35	986	20.901	7.767	16.41	986	16.41	-0.41	114.80%
5/20/2019 12:35	986.5	20.908	7.768	16.408	986.5	16.408	-0.412	114.90%
5/20/2019 12:35	987	20.903	7.767	16.41	987	16.41	-0.41	114.80%
5/20/2019 12:35	987.5	20.901	7.768	16.408	987.5	16.408	-0.412	114.90%
5/20/2019 12:35	988	20.903	7.769	16.406	988	16.406	-0.414	115.00%
5/20/2019 12:35	988.5	20.906	7.767	16.411	988.5	16.411	-0.409	114.80%
5/20/2019 12:35	989	20.887	7.767	16.411	989	16.411	-0.409	114.80%
5/20/2019 12:35	989.5	20.906	7.767	16.41	989.5	16.41	-0.41	114.80%
5/20/2019 12:35	990	20.902	7.768	16.408	990	16.408	-0.412	114.90%
5/20/2019 12:35	990.5	20.91	7.767	16.409	990.5	16.409	-0.411	114.90%
5/20/2019 12:35	991	20.919	7.768	16.407	991	16.407	-0.413	114.90%
5/20/2019 12:35	991.5	20.904	7.768	16.408	991.5	16.408	-0.412	114.90%
5/20/2019 12:35	992	20.889	7.767	16.41	992	16.41	-0.41	114.80%
5/20/2019 12:35	992.5	20.914	7.77	16.402	992.5	16.402	-0.418	115.10%
5/20/2019 12:35	993	20.911	7.768	16.409	993	16.409	-0.411	114.90%
5/20/2019 12:35	993.5	20.907	7.766	16.412	993.5	16.412	-0.408	114.70%
5/20/2019 12:35	994	20.906	7.767	16.409	994	16.409	-0.411	114.90%
5/20/2019 12:35	994.5	20.892	7.769	16.406	994.5	16.406	-0.414	115.00%
5/20/2019 12:35	995	20.925	7.766	16.412	995	16.412	-0.408	114.70%
5/20/2019 12:35	995.5	20.909	7.768	16.409	995.5	16.409	-0.411	114.90%
5/20/2019 12:35	996	20.904	7.768	16.407	996	16.407	-0.413	114.90%
5/20/2019 12:35	996.5	20.896	7.768	16.408	996.5	16.408	-0.412	114.90%
5/20/2019 12:35	997	20.896	7.768	16.407	997	16.407	-0.413	114.90%
5/20/2019 12:35	997.5	20.909	7.767	16.41	997.5	16.41	-0.41	114.80%
5/20/2019 12:36	998	20.917	7.767	16.41	998	16.41	-0.41	114.80%
5/20/2019 12:36	998.5	20.906	7.768	16.407	998.5	16.407	-0.413	114.90%
5/20/2019 12:36	999	20.894	7.77	16.403	999	16.403	-0.417	115.10%
5/20/2019 12:36	999.5	20.917	7.77	16.404	999.5	16.404	-0.416	115.00%
5/20/2019 12:36	1000	20.895	7.77	16.402	1000	16.402	-0.418	115.10%
5/20/2019 12:36	1000.5	20.894	7.769	16.406	1000.5	16.406	-0.414	115.00%
5/20/2019 12:36	1001	20.909	7.77	16.403	1001	16.403	-0.417	115.10%
5/20/2019 12:36	1001.5	20.894	7.768	16.408	1001.5	16.408	-0.412	114.90%
5/20/2019 12:36	1002	20.909	7.769	16.407	1002	16.407	-0.413	114.90%
5/20/2019 12:36	1002.5	20.921	7.771	16.401	1002.5	16.401	-0.419	115.10%
5/20/2019 12:36	1003	20.894	7.77	16.402	1003	16.402	-0.418	115.10%
5/20/2019 12:36	1003.5	20.893	7.769	16.405	1003.5	16.405	-0.415	115.00%
5/20/2019 12:36	1004	20.893	7.77	16.403	1004	16.403	-0.417	115.10%
5/20/2019 12:36	1004.5	20.887	7.769	16.406	1004.5	16.406	-0.414	115.00%
5/20/2019 12:36	1005	20.912	7.769	16.407	1005	16.407	-0.413	114.90%
5/20/2019 12:36	1005.5	20.899	7.77	16.403	1005.5	16.403	-0.417	115.10%
5/20/2019 12:36	1006	20.901	7.771	16.402	1006	16.402	-0.418	115.10%
5/20/2019 12:36	1006.5	20.894	7.77	16.403	1006.5	16.403	-0.417	115.10%
5/20/2019 12:36	1007	20.913	7.771	16.402	1007	16.402	-0.418	115.10%
5/20/2019 12:36	1007.5	20.899	7.768	16.409	1007.5	16.409	-0.411	114.90%
5/20/2019 12:36	1008	20.904	7.77	16.404	1008	16.404	-0.416	115.00%
5/20/2019 12:36	1008.5	20.886	7.771	16.402	1008.5	16.402	-0.418	115.10%
5/20/2019 12:36	1009	20.899	7.772	16.398	1009	16.398	-0.422	115.30%
5/20/2019 12:36	1009.5	20.92	7.77	16.404	1009.5	16.404	-0.416	115.00%
5/20/2019 12:36	1010	20.911	7.769	16.405	1010	16.405	-0.415	115.00%
5/20/2019 12:36	1010.5	20.919	7.768	16.407	1010.5	16.407	-0.413	114.90%
5/20/2019 12:36	1011	20.876	7.77	16.404	1011	16.404	-0.416	115.00%
5/20/2019 12:36	1011.5	20.919	7.772	16.4	1011.5	16.4	-0.42	115.20%
5/20/2019 12:36	1012	20.904	7.771	16.401	1012	16.401	-0.419	115.10%
5/20/2019 12:36	1012.5	20.92	7.772	16.399	1012.5	16.399	-0.421	115.20%
5/20/2019 12:36	1013	20.893	7.77	16.402	1013	16.402	-0.418	115.10%
5/20/2019 12:36	1013.5	20.915	7.77	16.403	1013.5	16.403	-0.417	115.10%
5/20/2019 12:36	1014	20.9	7.772	16.399	1014	16.399	-0.421	115.20%
5/20/2019 12:36	1014.5	20.907	7.771	16.402	1014.5	16.402	-0.418	115.10%
5/20/2019 12:36	1015	20.905	7.772	16.4	1015	16.4	-0.42	115.20%

5/20/2019 12:36	1015.5	20.907	7.771	16.401	1015.5	16.401	-0.419	115.10%
5/20/2019 12:36	1016	20.893	7.772	16.399	1016	16.399	-0.421	115.20%
5/20/2019 12:36	1016.5	20.913	7.77	16.403	1016.5	16.403	-0.417	115.10%
5/20/2019 12:36	1017	20.898	7.772	16.398	1017	16.398	-0.422	115.30%
5/20/2019 12:36	1017.5	20.904	7.774	16.394	1017.5	16.394	-0.426	115.40%
5/20/2019 12:36	1018	20.879	7.771	16.401	1018	16.401	-0.419	115.10%
5/20/2019 12:36	1018.5	20.9	7.772	16.398	1018.5	16.398	-0.422	115.30%
5/20/2019 12:36	1019	20.895	7.769	16.405	1019	16.405	-0.415	115.00%
5/20/2019 12:36	1019.5	20.896	7.77	16.403	1019.5	16.403	-0.417	115.10%
5/20/2019 12:36	1020	20.915	7.771	16.401	1020	16.401	-0.419	115.10%
5/20/2019 12:36	1020.5	20.882	7.77	16.403	1020.5	16.403	-0.417	115.10%
5/20/2019 12:36	1021	20.915	7.772	16.399	1021	16.399	-0.421	115.20%
5/20/2019 12:36	1021.5	20.907	7.772	16.398	1021.5	16.398	-0.422	115.30%
5/20/2019 12:36	1022	20.895	7.771	16.4	1022	16.4	-0.42	115.20%
5/20/2019 12:36	1022.5	20.887	7.772	16.399	1022.5	16.399	-0.421	115.20%
5/20/2019 12:36	1023	20.903	7.773	16.397	1023	16.397	-0.423	115.30%
5/20/2019 12:36	1023.5	20.896	7.772	16.398	1023.5	16.398	-0.422	115.30%
5/20/2019 12:36	1024	20.884	7.773	16.397	1024	16.397	-0.423	115.30%
5/20/2019 12:36	1024.5	20.894	7.771	16.4	1024.5	16.4	-0.42	115.20%
5/20/2019 12:36	1025	20.889	7.773	16.397	1025	16.397	-0.423	115.30%
5/20/2019 12:36	1025.5	20.902	7.773	16.397	1025.5	16.397	-0.423	115.30%
5/20/2019 12:36	1026	20.902	7.773	16.395	1026	16.395	-0.425	115.40%
5/20/2019 12:36	1026.5	20.905	7.774	16.395	1026.5	16.395	-0.425	115.40%
5/20/2019 12:36	1027	20.915	7.772	16.399	1027	16.399	-0.421	115.20%
5/20/2019 12:36	1027.5	20.922	7.771	16.4	1027.5	16.4	-0.42	115.20%
5/20/2019 12:36	1028	20.94	7.773	16.396	1028	16.396	-0.424	115.30%
5/20/2019 12:36	1028.5	20.911	7.775	16.392	1028.5	16.392	-0.428	115.50%
5/20/2019 12:36	1029	20.914	7.775	16.393	1029	16.393	-0.427	115.40%
5/20/2019 12:36	1029.5	20.915	7.774	16.393	1029.5	16.393	-0.427	115.40%
5/20/2019 12:36	1030	20.891	7.773	16.396	1030	16.396	-0.424	115.30%
5/20/2019 12:36	1030.501	20.927	7.773	16.396	1030.501	16.396	-0.424	115.30%
5/20/2019 12:36	1031.001	20.897	7.773	16.396	1031.001	16.396	-0.424	115.30%
5/20/2019 12:36	1031.501	20.918	7.772	16.398	1031.501	16.398	-0.422	115.30%
5/20/2019 12:36	1032.001	20.918	7.774	16.394	1032.001	16.394	-0.426	115.40%
5/20/2019 12:36	1032.501	20.914	7.775	16.391	1032.501	16.391	-0.429	115.50%
5/20/2019 12:36	1033.001	20.914	7.775	16.392	1033.001	16.392	-0.428	115.50%
5/20/2019 12:36	1033.501	20.893	7.773	16.396	1033.501	16.396	-0.424	115.30%
5/20/2019 12:36	1034.001	20.902	7.773	16.396	1034.001	16.396	-0.424	115.30%
5/20/2019 12:36	1034.501	20.917	7.775	16.392	1034.501	16.392	-0.428	115.50%
5/20/2019 12:36	1035.001	20.884	7.775	16.391	1035.001	16.391	-0.429	115.50%
5/20/2019 12:36	1035.501	20.899	7.774	16.395	1035.501	16.395	-0.425	115.40%
5/20/2019 12:36	1036	20.884	7.774	16.394	1036	16.394	-0.426	115.40%
5/20/2019 12:36	1036.5	20.907	7.773	16.397	1036.5	16.397	-0.423	115.30%
5/20/2019 12:36	1037	20.885	7.775	16.392	1037	16.392	-0.428	115.50%
5/20/2019 12:36	1037.5	20.896	7.776	16.389	1037.5	16.389	-0.431	115.60%
5/20/2019 12:36	1038	20.885	7.774	16.394	1038	16.394	-0.426	115.40%
5/20/2019 12:36	1038.5	20.926	7.773	16.396	1038.5	16.396	-0.424	115.30%
5/20/2019 12:36	1039	20.883	7.774	16.393	1039	16.393	-0.427	115.40%
5/20/2019 12:36	1039.5	20.904	7.776	16.389	1039.5	16.389	-0.431	115.60%
5/20/2019 12:36	1040	20.905	7.777	16.387	1040	16.387	-0.433	115.60%
5/20/2019 12:36	1040.5	20.913	7.775	16.392	1040.5	16.392	-0.428	115.50%
5/20/2019 12:36	1041	20.919	7.772	16.397	1041	16.397	-0.423	115.30%
5/20/2019 12:36	1041.5	20.895	7.773	16.395	1041.5	16.395	-0.425	115.40%
5/20/2019 12:36	1042	20.899	7.774	16.393	1042	16.393	-0.427	115.40%
5/20/2019 12:36	1042.5	20.904	7.778	16.384	1042.5	16.384	-0.436	115.80%
5/20/2019 12:36	1043	20.87	7.777	16.388	1043	16.388	-0.432	115.60%
5/20/2019 12:36	1043.5	20.923	7.772	16.397	1043.5	16.397	-0.423	115.30%
5/20/2019 12:36	1044	20.892	7.776	16.39	1044	16.39	-0.43	115.50%
5/20/2019 12:36	1044.5	20.912	7.775	16.392	1044.5	16.392	-0.428	115.50%
5/20/2019 12:36	1045	20.909	7.777	16.388	1045	16.388	-0.432	115.60%
5/20/2019 12:36	1045.5	20.915	7.775	16.391	1045.5	16.391	-0.429	115.50%
5/20/2019 12:36	1046	20.918	7.778	16.385	1046	16.385	-0.435	115.70%
5/20/2019 12:36	1046.5	20.911	7.775	16.391	1046.5	16.391	-0.429	115.50%
5/20/2019 12:36	1047	20.89	7.776	16.39	1047	16.39	-0.43	115.50%
5/20/2019 12:36	1047.5	20.926	7.778	16.386	1047.5	16.386	-0.434	115.70%
5/20/2019 12:36	1048	20.917	7.776	16.388	1048	16.388	-0.432	115.60%
5/20/2019 12:36	1048.5	20.896	7.778	16.385	1048.5	16.385	-0.435	115.70%
5/20/2019 12:36	1049	20.922	7.775	16.392	1049	16.392	-0.428	115.50%

5/20/2019 12:36	1049.5	20.889	7.776	16.389	1049.5	16.389	-0.431	115.60%
5/20/2019 12:36	1050	20.927	7.775	16.392	1050	16.392	-0.428	115.50%
5/20/2019 12:36	1050.5	20.894	7.776	16.388	1050.5	16.388	-0.432	115.60%
5/20/2019 12:36	1051	20.907	7.775	16.393	1051	16.393	-0.427	115.40%
5/20/2019 12:36	1051.5	20.878	7.775	16.391	1051.5	16.391	-0.429	115.50%
5/20/2019 12:36	1052	20.903	7.775	16.391	1052	16.391	-0.429	115.50%
5/20/2019 12:36	1052.5	20.933	7.776	16.389	1052.5	16.389	-0.431	115.60%
5/20/2019 12:36	1053	20.894	7.777	16.386	1053	16.386	-0.434	115.70%
5/20/2019 12:36	1053.5	20.907	7.778	16.386	1053.5	16.386	-0.434	115.70%
5/20/2019 12:36	1054	20.932	7.777	16.387	1054	16.387	-0.433	115.60%
5/20/2019 12:36	1054.5	20.896	7.778	16.385	1054.5	16.385	-0.435	115.70%
5/20/2019 12:36	1055	20.913	7.779	16.383	1055	16.383	-0.437	115.80%
5/20/2019 12:36	1055.5	20.904	7.776	16.39	1055.5	16.39	-0.43	115.50%
5/20/2019 12:36	1056.014	20.908	7.777	16.387	1056.014	16.387	-0.433	115.60%
5/20/2019 12:36	1056.5	20.891	7.776	16.389	1056.5	16.389	-0.431	115.60%
5/20/2019 12:36	1057	20.904	7.774	16.393	1057	16.393	-0.427	115.40%
5/20/2019 12:36	1057.5	20.893	7.776	16.389	1057.5	16.389	-0.431	115.60%
5/20/2019 12:37	1058	20.896	7.778	16.386	1058	16.386	-0.434	115.70%
5/20/2019 12:37	1058.5	20.879	7.775	16.391	1058.5	16.391	-0.429	115.50%
5/20/2019 12:37	1059	20.904	7.777	16.388	1059	16.388	-0.432	115.60%
5/20/2019 12:37	1059.5	20.902	7.777	16.386	1059.5	16.386	-0.434	115.70%
5/20/2019 12:37	1060	20.898	7.779	16.383	1060	16.383	-0.437	115.80%
5/20/2019 12:37	1060.5	20.896	7.776	16.39	1060.5	16.39	-0.43	115.50%
5/20/2019 12:37	1061	20.901	7.776	16.39	1061	16.39	-0.43	115.50%
5/20/2019 12:37	1061.5	20.907	7.778	16.385	1061.5	16.385	-0.435	115.70%
5/20/2019 12:37	1062	20.917	7.776	16.388	1062	16.388	-0.432	115.60%
5/20/2019 12:37	1062.5	20.889	7.778	16.386	1062.5	16.386	-0.434	115.70%
5/20/2019 12:37	1063	20.875	7.779	16.383	1063	16.383	-0.437	115.80%
5/20/2019 12:37	1063.5	20.893	7.777	16.388	1063.5	16.388	-0.432	115.60%
5/20/2019 12:37	1064	20.891	7.777	16.387	1064	16.387	-0.433	115.60%
5/20/2019 12:37	1064.5	20.891	7.777	16.386	1064.5	16.386	-0.434	115.70%
5/20/2019 12:37	1065	20.907	7.777	16.386	1065	16.386	-0.434	115.70%
5/20/2019 12:37	1065.5	20.899	7.777	16.387	1065.5	16.387	-0.433	115.60%
5/20/2019 12:37	1066	20.909	7.776	16.388	1066	16.388	-0.432	115.60%
5/20/2019 12:37	1066.5	20.892	7.781	16.377	1066.5	16.377	-0.443	116.00%
5/20/2019 12:37	1067	20.895	7.778	16.384	1067	16.384	-0.436	115.80%
5/20/2019 12:37	1067.5	20.898	7.777	16.387	1067.5	16.387	-0.433	115.60%
5/20/2019 12:37	1068	20.893	7.776	16.389	1068	16.389	-0.431	115.60%
5/20/2019 12:37	1068.501	20.923	7.779	16.382	1068.501	16.382	-0.438	115.80%
5/20/2019 12:37	1069.001	20.888	7.777	16.387	1069.001	16.387	-0.433	115.60%
5/20/2019 12:37	1069.501	20.909	7.78	16.381	1069.501	16.381	-0.439	115.90%
5/20/2019 12:37	1070.001	20.911	7.778	16.386	1070.001	16.386	-0.434	115.70%
5/20/2019 12:37	1070.501	20.909	7.777	16.387	1070.501	16.387	-0.433	115.60%
5/20/2019 12:37	1071.001	20.896	7.776	16.389	1071.001	16.389	-0.431	115.60%
5/20/2019 12:37	1071.501	20.915	7.78	16.379	1071.501	16.379	-0.441	115.90%
5/20/2019 12:37	1072.001	20.886	7.78	16.381	1072.001	16.381	-0.439	115.90%
5/20/2019 12:37	1072.501	20.902	7.78	16.381	1072.501	16.381	-0.439	115.90%
5/20/2019 12:37	1073.001	20.889	7.78	16.38	1073.001	16.38	-0.44	115.90%
5/20/2019 12:37	1073.501	20.921	7.777	16.387	1073.501	16.387	-0.433	115.60%
5/20/2019 12:37	1074	20.909	7.779	16.383	1074	16.383	-0.437	115.80%
5/20/2019 12:37	1074.5	20.905	7.781	16.377	1074.5	16.377	-0.443	116.00%
5/20/2019 12:37	1075	20.911	7.778	16.385	1075	16.385	-0.435	115.70%
5/20/2019 12:37	1075.5	20.91	7.779	16.382	1075.5	16.382	-0.438	115.80%
5/20/2019 12:37	1076	20.921	7.783	16.373	1076	16.373	-0.447	116.20%
5/20/2019 12:37	1076.5	20.899	7.779	16.382	1076.5	16.382	-0.438	115.80%
5/20/2019 12:37	1077	20.891	7.779	16.382	1077	16.382	-0.438	115.80%
5/20/2019 12:37	1077.5	20.903	7.779	16.382	1077.5	16.382	-0.438	115.80%
5/20/2019 12:37	1078	20.881	7.779	16.382	1078	16.382	-0.438	115.80%
5/20/2019 12:37	1078.5	20.913	7.778	16.384	1078.5	16.384	-0.436	115.80%
5/20/2019 12:37	1079	20.91	7.78	16.381	1079	16.381	-0.439	115.90%
5/20/2019 12:37	1079.5	20.899	7.781	16.377	1079.5	16.377	-0.443	116.00%
5/20/2019 12:37	1080	20.904	7.781	16.379	1080	16.379	-0.441	115.90%
5/20/2019 12:37	1080.5	20.908	7.78	16.38	1080.5	16.38	-0.44	115.90%
5/20/2019 12:37	1081	20.9	7.779	16.382	1081	16.382	-0.438	115.80%
5/20/2019 12:37	1081.5	20.89	7.78	16.38	1081.5	16.38	-0.44	115.90%
5/20/2019 12:37	1082	20.899	7.781	16.378	1082	16.378	-0.442	116.00%
5/20/2019 12:37	1082.5	20.885	7.781	16.379	1082.5	16.379	-0.441	115.90%
5/20/2019 12:37	1083	20.896	7.781	16.378	1083	16.378	-0.442	116.00%



5/20/2019 12:37	1083.5	20.912	7.778	16.385	1083.5	16.385	-0.435	115.70%
5/20/2019 12:37	1084	20.9	7.781	16.378	1084	16.378	-0.442	116.00%
5/20/2019 12:37	1084.5	20.888	7.78	16.381	1084.5	16.381	-0.439	115.90%
5/20/2019 12:37	1085	20.892	7.781	16.378	1085	16.378	-0.442	116.00%
5/20/2019 12:37	1085.5	20.913	7.78	16.379	1085.5	16.379	-0.441	115.90%
5/20/2019 12:37	1086	20.898	7.78	16.38	1086	16.38	-0.44	115.90%
5/20/2019 12:37	1086.5	20.888	7.78	16.38	1086.5	16.38	-0.44	115.90%
5/20/2019 12:37	1087	20.915	7.78	16.381	1087	16.381	-0.439	115.90%
5/20/2019 12:37	1087.5	20.914	7.78	16.379	1087.5	16.379	-0.441	115.90%
5/20/2019 12:37	1088	20.909	7.781	16.379	1088	16.379	-0.441	115.90%
5/20/2019 12:37	1088.5	20.903	7.783	16.373	1088.5	16.373	-0.447	116.20%
5/20/2019 12:37	1089	20.916	7.78	16.38	1089	16.38	-0.44	115.90%
5/20/2019 12:37	1089.5	20.917	7.784	16.371	1089.5	16.371	-0.449	116.20%
5/20/2019 12:37	1090	20.917	7.781	16.378	1090	16.378	-0.442	116.00%
5/20/2019 12:37	1090.5	20.907	7.781	16.378	1090.5	16.378	-0.442	116.00%
5/20/2019 12:37	1091	20.912	7.781	16.379	1091	16.379	-0.441	115.90%
5/20/2019 12:37	1091.5	20.883	7.781	16.378	1091.5	16.378	-0.442	116.00%
5/20/2019 12:37	1092	20.902	7.781	16.378	1092	16.378	-0.442	116.00%
5/20/2019 12:37	1092.5	20.903	7.78	16.38	1092.5	16.38	-0.44	115.90%
5/20/2019 12:37	1093	20.904	7.781	16.378	1093	16.378	-0.442	116.00%
5/20/2019 12:37	1093.5	20.927	7.782	16.375	1093.5	16.375	-0.445	116.10%
5/20/2019 12:37	1094	20.897	7.78	16.379	1094	16.379	-0.441	115.90%
5/20/2019 12:37	1094.5	20.904	7.782	16.375	1094.5	16.375	-0.445	116.10%
5/20/2019 12:37	1095	20.907	7.78	16.381	1095	16.381	-0.439	115.90%
5/20/2019 12:37	1095.5	20.913	7.781	16.377	1095.5	16.377	-0.443	116.00%
5/20/2019 12:37	1096	20.901	7.781	16.377	1096	16.377	-0.443	116.00%
5/20/2019 12:37	1096.5	20.9	7.783	16.373	1096.5	16.373	-0.447	116.20%
5/20/2019 12:37	1097	20.9	7.78	16.38	1097	16.38	-0.44	115.90%
5/20/2019 12:37	1097.5	20.892	7.784	16.371	1097.5	16.371	-0.449	116.20%
5/20/2019 12:37	1098	20.918	7.781	16.377	1098	16.377	-0.443	116.00%
5/20/2019 12:37	1098.5	20.907	7.78	16.381	1098.5	16.381	-0.439	115.90%
5/20/2019 12:37	1099	20.894	7.781	16.378	1099	16.378	-0.442	116.00%
5/20/2019 12:37	1099.5	20.928	7.783	16.373	1099.5	16.373	-0.447	116.20%
5/20/2019 12:37	1100	20.897	7.783	16.374	1100	16.374	-0.446	116.10%
5/20/2019 12:37	1100.5	20.917	7.781	16.377	1100.5	16.377	-0.443	116.00%
5/20/2019 12:37	1101	20.91	7.783	16.373	1101	16.373	-0.447	116.20%
5/20/2019 12:37	1101.5	20.907	7.782	16.375	1101.5	16.375	-0.445	116.10%
5/20/2019 12:37	1102	20.925	7.783	16.372	1102	16.372	-0.448	116.20%
5/20/2019 12:37	1102.5	20.893	7.783	16.374	1102.5	16.374	-0.446	116.10%
5/20/2019 12:37	1103	20.896	7.782	16.374	1103	16.374	-0.446	116.10%
5/20/2019 12:37	1103.5	20.906	7.782	16.375	1103.5	16.375	-0.445	116.10%
5/20/2019 12:37	1104	20.89	7.784	16.372	1104	16.372	-0.448	116.20%
5/20/2019 12:37	1104.5	20.902	7.785	16.37	1104.5	16.37	-0.45	116.30%
5/20/2019 12:37	1105	20.911	7.783	16.373	1105	16.373	-0.447	116.20%
5/20/2019 12:37	1105.5	20.91	7.782	16.376	1105.5	16.376	-0.444	116.00%
5/20/2019 12:37	1106	20.899	7.783	16.373	1106	16.373	-0.447	116.20%
5/20/2019 12:37	1106.5	20.885	7.785	16.369	1106.5	16.369	-0.451	116.30%
5/20/2019 12:37	1107	20.907	7.784	16.372	1107	16.372	-0.448	116.20%
5/20/2019 12:37	1107.5	20.906	7.783	16.372	1107.5	16.372	-0.448	116.20%
5/20/2019 12:37	1108	20.917	7.784	16.372	1108	16.372	-0.448	116.20%
5/20/2019 12:37	1108.5	20.907	7.786	16.367	1108.5	16.367	-0.453	116.40%
5/20/2019 12:37	1109	20.885	7.782	16.376	1109	16.376	-0.444	116.00%
5/20/2019 12:37	1109.5	20.912	7.784	16.371	1109.5	16.371	-0.449	116.20%
5/20/2019 12:37	1110	20.886	7.783	16.374	1110	16.374	-0.446	116.10%
5/20/2019 12:37	1110.5	20.909	7.782	16.375	1110.5	16.375	-0.445	116.10%
5/20/2019 12:37	1111	20.917	7.785	16.368	1111	16.368	-0.452	116.30%
5/20/2019 12:37	1111.5	20.902	7.785	16.368	1111.5	16.368	-0.452	116.30%
5/20/2019 12:37	1112	20.898	7.782	16.376	1112	16.376	-0.444	116.00%
5/20/2019 12:37	1112.5	20.902	7.784	16.371	1112.5	16.371	-0.449	116.20%
5/20/2019 12:37	1113	20.908	7.784	16.372	1113	16.372	-0.448	116.20%
5/20/2019 12:37	1113.5	20.904	7.785	16.369	1113.5	16.369	-0.451	116.30%
5/20/2019 12:37	1114	20.897	7.785	16.369	1114	16.369	-0.451	116.30%
5/20/2019 12:37	1114.5	20.907	7.784	16.37	1114.5	16.37	-0.45	116.30%
5/20/2019 12:37	1115	20.914	7.784	16.371	1115	16.371	-0.449	116.20%
5/20/2019 12:37	1115.5	20.908	7.784	16.371	1115.5	16.371	-0.449	116.20%
5/20/2019 12:37	1116	20.902	7.782	16.375	1116	16.375	-0.445	116.10%
5/20/2019 12:37	1116.5	20.912	7.786	16.367	1116.5	16.367	-0.453	116.40%
5/20/2019 12:37	1117	20.935	7.785	16.368	1117	16.368	-0.452	116.30%

5/20/2019 12:37	1117.5	20.922	7.785	16.369	1117.5	16.369	-0.451	116.30%
5/20/2019 12:38	1118	20.91	7.783	16.373	1118	16.373	-0.447	116.20%
5/20/2019 12:38	1118.5	20.907	7.784	16.371	1118.5	16.371	-0.449	116.20%
5/20/2019 12:38	1119	20.91	7.784	16.371	1119	16.371	-0.449	116.20%
5/20/2019 12:38	1119.5	20.904	7.786	16.366	1119.5	16.366	-0.454	116.40%
5/20/2019 12:38	1120	20.902	7.783	16.373	1120	16.373	-0.447	116.20%
5/20/2019 12:38	1120.5	20.901	7.782	16.375	1120.5	16.375	-0.445	116.10%
5/20/2019 12:38	1121	20.905	7.784	16.371	1121	16.371	-0.449	116.20%
5/20/2019 12:38	1121.5	20.904	7.784	16.372	1121.5	16.372	-0.448	116.20%
5/20/2019 12:38	1122	20.905	7.783	16.373	1122	16.373	-0.447	116.20%
5/20/2019 12:38	1122.5	20.915	7.784	16.37	1122.5	16.37	-0.45	116.30%
5/20/2019 12:38	1123	20.916	7.784	16.37	1123	16.37	-0.45	116.30%
5/20/2019 12:38	1123.5	20.884	7.783	16.373	1123.5	16.373	-0.447	116.20%
5/20/2019 12:38	1124	20.877	7.784	16.372	1124	16.372	-0.448	116.20%
5/20/2019 12:38	1124.5	20.92	7.786	16.367	1124.5	16.367	-0.453	116.40%
5/20/2019 12:38	1125	20.893	7.785	16.368	1125	16.368	-0.452	116.30%
5/20/2019 12:38	1125.5	20.909	7.786	16.367	1125.5	16.367	-0.453	116.40%
5/20/2019 12:38	1126	20.912	7.786	16.366	1126	16.366	-0.454	116.40%
5/20/2019 12:38	1126.5	20.902	7.786	16.367	1126.5	16.367	-0.453	116.40%
5/20/2019 12:38	1127	20.881	7.786	16.366	1127	16.366	-0.454	116.40%
5/20/2019 12:38	1127.5	20.892	7.785	16.369	1127.5	16.369	-0.451	116.30%
5/20/2019 12:38	1128	20.895	7.787	16.365	1128	16.365	-0.455	116.40%
5/20/2019 12:38	1128.5	20.902	7.784	16.371	1128.5	16.371	-0.449	116.20%
5/20/2019 12:38	1129	20.902	7.786	16.367	1129	16.367	-0.453	116.40%
5/20/2019 12:38	1129.5	20.913	7.786	16.366	1129.5	16.366	-0.454	116.40%
5/20/2019 12:38	1130	20.903	7.785	16.369	1130	16.369	-0.451	116.30%
5/20/2019 12:38	1130.5	20.894	7.785	16.368	1130.5	16.368	-0.452	116.30%
5/20/2019 12:38	1131	20.899	7.785	16.369	1131	16.369	-0.451	116.30%
5/20/2019 12:38	1131.5	20.922	7.787	16.364	1131.5	16.364	-0.456	116.50%
5/20/2019 12:38	1132.001	20.906	7.785	16.368	1132.001	16.368	-0.452	116.30%
5/20/2019 12:38	1132.501	20.913	7.784	16.37	1132.501	16.37	-0.45	116.30%
5/20/2019 12:38	1133.001	20.924	7.786	16.366	1133.001	16.366	-0.454	116.40%
5/20/2019 12:38	1133.501	20.902	7.787	16.365	1133.501	16.365	-0.455	116.40%
5/20/2019 12:38	1134.001	20.921	7.786	16.366	1134.001	16.366	-0.454	116.40%
5/20/2019 12:38	1134.501	20.925	7.784	16.37	1134.501	16.37	-0.45	116.30%
5/20/2019 12:38	1135.001	20.928	7.785	16.369	1135.001	16.369	-0.451	116.30%
5/20/2019 12:38	1135.501	20.881	7.787	16.364	1135.501	16.364	-0.456	116.50%
5/20/2019 12:38	1136.001	20.903	7.786	16.366	1136.001	16.366	-0.454	116.40%
5/20/2019 12:38	1136.501	20.899	7.787	16.365	1136.501	16.365	-0.455	116.40%
5/20/2019 12:38	1137.001	20.917	7.788	16.361	1137.001	16.361	-0.459	116.60%
5/20/2019 12:38	1137.5	20.899	7.786	16.367	1137.5	16.367	-0.453	116.40%
5/20/2019 12:38	1138	20.911	7.787	16.365	1138	16.365	-0.455	116.40%
5/20/2019 12:38	1138.5	20.903	7.786	16.365	1138.5	16.365	-0.455	116.40%
5/20/2019 12:38	1139	20.907	7.789	16.358	1139	16.358	-0.462	116.70%
5/20/2019 12:38	1139.5	20.917	7.787	16.363	1139.5	16.363	-0.457	116.50%
5/20/2019 12:38	1140	20.897	7.787	16.365	1140	16.365	-0.455	116.40%
5/20/2019 12:38	1140.5	20.898	7.788	16.361	1140.5	16.361	-0.459	116.60%
5/20/2019 12:38	1141	20.919	7.788	16.361	1141	16.361	-0.459	116.60%
5/20/2019 12:38	1141.5	20.878	7.788	16.362	1141.5	16.362	-0.458	116.60%
5/20/2019 12:38	1142	20.916	7.786	16.366	1142	16.366	-0.454	116.40%
5/20/2019 12:38	1142.5	20.909	7.786	16.365	1142.5	16.365	-0.455	116.40%
5/20/2019 12:38	1143	20.899	7.787	16.363	1143	16.363	-0.457	116.50%
5/20/2019 12:38	1143.5	20.909	7.788	16.362	1143.5	16.362	-0.458	116.60%
5/20/2019 12:38	1144	20.904	7.788	16.362	1144	16.362	-0.458	116.60%
5/20/2019 12:38	1144.5	20.908	7.785	16.368	1144.5	16.368	-0.452	116.30%
5/20/2019 12:38	1145	20.928	7.787	16.364	1145	16.364	-0.456	116.50%
5/20/2019 12:38	1145.5	20.876	7.788	16.362	1145.5	16.362	-0.458	116.60%
5/20/2019 12:38	1146	20.927	7.786	16.365	1146	16.365	-0.455	116.40%
5/20/2019 12:38	1146.5	20.918	7.787	16.364	1146.5	16.364	-0.456	116.50%
5/20/2019 12:38	1147	20.901	7.786	16.365	1147	16.365	-0.455	116.40%
5/20/2019 12:38	1147.5	20.901	7.789	16.359	1147.5	16.359	-0.461	116.70%
5/20/2019 12:38	1148	20.899	7.787	16.365	1148	16.365	-0.455	116.40%
5/20/2019 12:38	1148.5	20.904	7.787	16.364	1148.5	16.364	-0.456	116.50%
5/20/2019 12:38	1149	20.92	7.786	16.367	1149	16.367	-0.453	116.40%
5/20/2019 12:38	1149.5	20.907	7.788	16.362	1149.5	16.362	-0.458	116.60%
5/20/2019 12:38	1150	20.91	7.785	16.368	1150	16.368	-0.452	116.30%
5/20/2019 12:38	1150.5	20.886	7.787	16.365	1150.5	16.365	-0.455	116.40%
5/20/2019 12:38	1151	20.925	7.788	16.363	1151	16.363	-0.457	116.50%

5/20/2019 12:38	1151.5	20.908	7.788	16.36	1151.5	16.36	-0.46	116.60%
5/20/2019 12:38	1152	20.9	7.788	16.362	1152	16.362	-0.458	116.60%
5/20/2019 12:38	1152.5	20.916	7.788	16.363	1152.5	16.363	-0.457	116.50%
5/20/2019 12:38	1153	20.906	7.788	16.362	1153	16.362	-0.458	116.60%
5/20/2019 12:38	1153.5	20.904	7.788	16.362	1153.5	16.362	-0.458	116.60%
5/20/2019 12:38	1154	20.909	7.785	16.368	1154	16.368	-0.452	116.30%
5/20/2019 12:38	1154.5	20.889	7.787	16.364	1154.5	16.364	-0.456	116.50%
5/20/2019 12:38	1155	20.889	7.788	16.362	1155	16.362	-0.458	116.60%
5/20/2019 12:38	1155.5	20.907	7.788	16.363	1155.5	16.363	-0.457	116.50%
5/20/2019 12:38	1156	20.891	7.787	16.363	1156	16.363	-0.457	116.50%
5/20/2019 12:38	1156.5	20.888	7.788	16.362	1156.5	16.362	-0.458	116.60%
5/20/2019 12:38	1157	20.899	7.788	16.361	1157	16.361	-0.459	116.60%
5/20/2019 12:38	1157.5	20.903	7.788	16.361	1157.5	16.361	-0.459	116.60%
5/20/2019 12:38	1158	20.912	7.789	16.36	1158	16.36	-0.46	116.60%
5/20/2019 12:38	1158.5	20.902	7.788	16.361	1158.5	16.361	-0.459	116.60%
5/20/2019 12:38	1159	20.907	7.787	16.363	1159	16.363	-0.457	116.50%
5/20/2019 12:38	1159.5	20.894	7.789	16.359	1159.5	16.359	-0.461	116.70%
5/20/2019 12:38	1160	20.907	7.788	16.363	1160	16.363	-0.457	116.50%
5/20/2019 12:38	1160.5	20.907	7.789	16.36	1160.5	16.36	-0.46	116.60%
5/20/2019 12:38	1161	20.92	7.789	16.36	1161	16.36	-0.46	116.60%
5/20/2019 12:38	1161.5	20.889	7.788	16.361	1161.5	16.361	-0.459	116.60%
5/20/2019 12:38	1162	20.904	7.789	16.358	1162	16.358	-0.462	116.70%
5/20/2019 12:38	1162.5	20.889	7.789	16.359	1162.5	16.359	-0.461	116.70%
5/20/2019 12:38	1163	20.886	7.788	16.361	1163	16.361	-0.459	116.60%
5/20/2019 12:38	1163.5	20.895	7.788	16.362	1163.5	16.362	-0.458	116.60%
5/20/2019 12:38	1164	20.885	7.789	16.36	1164	16.36	-0.46	116.60%
5/20/2019 12:38	1164.5	20.912	7.791	16.355	1164.5	16.355	-0.465	116.80%
5/20/2019 12:38	1165	20.902	7.789	16.359	1165	16.359	-0.461	116.70%
5/20/2019 12:38	1165.5	20.902	7.79	16.358	1165.5	16.358	-0.462	116.70%
5/20/2019 12:38	1166	20.896	7.791	16.354	1166	16.354	-0.466	116.80%
5/20/2019 12:38	1166.5	20.92	7.79	16.357	1166.5	16.357	-0.463	116.70%
5/20/2019 12:38	1167	20.909	7.79	16.357	1167	16.357	-0.463	116.70%
5/20/2019 12:38	1167.5	20.878	7.789	16.36	1167.5	16.36	-0.46	116.60%
5/20/2019 12:38	1168	20.93	7.789	16.359	1168	16.359	-0.461	116.70%
5/20/2019 12:38	1168.5	20.918	7.788	16.361	1168.5	16.361	-0.459	116.60%
5/20/2019 12:38	1169	20.904	7.79	16.357	1169	16.357	-0.463	116.70%
5/20/2019 12:38	1169.5	20.904	7.791	16.354	1169.5	16.354	-0.466	116.80%
5/20/2019 12:38	1170	20.909	7.79	16.357	1170	16.357	-0.463	116.70%
5/20/2019 12:38	1170.5	20.911	7.789	16.359	1170.5	16.359	-0.461	116.70%
5/20/2019 12:38	1171	20.902	7.79	16.356	1171	16.356	-0.464	116.80%
5/20/2019 12:38	1171.5	20.898	7.79	16.357	1171.5	16.357	-0.463	116.70%
5/20/2019 12:38	1172	20.907	7.788	16.362	1172	16.362	-0.458	116.60%
5/20/2019 12:38	1172.5	20.902	7.791	16.354	1172.5	16.354	-0.466	116.80%
5/20/2019 12:38	1173	20.894	7.789	16.359	1173	16.359	-0.461	116.70%
5/20/2019 12:38	1173.5	20.904	7.791	16.356	1173.5	16.356	-0.464	116.80%
5/20/2019 12:38	1174	20.897	7.791	16.354	1174	16.354	-0.466	116.80%
5/20/2019 12:38	1174.5	20.9	7.791	16.356	1174.5	16.356	-0.464	116.80%
5/20/2019 12:38	1175	20.904	7.788	16.361	1175	16.361	-0.459	116.60%
5/20/2019 12:38	1175.5	20.9	7.791	16.355	1175.5	16.355	-0.465	116.80%
5/20/2019 12:38	1176	20.904	7.789	16.359	1176	16.359	-0.461	116.70%
5/20/2019 12:38	1176.5	20.912	7.791	16.355	1176.5	16.355	-0.465	116.80%
5/20/2019 12:38	1177	20.934	7.789	16.358	1177	16.358	-0.462	116.70%
5/20/2019 12:38	1177.5	20.892	7.789	16.359	1177.5	16.359	-0.461	116.70%
5/20/2019 12:39	1178	20.891	7.79	16.358	1178	16.358	-0.462	116.70%
5/20/2019 12:39	1178.5	20.895	7.787	16.363	1178.5	16.363	-0.457	116.50%
5/20/2019 12:39	1179	20.925	7.79	16.357	1179	16.357	-0.463	116.70%
5/20/2019 12:39	1179.5	20.878	7.789	16.359	1179.5	16.359	-0.461	116.70%
5/20/2019 12:39	1180	20.91	7.79	16.358	1180	16.358	-0.462	116.70%
5/20/2019 12:39	1180.5	20.907	7.793	16.351	1180.5	16.351	-0.469	116.90%
5/20/2019 12:39	1181	20.885	7.791	16.355	1181	16.355	-0.465	116.80%
5/20/2019 12:39	1181.5	20.907	7.79	16.357	1181.5	16.357	-0.463	116.70%
5/20/2019 12:39	1182	20.899	7.791	16.355	1182	16.355	-0.465	116.80%
5/20/2019 12:39	1182.5	20.907	7.794	16.348	1182.5	16.348	-0.472	117.10%
5/20/2019 12:39	1183	20.897	7.79	16.358	1183	16.358	-0.462	116.70%
5/20/2019 12:39	1183.5	20.906	7.792	16.353	1183.5	16.353	-0.467	116.90%
5/20/2019 12:39	1184	20.921	7.792	16.353	1184	16.353	-0.467	116.90%
5/20/2019 12:39	1184.5	20.902	7.79	16.358	1184.5	16.358	-0.462	116.70%
5/20/2019 12:39	1185	20.89	7.791	16.355	1185	16.355	-0.465	116.80%

5/20/2019 12:39	1185.5	20.917	7.79	16.357	1185.5	16.357	-0.463	116.70%
5/20/2019 12:39	1186	20.907	7.791	16.355	1186	16.355	-0.465	116.80%
5/20/2019 12:39	1186.5	20.895	7.79	16.356	1186.5	16.356	-0.464	116.80%
5/20/2019 12:39	1187	20.9	7.79	16.358	1187	16.358	-0.462	116.70%
5/20/2019 12:39	1187.5	20.889	7.79	16.357	1187.5	16.357	-0.463	116.70%
5/20/2019 12:39	1188	20.915	7.792	16.351	1188	16.351	-0.469	116.90%
5/20/2019 12:39	1188.5	20.907	7.792	16.351	1188.5	16.351	-0.469	116.90%
5/20/2019 12:39	1189	20.915	7.793	16.35	1189	16.35	-0.47	117.00%
5/20/2019 12:39	1189.5	20.904	7.792	16.352	1189.5	16.352	-0.468	116.90%
5/20/2019 12:39	1190	20.896	7.793	16.351	1190	16.351	-0.469	116.90%
5/20/2019 12:39	1190.5	20.874	7.792	16.352	1190.5	16.352	-0.468	116.90%
5/20/2019 12:39	1191	20.926	7.792	16.352	1191	16.352	-0.468	116.90%
5/20/2019 12:39	1191.5	20.884	7.791	16.354	1191.5	16.354	-0.466	116.80%
5/20/2019 12:39	1192	20.91	7.792	16.351	1192	16.351	-0.469	116.90%
5/20/2019 12:39	1192.5	20.889	7.791	16.355	1192.5	16.355	-0.465	116.80%
5/20/2019 12:39	1193	20.912	7.791	16.355	1193	16.355	-0.465	116.80%
5/20/2019 12:39	1193.5	20.891	7.792	16.352	1193.5	16.352	-0.468	116.90%
5/20/2019 12:39	1194	20.926	7.794	16.349	1194	16.349	-0.471	117.00%
5/20/2019 12:39	1194.5	20.909	7.792	16.352	1194.5	16.352	-0.468	116.90%
5/20/2019 12:39	1195	20.894	7.793	16.35	1195	16.35	-0.47	117.00%
5/20/2019 12:39	1195.501	20.902	7.793	16.35	1195.501	16.35	-0.47	117.00%
5/20/2019 12:39	1196.001	20.917	7.794	16.349	1196.001	16.349	-0.471	117.00%
5/20/2019 12:39	1196.501	20.895	7.792	16.352	1196.501	16.352	-0.468	116.90%
5/20/2019 12:39	1197.001	20.914	7.791	16.355	1197.001	16.355	-0.465	116.80%
5/20/2019 12:39	1197.501	20.891	7.791	16.356	1197.501	16.356	-0.464	116.80%
5/20/2019 12:39	1198.001	20.907	7.791	16.356	1198.001	16.356	-0.464	116.80%
5/20/2019 12:39	1198.501	20.891	7.793	16.351	1198.501	16.351	-0.469	116.90%
5/20/2019 12:39	1199.001	20.897	7.793	16.351	1199.001	16.351	-0.469	116.90%
5/20/2019 12:39	1199.501	20.911	7.791	16.355	1199.501	16.355	-0.465	116.80%
5/20/2019 12:39	1200.001	20.899	7.79	16.356	1200.001	16.356	-0.464	116.80%
5/20/2019 12:39	1200.501	20.92	7.794	16.348	1200.501	16.348	-0.472	117.10%
5/20/2019 12:39	1201	20.925	7.793	16.349	1201	16.349	-0.471	117.00%
5/20/2019 12:39	1201.5	20.883	7.794	16.348	1201.5	16.348	-0.472	117.10%
5/20/2019 12:39	1202	20.909	7.791	16.354	1202	16.354	-0.466	116.80%
5/20/2019 12:39	1202.5	20.906	7.793	16.35	1202.5	16.35	-0.47	117.00%
5/20/2019 12:39	1203	20.903	7.791	16.355	1203	16.355	-0.465	116.80%
5/20/2019 12:39	1203.5	20.902	7.793	16.349	1203.5	16.349	-0.471	117.00%
5/20/2019 12:39	1204	20.902	7.793	16.349	1204	16.349	-0.471	117.00%
5/20/2019 12:39	1204.5	20.902	7.792	16.353	1204.5	16.353	-0.467	116.90%
5/20/2019 12:39	1205	20.916	7.794	16.349	1205	16.349	-0.471	117.00%
5/20/2019 12:39	1205.5	20.916	7.793	16.35	1205.5	16.35	-0.47	117.00%
5/20/2019 12:39	1206	20.912	7.792	16.353	1206	16.353	-0.467	116.90%
5/20/2019 12:39	1206.5	20.916	7.793	16.35	1206.5	16.35	-0.47	117.00%
5/20/2019 12:39	1207	20.904	7.792	16.352	1207	16.352	-0.468	116.90%
5/20/2019 12:39	1207.5	20.907	7.795	16.347	1207.5	16.347	-0.473	117.10%
5/20/2019 12:39	1208	20.905	7.794	16.348	1208	16.348	-0.472	117.10%
5/20/2019 12:39	1208.5	20.915	7.795	16.346	1208.5	16.346	-0.474	117.10%
5/20/2019 12:39	1209	20.892	7.793	16.349	1209	16.349	-0.471	117.00%
5/20/2019 12:39	1209.5	20.898	7.792	16.352	1209.5	16.352	-0.468	116.90%
5/20/2019 12:39	1210	20.91	7.793	16.351	1210	16.351	-0.469	116.90%
5/20/2019 12:39	1210.5	20.896	7.793	16.35	1210.5	16.35	-0.47	117.00%
5/20/2019 12:39	1211	20.904	7.792	16.352	1211	16.352	-0.468	116.90%
5/20/2019 12:39	1211.5	20.903	7.793	16.351	1211.5	16.351	-0.469	116.90%
5/20/2019 12:39	1212	20.915	7.794	16.348	1212	16.348	-0.472	117.10%
5/20/2019 12:39	1212.5	20.88	7.793	16.35	1212.5	16.35	-0.47	117.00%
5/20/2019 12:39	1213	20.918	7.793	16.35	1213	16.35	-0.47	117.00%
5/20/2019 12:39	1213.5	20.911	7.794	16.349	1213.5	16.349	-0.471	117.00%
5/20/2019 12:39	1214	20.891	7.793	16.351	1214	16.351	-0.469	116.90%
5/20/2019 12:39	1214.5	20.943	7.793	16.349	1214.5	16.349	-0.471	117.00%
5/20/2019 12:39	1215	20.909	7.794	16.347	1215	16.347	-0.473	117.10%
5/20/2019 12:39	1215.5	20.907	7.795	16.344	1215.5	16.344	-0.476	117.20%
5/20/2019 12:39	1216	20.906	7.795	16.345	1216	16.345	-0.475	117.20%
5/20/2019 12:39	1216.5	20.909	7.793	16.349	1216.5	16.349	-0.471	117.00%
5/20/2019 12:39	1217	20.921	7.794	16.347	1217	16.347	-0.473	117.10%
5/20/2019 12:39	1217.5	20.896	7.795	16.346	1217.5	16.346	-0.474	117.10%
5/20/2019 12:39	1218	20.906	7.792	16.352	1218	16.352	-0.468	116.90%
5/20/2019 12:39	1218.5	20.896	7.795	16.346	1218.5	16.346	-0.474	117.10%
5/20/2019 12:39	1219	20.879	7.793	16.351	1219	16.351	-0.469	116.90%

5/20/2019 12:39	1219.5	20.922	7.792	16.353	1219.5	16.353	-0.467	116.90%
5/20/2019 12:39	1220	20.912	7.794	16.348	1220	16.348	-0.472	117.10%
5/20/2019 12:39	1220.5	20.904	7.794	16.348	1220.5	16.348	-0.472	117.10%
5/20/2019 12:39	1221.001	20.917	7.794	16.347	1221.001	16.347	-0.473	117.10%
5/20/2019 12:39	1221.5	20.912	7.796	16.344	1221.5	16.344	-0.476	117.20%
5/20/2019 12:39	1222	20.899	7.792	16.353	1222	16.353	-0.467	116.90%
5/20/2019 12:39	1222.5	20.888	7.794	16.348	1222.5	16.348	-0.472	117.10%
5/20/2019 12:39	1223	20.907	7.793	16.35	1223	16.35	-0.47	117.00%
5/20/2019 12:39	1223.5	20.892	7.795	16.346	1223.5	16.346	-0.474	117.10%
5/20/2019 12:39	1224	20.912	7.792	16.351	1224	16.351	-0.469	116.90%
5/20/2019 12:39	1224.5	20.9	7.793	16.349	1224.5	16.349	-0.471	117.00%
5/20/2019 12:39	1225	20.892	7.795	16.344	1225	16.344	-0.476	117.20%
5/20/2019 12:39	1225.5	20.914	7.795	16.345	1225.5	16.345	-0.475	117.20%
5/20/2019 12:39	1226	20.912	7.796	16.344	1226	16.344	-0.476	117.20%
5/20/2019 12:39	1226.5	20.906	7.795	16.345	1226.5	16.345	-0.475	117.20%
5/20/2019 12:39	1227	20.915	7.795	16.344	1227	16.344	-0.476	117.20%
5/20/2019 12:39	1227.5	20.89	7.796	16.344	1227.5	16.344	-0.476	117.20%
5/20/2019 12:39	1228	20.887	7.794	16.348	1228	16.348	-0.472	117.10%
5/20/2019 12:39	1228.5	20.907	7.796	16.344	1228.5	16.344	-0.476	117.20%
5/20/2019 12:39	1229	20.899	7.796	16.342	1229	16.342	-0.478	117.30%
5/20/2019 12:39	1229.5	20.894	7.796	16.343	1229.5	16.343	-0.477	117.20%
5/20/2019 12:39	1230	20.893	7.798	16.339	1230	16.339	-0.481	117.40%
5/20/2019 12:39	1230.5	20.904	7.796	16.343	1230.5	16.343	-0.477	117.20%
5/20/2019 12:39	1231	20.925	7.795	16.345	1231	16.345	-0.475	117.20%
5/20/2019 12:39	1231.5	20.883	7.794	16.347	1231.5	16.347	-0.473	117.10%
5/20/2019 12:39	1232	20.904	7.797	16.341	1232	16.341	-0.479	117.30%
5/20/2019 12:39	1232.5	20.867	7.795	16.346	1232.5	16.346	-0.474	117.10%
5/20/2019 12:39	1233	20.93	7.794	16.347	1233	16.347	-0.473	117.10%
5/20/2019 12:39	1233.5	20.909	7.795	16.346	1233.5	16.346	-0.474	117.10%
5/20/2019 12:39	1234	20.905	7.793	16.35	1234	16.35	-0.47	117.00%
5/20/2019 12:39	1234.5	20.911	7.796	16.343	1234.5	16.343	-0.477	117.20%
5/20/2019 12:39	1235	20.914	7.795	16.345	1235	16.345	-0.475	117.20%
5/20/2019 12:39	1235.5	20.891	7.795	16.347	1235.5	16.347	-0.473	117.10%
5/20/2019 12:39	1236	20.93	7.794	16.348	1236	16.348	-0.472	117.10%
5/20/2019 12:39	1236.5	20.884	7.794	16.348	1236.5	16.348	-0.472	117.10%
5/20/2019 12:39	1237	20.881	7.797	16.341	1237	16.341	-0.479	117.30%
5/20/2019 12:39	1237.5	20.892	7.795	16.345	1237.5	16.345	-0.475	117.20%
5/20/2019 12:40	1238	20.909	7.797	16.341	1238	16.341	-0.479	117.30%
5/20/2019 12:40	1238.5	20.905	7.797	16.342	1238.5	16.342	-0.478	117.30%
5/20/2019 12:40	1239	20.9	7.796	16.344	1239	16.344	-0.476	117.20%
5/20/2019 12:40	1239.5	20.909	7.796	16.343	1239.5	16.343	-0.477	117.20%
5/20/2019 12:40	1240	20.91	7.795	16.346	1240	16.346	-0.474	117.10%
5/20/2019 12:40	1240.5	20.907	7.794	16.348	1240.5	16.348	-0.472	117.10%
5/20/2019 12:40	1241	20.894	7.796	16.342	1241	16.342	-0.478	117.30%
5/20/2019 12:40	1241.5	20.904	7.796	16.344	1241.5	16.344	-0.476	117.20%
5/20/2019 12:40	1242	20.915	7.795	16.345	1242	16.345	-0.475	117.20%
5/20/2019 12:40	1242.5	20.903	7.794	16.347	1242.5	16.347	-0.473	117.10%
5/20/2019 12:40	1243	20.88	7.798	16.339	1243	16.339	-0.481	117.40%
5/20/2019 12:40	1243.5	20.902	7.797	16.34	1243.5	16.34	-0.48	117.30%
5/20/2019 12:40	1244	20.927	7.794	16.349	1244	16.349	-0.471	117.00%
5/20/2019 12:40	1244.5	20.904	7.795	16.346	1244.5	16.346	-0.474	117.10%
5/20/2019 12:40	1245	20.888	7.793	16.35	1245	16.35	-0.47	117.00%
5/20/2019 12:40	1245.5	20.905	7.797	16.341	1245.5	16.341	-0.479	117.30%
5/20/2019 12:40	1246	20.885	7.795	16.346	1246	16.346	-0.474	117.10%
5/20/2019 12:40	1246.5	20.904	7.797	16.341	1246.5	16.341	-0.479	117.30%
5/20/2019 12:40	1247	20.907	7.795	16.345	1247	16.345	-0.475	117.20%
5/20/2019 12:40	1247.5	20.896	7.794	16.348	1247.5	16.348	-0.472	117.10%
5/20/2019 12:40	1248	20.889	7.798	16.339	1248	16.339	-0.481	117.40%
5/20/2019 12:40	1248.5	20.909	7.797	16.341	1248.5	16.341	-0.479	117.30%
5/20/2019 12:40	1249	20.887	7.796	16.343	1249	16.343	-0.477	117.20%
5/20/2019 12:40	1249.5	20.902	7.798	16.339	1249.5	16.339	-0.481	117.40%
5/20/2019 12:40	1250	20.906	7.796	16.344	1250	16.344	-0.476	117.20%
5/20/2019 12:40	1250.5	20.898	7.797	16.342	1250.5	16.342	-0.478	117.30%
5/20/2019 12:40	1251	20.892	7.795	16.345	1251	16.345	-0.475	117.20%
5/20/2019 12:40	1251.5	20.896	7.799	16.336	1251.5	16.336	-0.484	117.50%
5/20/2019 12:40	1252	20.909	7.796	16.344	1252	16.344	-0.476	117.20%
5/20/2019 12:40	1252.5	20.912	7.796	16.343	1252.5	16.343	-0.477	117.20%
5/20/2019 12:40	1253	20.907	7.796	16.343	1253	16.343	-0.477	117.20%

5/20/2019 12:40	1253.5	20.904	7.795	16.345	1253.5	16.345	-0.475	117.20%
5/20/2019 12:40	1254	20.918	7.795	16.346	1254	16.346	-0.474	117.10%
5/20/2019 12:40	1254.5	20.901	7.797	16.341	1254.5	16.341	-0.479	117.30%
5/20/2019 12:40	1255	20.891	7.798	16.339	1255	16.339	-0.481	117.40%
5/20/2019 12:40	1255.5	20.92	7.796	16.343	1255.5	16.343	-0.477	117.20%
5/20/2019 12:40	1256	20.876	7.796	16.344	1256	16.344	-0.476	117.20%
5/20/2019 12:40	1256.5	20.892	7.798	16.339	1256.5	16.339	-0.481	117.40%
5/20/2019 12:40	1257	20.889	7.795	16.345	1257	16.345	-0.475	117.20%
5/20/2019 12:40	1257.5	20.911	7.796	16.342	1257.5	16.342	-0.478	117.30%
5/20/2019 12:40	1258	20.884	7.797	16.34	1258	16.34	-0.48	117.30%
5/20/2019 12:40	1258.5	20.917	7.797	16.341	1258.5	16.341	-0.479	117.30%
5/20/2019 12:40	1259.001	20.913	7.796	16.344	1259.001	16.344	-0.476	117.20%
5/20/2019 12:40	1259.501	20.888	7.796	16.344	1259.501	16.344	-0.476	117.20%
5/20/2019 12:40	1260.001	20.9	7.795	16.346	1260.001	16.346	-0.474	117.10%
5/20/2019 12:40	1260.501	20.906	7.795	16.346	1260.501	16.346	-0.474	117.10%
5/20/2019 12:40	1261.001	20.92	7.795	16.344	1261.001	16.344	-0.476	117.20%
5/20/2019 12:40	1261.501	20.898	7.799	16.337	1261.501	16.337	-0.483	117.50%
5/20/2019 12:40	1262.001	20.899	7.797	16.341	1262.001	16.341	-0.479	117.30%
5/20/2019 12:40	1262.501	20.899	7.796	16.342	1262.501	16.342	-0.478	117.30%
5/20/2019 12:40	1263.001	20.9	7.797	16.34	1263.001	16.34	-0.48	117.30%
5/20/2019 12:40	1263.501	20.924	7.797	16.342	1263.501	16.342	-0.478	117.30%
5/20/2019 12:40	1264.001	20.898	7.797	16.341	1264.001	16.341	-0.479	117.30%
5/20/2019 12:40	1264.5	20.907	7.798	16.338	1264.5	16.338	-0.482	117.40%
5/20/2019 12:40	1265	20.92	7.799	16.336	1265	16.336	-0.484	117.50%
5/20/2019 12:40	1265.5	20.932	7.796	16.343	1265.5	16.343	-0.477	117.20%
5/20/2019 12:40	1266	20.907	7.797	16.341	1266	16.341	-0.479	117.30%
5/20/2019 12:40	1266.5	20.913	7.797	16.342	1266.5	16.342	-0.478	117.30%
5/20/2019 12:40	1267	20.896	7.799	16.337	1267	16.337	-0.483	117.50%
5/20/2019 12:40	1267.5	20.892	7.797	16.341	1267.5	16.341	-0.479	117.30%
5/20/2019 12:40	1268	20.917	7.798	16.338	1268	16.338	-0.482	117.40%
5/20/2019 12:40	1268.5	20.92	7.795	16.345	1268.5	16.345	-0.475	117.20%
5/20/2019 12:40	1269	20.878	7.798	16.339	1269	16.339	-0.481	117.40%
5/20/2019 12:40	1269.5	20.912	7.797	16.342	1269.5	16.342	-0.478	117.30%
5/20/2019 12:40	1270	20.922	7.799	16.337	1270	16.337	-0.483	117.50%
5/20/2019 12:40	1270.5	20.904	7.795	16.345	1270.5	16.345	-0.475	117.20%
5/20/2019 12:40	1271	20.915	7.797	16.342	1271	16.342	-0.478	117.30%
5/20/2019 12:40	1271.5	20.895	7.798	16.339	1271.5	16.339	-0.481	117.40%
5/20/2019 12:40	1272	20.894	7.798	16.339	1272	16.339	-0.481	117.40%
5/20/2019 12:40	1272.5	20.901	7.799	16.337	1272.5	16.337	-0.483	117.50%
5/20/2019 12:40	1273	20.897	7.798	16.338	1273	16.338	-0.482	117.40%
5/20/2019 12:40	1273.5	20.894	7.799	16.336	1273.5	16.336	-0.484	117.50%
5/20/2019 12:40	1274	20.91	7.795	16.344	1274	16.344	-0.476	117.20%
5/20/2019 12:40	1274.5	20.888	7.797	16.341	1274.5	16.341	-0.479	117.30%
5/20/2019 12:40	1275	20.895	7.798	16.338	1275	16.338	-0.482	117.40%
5/20/2019 12:40	1275.5	20.915	7.799	16.336	1275.5	16.336	-0.484	117.50%
5/20/2019 12:40	1276	20.897	7.798	16.338	1276	16.338	-0.482	117.40%
5/20/2019 12:40	1276.5	20.888	7.797	16.34	1276.5	16.34	-0.48	117.30%
5/20/2019 12:40	1277	20.894	7.798	16.338	1277	16.338	-0.482	117.40%
5/20/2019 12:40	1277.5	20.907	7.799	16.336	1277.5	16.336	-0.484	117.50%
5/20/2019 12:40	1278	20.908	7.798	16.339	1278	16.339	-0.481	117.40%
5/20/2019 12:40	1278.5	20.927	7.796	16.344	1278.5	16.344	-0.476	117.20%
5/20/2019 12:40	1279	20.905	7.797	16.34	1279	16.34	-0.48	117.30%
5/20/2019 12:40	1279.5	20.89	7.797	16.34	1279.5	16.34	-0.48	117.30%
5/20/2019 12:40	1280	20.907	7.801	16.331	1280	16.331	-0.489	117.70%
5/20/2019 12:40	1280.5	20.914	7.8	16.333	1280.5	16.333	-0.487	117.60%
5/20/2019 12:40	1281	20.894	7.798	16.338	1281	16.338	-0.482	117.40%
5/20/2019 12:40	1281.5	20.923	7.799	16.337	1281.5	16.337	-0.483	117.50%
5/20/2019 12:40	1282	20.898	7.799	16.336	1282	16.336	-0.484	117.50%
5/20/2019 12:40	1282.5	20.884	7.799	16.337	1282.5	16.337	-0.483	117.50%
5/20/2019 12:40	1283	20.899	7.797	16.34	1283	16.34	-0.48	117.30%
5/20/2019 12:40	1283.5	20.89	7.799	16.337	1283.5	16.337	-0.483	117.50%
5/20/2019 12:40	1284	20.902	7.801	16.332	1284	16.332	-0.488	117.60%
5/20/2019 12:40	1284.5	20.909	7.797	16.341	1284.5	16.341	-0.479	117.30%
5/20/2019 12:40	1285	20.928	7.797	16.34	1285	16.34	-0.48	117.30%
5/20/2019 12:40	1285.5	20.911	7.799	16.337	1285.5	16.337	-0.483	117.50%
5/20/2019 12:40	1286	20.899	7.8	16.335	1286	16.335	-0.485	117.50%
5/20/2019 12:40	1286.5	20.922	7.797	16.341	1286.5	16.341	-0.479	117.30%
5/20/2019 12:40	1287	20.904	7.799	16.336	1287	16.336	-0.484	117.50%

5/20/2019 12:40	1287.5	20.902	7.797	16.34	1287.5	16.34	-0.48	117.30%
5/20/2019 12:40	1288	20.894	7.799	16.335	1288	16.335	-0.485	117.50%
5/20/2019 12:40	1288.5	20.886	7.798	16.339	1288.5	16.339	-0.481	117.40%
5/20/2019 12:40	1289	20.894	7.801	16.332	1289	16.332	-0.488	117.60%
5/20/2019 12:40	1289.5	20.906	7.799	16.337	1289.5	16.337	-0.483	117.50%
5/20/2019 12:40	1290	20.906	7.799	16.337	1290	16.337	-0.483	117.50%
5/20/2019 12:40	1290.5	20.904	7.799	16.336	1290.5	16.336	-0.484	117.50%
5/20/2019 12:40	1291	20.893	7.799	16.337	1291	16.337	-0.483	117.50%
5/20/2019 12:40	1291.5	20.924	7.8	16.333	1291.5	16.333	-0.487	117.60%
5/20/2019 12:40	1292	20.888	7.799	16.335	1292	16.335	-0.485	117.50%
5/20/2019 12:40	1292.5	20.881	7.801	16.331	1292.5	16.331	-0.489	117.70%
5/20/2019 12:40	1293	20.904	7.799	16.335	1293	16.335	-0.485	117.50%
5/20/2019 12:40	1293.5	20.878	7.8	16.334	1293.5	16.334	-0.486	117.60%
5/20/2019 12:40	1294	20.894	7.797	16.341	1294	16.341	-0.479	117.30%
5/20/2019 12:40	1294.5	20.899	7.8	16.334	1294.5	16.334	-0.486	117.60%
5/20/2019 12:40	1295	20.893	7.798	16.339	1295	16.339	-0.481	117.40%
5/20/2019 12:40	1295.5	20.902	7.798	16.338	1295.5	16.338	-0.482	117.40%
5/20/2019 12:40	1296	20.908	7.802	16.33	1296	16.33	-0.49	117.70%
5/20/2019 12:40	1296.5	20.92	7.8	16.335	1296.5	16.335	-0.485	117.50%
5/20/2019 12:40	1297	20.899	7.798	16.338	1297	16.338	-0.482	117.40%
5/20/2019 12:40	1297.5	20.914	7.8	16.334	1297.5	16.334	-0.486	117.60%
5/20/2019 12:41	1298	20.903	7.799	16.337	1298	16.337	-0.483	117.50%
5/20/2019 12:41	1298.5	20.9	7.799	16.336	1298.5	16.336	-0.484	117.50%
5/20/2019 12:41	1299	20.9	7.799	16.336	1299	16.336	-0.484	117.50%
5/20/2019 12:41	1299.5	20.928	7.8	16.334	1299.5	16.334	-0.486	117.60%
5/20/2019 12:41	1300	20.896	7.797	16.34	1300	16.34	-0.48	117.30%
5/20/2019 12:41	1300.5	20.905	7.797	16.34	1300.5	16.34	-0.48	117.30%
5/20/2019 12:41	1301	20.904	7.802	16.328	1301	16.328	-0.492	117.80%
5/20/2019 12:41	1301.5	20.897	7.8	16.334	1301.5	16.334	-0.486	117.60%
5/20/2019 12:41	1302	20.885	7.8	16.333	1302	16.333	-0.487	117.60%
5/20/2019 12:41	1302.5	20.89	7.798	16.338	1302.5	16.338	-0.482	117.40%
5/20/2019 12:41	1303	20.897	7.799	16.335	1303	16.335	-0.485	117.50%
5/20/2019 12:41	1303.5	20.917	7.802	16.33	1303.5	16.33	-0.49	117.70%
5/20/2019 12:41	1304	20.892	7.802	16.33	1304	16.33	-0.49	117.70%
5/20/2019 12:41	1304.5	20.902	7.803	16.327	1304.5	16.327	-0.493	117.80%
5/20/2019 12:41	1305	20.918	7.799	16.335	1305	16.335	-0.485	117.50%
5/20/2019 12:41	1305.5	20.904	7.801	16.331	1305.5	16.331	-0.489	117.70%
5/20/2019 12:41	1306	20.894	7.799	16.337	1306	16.337	-0.483	117.50%
5/20/2019 12:41	1306.5	20.898	7.799	16.337	1306.5	16.337	-0.483	117.50%
5/20/2019 12:41	1307	20.905	7.799	16.336	1307	16.336	-0.484	117.50%
5/20/2019 12:41	1307.5	20.911	7.8	16.335	1307.5	16.335	-0.485	117.50%
5/20/2019 12:41	1308	20.878	7.801	16.331	1308	16.331	-0.489	117.70%
5/20/2019 12:41	1308.5	20.895	7.8	16.335	1308.5	16.335	-0.485	117.50%
5/20/2019 12:41	1309	20.922	7.8	16.335	1309	16.335	-0.485	117.50%
5/20/2019 12:41	1309.5	20.881	7.801	16.331	1309.5	16.331	-0.489	117.70%
5/20/2019 12:41	1310	20.901	7.8	16.334	1310	16.334	-0.486	117.60%
5/20/2019 12:41	1310.5	20.911	7.801	16.332	1310.5	16.332	-0.488	117.60%
5/20/2019 12:41	1311	20.906	7.802	16.33	1311	16.33	-0.49	117.70%
5/20/2019 12:41	1311.5	20.902	7.8	16.333	1311.5	16.333	-0.487	117.60%
5/20/2019 12:41	1312	20.902	7.8	16.333	1312	16.333	-0.487	117.60%
5/20/2019 12:41	1312.5	20.929	7.799	16.336	1312.5	16.336	-0.484	117.50%
5/20/2019 12:41	1313	20.907	7.8	16.333	1313	16.333	-0.487	117.60%
5/20/2019 12:41	1313.5	20.911	7.802	16.329	1313.5	16.329	-0.491	117.70%
5/20/2019 12:41	1314	20.915	7.802	16.33	1314	16.33	-0.49	117.70%
5/20/2019 12:41	1314.5	20.904	7.802	16.33	1314.5	16.33	-0.49	117.70%
5/20/2019 12:41	1315	20.887	7.8	16.335	1315	16.335	-0.485	117.50%
5/20/2019 12:41	1315.5	20.896	7.8	16.334	1315.5	16.334	-0.486	117.60%
5/20/2019 12:41	1316	20.905	7.801	16.332	1316	16.332	-0.488	117.60%
5/20/2019 12:41	1316.5	20.914	7.802	16.328	1316.5	16.328	-0.492	117.80%
5/20/2019 12:41	1317	20.891	7.803	16.328	1317	16.328	-0.492	117.80%
5/20/2019 12:41	1317.5	20.902	7.802	16.33	1317.5	16.33	-0.49	117.70%
5/20/2019 12:41	1318	20.91	7.8	16.333	1318	16.333	-0.487	117.60%
5/20/2019 12:41	1318.5	20.904	7.802	16.33	1318.5	16.33	-0.49	117.70%
5/20/2019 12:41	1319	20.895	7.799	16.335	1319	16.335	-0.485	117.50%
5/20/2019 12:41	1319.5	20.904	7.801	16.332	1319.5	16.332	-0.488	117.60%
5/20/2019 12:41	1320	20.915	7.8	16.334	1320	16.334	-0.486	117.60%
5/20/2019 12:41	1320.5	20.91	7.8	16.334	1320.5	16.334	-0.486	117.60%
5/20/2019 12:41	1321	20.904	7.802	16.33	1321	16.33	-0.49	117.70%



5/20/2019 12:41	1321.5	20.896	7.8	16.333	1321.5	16.333	-0.487	117.60%
5/20/2019 12:41	1322	20.91	7.8	16.335	1322	16.335	-0.485	117.50%
5/20/2019 12:41	1322.501	20.896	7.801	16.333	1322.501	16.333	-0.487	117.60%
5/20/2019 12:41	1323.001	20.901	7.8	16.333	1323.001	16.333	-0.487	117.60%
5/20/2019 12:41	1323.501	20.907	7.802	16.329	1323.501	16.329	-0.491	117.70%
5/20/2019 12:41	1324.001	20.897	7.8	16.333	1324.001	16.333	-0.487	117.60%
5/20/2019 12:41	1324.501	20.905	7.802	16.329	1324.501	16.329	-0.491	117.70%
5/20/2019 12:41	1325.001	20.901	7.801	16.332	1325.001	16.332	-0.488	117.60%
5/20/2019 12:41	1325.501	20.902	7.801	16.332	1325.501	16.332	-0.488	117.60%
5/20/2019 12:41	1326.001	20.9	7.802	16.329	1326.001	16.329	-0.491	117.70%
5/20/2019 12:41	1326.501	20.896	7.801	16.332	1326.501	16.332	-0.488	117.60%
5/20/2019 12:41	1327.001	20.876	7.803	16.328	1327.001	16.328	-0.492	117.80%
5/20/2019 12:41	1327.501	20.899	7.802	16.33	1327.501	16.33	-0.49	117.70%
5/20/2019 12:41	1328	20.92	7.801	16.331	1328	16.331	-0.489	117.70%
5/20/2019 12:41	1328.5	20.907	7.801	16.332	1328.5	16.332	-0.488	117.60%
5/20/2019 12:41	1329	20.925	7.801	16.331	1329	16.331	-0.489	117.70%
5/20/2019 12:41	1329.5	20.889	7.8	16.333	1329.5	16.333	-0.487	117.60%
5/20/2019 12:41	1330	20.886	7.804	16.325	1330	16.325	-0.495	117.90%
5/20/2019 12:41	1330.5	20.92	7.801	16.332	1330.5	16.332	-0.488	117.60%
5/20/2019 12:41	1331	20.918	7.801	16.333	1331	16.333	-0.487	117.60%
5/20/2019 12:41	1331.5	20.889	7.801	16.332	1331.5	16.332	-0.488	117.60%
5/20/2019 12:41	1332	20.912	7.803	16.327	1332	16.327	-0.493	117.80%
5/20/2019 12:41	1332.5	20.918	7.801	16.331	1332.5	16.331	-0.489	117.70%
5/20/2019 12:41	1333	20.924	7.8	16.334	1333	16.334	-0.486	117.60%
5/20/2019 12:41	1333.5	20.91	7.804	16.324	1333.5	16.324	-0.496	117.90%
5/20/2019 12:41	1334	20.909	7.801	16.331	1334	16.331	-0.489	117.70%
5/20/2019 12:41	1334.5	20.911	7.803	16.326	1334.5	16.326	-0.494	117.90%
5/20/2019 12:41	1335	20.904	7.801	16.332	1335	16.332	-0.488	117.60%
5/20/2019 12:41	1335.5	20.884	7.8	16.334	1335.5	16.334	-0.486	117.60%
5/20/2019 12:41	1336	20.885	7.802	16.329	1336	16.329	-0.491	117.70%
5/20/2019 12:41	1336.5	20.907	7.802	16.33	1336.5	16.33	-0.49	117.70%
5/20/2019 12:41	1337	20.904	7.801	16.331	1337	16.331	-0.489	117.70%
5/20/2019 12:41	1337.5	20.921	7.802	16.33	1337.5	16.33	-0.49	117.70%
5/20/2019 12:41	1338	20.902	7.802	16.33	1338	16.33	-0.49	117.70%
5/20/2019 12:41	1338.5	20.906	7.804	16.324	1338.5	16.324	-0.496	117.90%
5/20/2019 12:41	1339	20.893	7.801	16.331	1339	16.331	-0.489	117.70%
5/20/2019 12:41	1339.5	20.917	7.801	16.332	1339.5	16.332	-0.488	117.60%
5/20/2019 12:41	1340	20.897	7.8	16.334	1340	16.334	-0.486	117.60%
5/20/2019 12:41	1340.5	20.903	7.805	16.323	1340.5	16.323	-0.497	118.00%
5/20/2019 12:41	1341	20.902	7.804	16.324	1341	16.324	-0.496	117.90%
5/20/2019 12:41	1341.5	20.906	7.801	16.333	1341.5	16.333	-0.487	117.60%
5/20/2019 12:41	1342	20.896	7.804	16.324	1342	16.324	-0.496	117.90%
5/20/2019 12:41	1342.5	20.878	7.802	16.329	1342.5	16.329	-0.491	117.70%
5/20/2019 12:41	1343	20.868	7.802	16.328	1343	16.328	-0.492	117.80%
5/20/2019 12:41	1343.5	20.904	7.802	16.33	1343.5	16.33	-0.49	117.70%
5/20/2019 12:41	1344	20.908	7.802	16.33	1344	16.33	-0.49	117.70%
5/20/2019 12:41	1344.5	20.886	7.803	16.328	1344.5	16.328	-0.492	117.80%
5/20/2019 12:41	1345	20.899	7.802	16.328	1345	16.328	-0.492	117.80%
5/20/2019 12:41	1345.5	20.888	7.801	16.332	1345.5	16.332	-0.488	117.60%
5/20/2019 12:41	1346	20.906	7.804	16.325	1346	16.325	-0.495	117.90%
5/20/2019 12:41	1346.5	20.899	7.802	16.328	1346.5	16.328	-0.492	117.80%
5/20/2019 12:41	1347	20.915	7.801	16.331	1347	16.331	-0.489	117.70%
5/20/2019 12:41	1347.5	20.905	7.801	16.332	1347.5	16.332	-0.488	117.60%
5/20/2019 12:41	1348.016	20.897	7.803	16.326	1348.016	16.326	-0.494	117.90%
5/20/2019 12:41	1348.5	20.901	7.801	16.331	1348.5	16.331	-0.489	117.70%
5/20/2019 12:41	1349	20.904	7.803	16.328	1349	16.328	-0.492	117.80%
5/20/2019 12:41	1349.5	20.897	7.805	16.323	1349.5	16.323	-0.497	118.00%
5/20/2019 12:41	1350	20.894	7.803	16.327	1350	16.327	-0.493	117.80%
5/20/2019 12:41	1350.5	20.929	7.803	16.327	1350.5	16.327	-0.493	117.80%
5/20/2019 12:41	1351	20.906	7.803	16.326	1351	16.326	-0.494	117.90%
5/20/2019 12:41	1351.5	20.894	7.802	16.328	1351.5	16.328	-0.492	117.80%
5/20/2019 12:41	1352	20.89	7.802	16.328	1352	16.328	-0.492	117.80%
5/20/2019 12:41	1352.5	20.902	7.803	16.326	1352.5	16.326	-0.494	117.90%
5/20/2019 12:41	1353	20.922	7.803	16.328	1353	16.328	-0.492	117.80%
5/20/2019 12:41	1353.5	20.899	7.804	16.325	1353.5	16.325	-0.495	117.90%
5/20/2019 12:41	1354	20.894	7.804	16.326	1354	16.326	-0.494	117.90%
5/20/2019 12:41	1354.5	20.899	7.803	16.328	1354.5	16.328	-0.492	117.80%
5/20/2019 12:41	1355	20.895	7.804	16.325	1355	16.325	-0.495	117.90%

5/20/2019 12:41	1355.5	20.907	7.801	16.331	1355.5	16.331	-0.489	117.70%
5/20/2019 12:41	1356	20.907	7.804	16.324	1356	16.324	-0.496	117.90%
5/20/2019 12:41	1356.5	20.886	7.804	16.326	1356.5	16.326	-0.494	117.90%
5/20/2019 12:41	1357	20.894	7.803	16.327	1357	16.327	-0.493	117.80%
5/20/2019 12:41	1357.5	20.894	7.804	16.325	1357.5	16.325	-0.495	117.90%
5/20/2019 12:42	1358	20.925	7.803	16.328	1358	16.328	-0.492	117.80%
5/20/2019 12:42	1358.5	20.902	7.803	16.327	1358.5	16.327	-0.493	117.80%
5/20/2019 12:42	1359	20.903	7.804	16.324	1359	16.324	-0.496	117.90%
5/20/2019 12:42	1359.5	20.902	7.802	16.329	1359.5	16.329	-0.491	117.70%
5/20/2019 12:42	1360	20.893	7.804	16.326	1360	16.326	-0.494	117.90%
5/20/2019 12:42	1360.501	20.915	7.806	16.321	1360.501	16.321	-0.499	118.00%
5/20/2019 12:42	1361.001	20.889	7.8	16.333	1361.001	16.333	-0.487	117.60%
5/20/2019 12:42	1361.501	20.907	7.803	16.326	1361.501	16.326	-0.494	117.90%
5/20/2019 12:42	1362.001	20.922	7.805	16.323	1362.001	16.323	-0.497	118.00%
5/20/2019 12:42	1362.501	20.888	7.803	16.326	1362.501	16.326	-0.494	117.90%
5/20/2019 12:42	1363.001	20.892	7.803	16.326	1363.001	16.326	-0.494	117.90%
5/20/2019 12:42	1363.501	20.927	7.804	16.324	1363.501	16.324	-0.496	117.90%
5/20/2019 12:42	1364.001	20.904	7.803	16.328	1364.001	16.328	-0.492	117.80%
5/20/2019 12:42	1364.501	20.879	7.803	16.327	1364.501	16.327	-0.493	117.80%
5/20/2019 12:42	1365.001	20.908	7.803	16.328	1365.001	16.328	-0.492	117.80%
5/20/2019 12:42	1365.501	20.899	7.803	16.327	1365.501	16.327	-0.493	117.80%
5/20/2019 12:42	1366	20.912	7.805	16.323	1366	16.323	-0.497	118.00%
5/20/2019 12:42	1366.5	20.903	7.804	16.325	1366.5	16.325	-0.495	117.90%
5/20/2019 12:42	1367	20.899	7.805	16.323	1367	16.323	-0.497	118.00%
5/20/2019 12:42	1367.5	20.9	7.805	16.322	1367.5	16.322	-0.498	118.00%
5/20/2019 12:42	1368	20.892	7.804	16.325	1368	16.325	-0.495	117.90%
5/20/2019 12:42	1368.5	20.903	7.803	16.326	1368.5	16.326	-0.494	117.90%
5/20/2019 12:42	1369	20.892	7.804	16.324	1369	16.324	-0.496	117.90%
5/20/2019 12:42	1369.5	20.874	7.804	16.324	1369.5	16.324	-0.496	117.90%
5/20/2019 12:42	1370	20.897	7.805	16.323	1370	16.323	-0.497	118.00%
5/20/2019 12:42	1370.5	20.903	7.805	16.323	1370.5	16.323	-0.497	118.00%
5/20/2019 12:42	1371	20.919	7.805	16.321	1371	16.321	-0.499	118.00%
5/20/2019 12:42	1371.5	20.891	7.803	16.328	1371.5	16.328	-0.492	117.80%
5/20/2019 12:42	1372	20.919	7.803	16.327	1372	16.327	-0.493	117.80%
5/20/2019 12:42	1372.5	20.918	7.805	16.322	1372.5	16.322	-0.498	118.00%
5/20/2019 12:42	1373	20.871	7.805	16.323	1373	16.323	-0.497	118.00%
5/20/2019 12:42	1373.5	20.9	7.804	16.326	1373.5	16.326	-0.494	117.90%
5/20/2019 12:42	1374	20.885	7.802	16.33	1374	16.33	-0.49	117.70%
5/20/2019 12:42	1374.5	20.876	7.803	16.326	1374.5	16.326	-0.494	117.90%
5/20/2019 12:42	1375	20.9	7.805	16.323	1375	16.323	-0.497	118.00%
5/20/2019 12:42	1375.5	20.906	7.804	16.326	1375.5	16.326	-0.494	117.90%
5/20/2019 12:42	1376	20.904	7.806	16.32	1376	16.32	-0.5	118.10%
5/20/2019 12:42	1376.5	20.901	7.804	16.324	1376.5	16.324	-0.496	117.90%
5/20/2019 12:42	1377	20.891	7.804	16.324	1377	16.324	-0.496	117.90%
5/20/2019 12:42	1377.5	20.889	7.805	16.322	1377.5	16.322	-0.498	118.00%
5/20/2019 12:42	1378	20.896	7.802	16.329	1378	16.329	-0.491	117.70%
5/20/2019 12:42	1378.5	20.899	7.803	16.327	1378.5	16.327	-0.493	117.80%
5/20/2019 12:42	1379	20.92	7.803	16.326	1379	16.326	-0.494	117.90%
5/20/2019 12:42	1379.5	20.904	7.804	16.325	1379.5	16.325	-0.495	117.90%
5/20/2019 12:42	1380	20.903	7.806	16.321	1380	16.321	-0.499	118.00%
5/20/2019 12:42	1380.5	20.894	7.802	16.328	1380.5	16.328	-0.492	117.80%
5/20/2019 12:42	1381	20.894	7.805	16.323	1381	16.323	-0.497	118.00%
5/20/2019 12:42	1381.5	20.881	7.804	16.324	1381.5	16.324	-0.496	117.90%
5/20/2019 12:42	1382	20.891	7.806	16.321	1382	16.321	-0.499	118.00%
5/20/2019 12:42	1382.5	20.91	7.806	16.321	1382.5	16.321	-0.499	118.00%
5/20/2019 12:42	1383	20.887	7.805	16.323	1383	16.323	-0.497	118.00%
5/20/2019 12:42	1383.5	20.874	7.804	16.325	1383.5	16.325	-0.495	117.90%
5/20/2019 12:42	1384	20.891	7.804	16.325	1384	16.325	-0.495	117.90%
5/20/2019 12:42	1384.5	20.87	7.804	16.324	1384.5	16.324	-0.496	117.90%
5/20/2019 12:42	1385	20.895	7.804	16.324	1385	16.324	-0.496	117.90%
5/20/2019 12:42	1385.5	20.907	7.804	16.324	1385.5	16.324	-0.496	117.90%
5/20/2019 12:42	1386	20.901	7.806	16.321	1386	16.321	-0.499	118.00%
5/20/2019 12:42	1386.5	20.899	7.805	16.322	1386.5	16.322	-0.498	118.00%
5/20/2019 12:42	1387	20.904	7.804	16.325	1387	16.325	-0.495	117.90%
5/20/2019 12:42	1387.5	20.917	7.805	16.322	1387.5	16.322	-0.498	118.00%
5/20/2019 12:42	1388	20.889	7.806	16.32	1388	16.32	-0.5	118.10%
5/20/2019 12:42	1388.5	20.907	7.807	16.318	1388.5	16.318	-0.502	118.10%
5/20/2019 12:42	1389	20.903	7.804	16.324	1389	16.324	-0.496	117.90%

5/20/2019 12:42	1389.5	20.929	7.806	16.321	1389.5	16.321	-0.499	118.00%
5/20/2019 12:42	1390	20.907	7.806	16.32	1390	16.32	-0.5	118.10%
5/20/2019 12:42	1390.5	20.898	7.806	16.32	1390.5	16.32	-0.5	118.10%
5/20/2019 12:42	1391	20.909	7.806	16.319	1391	16.319	-0.501	118.10%
5/20/2019 12:42	1391.5	20.905	7.805	16.322	1391.5	16.322	-0.498	118.00%
5/20/2019 12:42	1392	20.917	7.803	16.326	1392	16.326	-0.494	117.90%
5/20/2019 12:42	1392.5	20.899	7.804	16.326	1392.5	16.326	-0.494	117.90%
5/20/2019 12:42	1393	20.906	7.804	16.324	1393	16.324	-0.496	117.90%
5/20/2019 12:42	1393.5	20.917	7.806	16.319	1393.5	16.319	-0.501	118.10%
5/20/2019 12:42	1394	20.928	7.807	16.318	1394	16.318	-0.502	118.10%
5/20/2019 12:42	1394.5	20.894	7.805	16.323	1394.5	16.323	-0.497	118.00%
5/20/2019 12:42	1395	20.902	7.806	16.32	1395	16.32	-0.5	118.10%
5/20/2019 12:42	1395.5	20.911	7.805	16.322	1395.5	16.322	-0.498	118.00%
5/20/2019 12:42	1396	20.879	7.806	16.321	1396	16.321	-0.499	118.00%
5/20/2019 12:42	1396.5	20.902	7.806	16.32	1396.5	16.32	-0.5	118.10%
5/20/2019 12:42	1397	20.9	7.806	16.32	1397	16.32	-0.5	118.10%
5/20/2019 12:42	1397.5	20.909	7.805	16.321	1397.5	16.321	-0.499	118.00%
5/20/2019 12:42	1398	20.898	7.808	16.316	1398	16.316	-0.504	118.20%
5/20/2019 12:42	1398.5	20.915	7.808	16.316	1398.5	16.316	-0.504	118.20%
5/20/2019 12:42	1399	20.876	7.805	16.322	1399	16.322	-0.498	118.00%
5/20/2019 12:42	1399.5	20.912	7.803	16.326	1399.5	16.326	-0.494	117.90%
5/20/2019 12:42	1400	20.887	7.805	16.322	1400	16.322	-0.498	118.00%
5/20/2019 12:42	1400.5	20.89	7.806	16.319	1400.5	16.319	-0.501	118.10%
5/20/2019 12:42	1401	20.893	7.805	16.322	1401	16.322	-0.498	118.00%
5/20/2019 12:42	1401.5	20.886	7.805	16.322	1401.5	16.322	-0.498	118.00%
5/20/2019 12:42	1402	20.91	7.806	16.32	1402	16.32	-0.5	118.10%
5/20/2019 12:42	1402.5	20.894	7.803	16.328	1402.5	16.328	-0.492	117.80%
5/20/2019 12:42	1403	20.909	7.806	16.319	1403	16.319	-0.501	118.10%
5/20/2019 12:42	1403.5	20.889	7.804	16.324	1403.5	16.324	-0.496	117.90%
5/20/2019 12:42	1404	20.907	7.805	16.322	1404	16.322	-0.498	118.00%
5/20/2019 12:42	1404.5	20.915	7.807	16.318	1404.5	16.318	-0.502	118.10%
5/20/2019 12:42	1405	20.89	7.805	16.322	1405	16.322	-0.498	118.00%
5/20/2019 12:42	1405.5	20.925	7.806	16.32	1405.5	16.32	-0.5	118.10%
5/20/2019 12:42	1406	20.9	7.807	16.319	1406	16.319	-0.501	118.10%
5/20/2019 12:42	1406.5	20.896	7.805	16.321	1406.5	16.321	-0.499	118.00%
5/20/2019 12:42	1407	20.899	7.806	16.32	1407	16.32	-0.5	118.10%
5/20/2019 12:42	1407.5	20.888	7.806	16.32	1407.5	16.32	-0.5	118.10%
5/20/2019 12:42	1408	20.901	7.807	16.318	1408	16.318	-0.502	118.10%
5/20/2019 12:42	1408.5	20.92	7.808	16.316	1408.5	16.316	-0.504	118.20%
5/20/2019 12:42	1409	20.884	7.806	16.32	1409	16.32	-0.5	118.10%
5/20/2019 12:42	1409.5	20.908	7.806	16.32	1409.5	16.32	-0.5	118.10%
5/20/2019 12:42	1410	20.914	7.805	16.323	1410	16.323	-0.497	118.00%
5/20/2019 12:42	1410.5	20.899	7.805	16.322	1410.5	16.322	-0.498	118.00%
5/20/2019 12:42	1411	20.913	7.805	16.323	1411	16.323	-0.497	118.00%
5/20/2019 12:42	1411.5	20.894	7.806	16.319	1411.5	16.319	-0.501	118.10%
5/20/2019 12:42	1412	20.916	7.805	16.322	1412	16.322	-0.498	118.00%
5/20/2019 12:42	1412.5	20.895	7.807	16.319	1412.5	16.319	-0.501	118.10%
5/20/2019 12:42	1413	20.899	7.807	16.318	1413	16.318	-0.502	118.10%
5/20/2019 12:42	1413.5	20.884	7.806	16.32	1413.5	16.32	-0.5	118.10%
5/20/2019 12:42	1414	20.898	7.805	16.321	1414	16.321	-0.499	118.00%
5/20/2019 12:42	1414.5	20.902	7.806	16.321	1414.5	16.321	-0.499	118.00%
5/20/2019 12:42	1415	20.907	7.808	16.315	1415	16.315	-0.505	118.30%
5/20/2019 12:42	1415.5	20.902	7.805	16.321	1415.5	16.321	-0.499	118.00%
5/20/2019 12:42	1416	20.897	7.808	16.316	1416	16.316	-0.504	118.20%
5/20/2019 12:42	1416.5	20.898	7.807	16.318	1416.5	16.318	-0.502	118.10%
5/20/2019 12:42	1417	20.909	7.806	16.32	1417	16.32	-0.5	118.10%
5/20/2019 12:42	1417.5	20.924	7.807	16.317	1417.5	16.317	-0.503	118.20%
5/20/2019 12:43	1418	20.901	7.805	16.321	1418	16.321	-0.499	118.00%
5/20/2019 12:43	1418.5	20.904	7.804	16.324	1418.5	16.324	-0.496	117.90%
5/20/2019 12:43	1419	20.902	7.809	16.313	1419	16.313	-0.507	118.30%
5/20/2019 12:43	1419.5	20.92	7.803	16.327	1419.5	16.327	-0.493	117.80%
5/20/2019 12:43	1420	20.891	7.807	16.319	1420	16.319	-0.501	118.10%
5/20/2019 12:43	1420.5	20.891	7.806	16.321	1420.5	16.321	-0.499	118.00%
5/20/2019 12:43	1421	20.895	7.809	16.314	1421	16.314	-0.506	118.30%
5/20/2019 12:43	1421.5	20.899	7.806	16.32	1421.5	16.32	-0.5	118.10%
5/20/2019 12:43	1422	20.909	7.807	16.317	1422	16.317	-0.503	118.20%
5/20/2019 12:43	1422.5	20.912	7.807	16.318	1422.5	16.318	-0.502	118.10%
5/20/2019 12:43	1423	20.882	7.806	16.319	1423	16.319	-0.501	118.10%

5/20/2019 12:43	1423.5	20.887	7.806	16.32	1423.5	16.32	-0.5	118.10%
5/20/2019 12:43	1424.001	20.887	7.805	16.321	1424.001	16.321	-0.499	118.00%
5/20/2019 12:43	1424.501	20.898	7.805	16.321	1424.501	16.321	-0.499	118.00%
5/20/2019 12:43	1425.001	20.896	7.807	16.319	1425.001	16.319	-0.501	118.10%
5/20/2019 12:43	1425.501	20.891	7.806	16.32	1425.501	16.32	-0.5	118.10%
5/20/2019 12:43	1426.001	20.894	7.807	16.317	1426.001	16.317	-0.503	118.20%
5/20/2019 12:43	1426.501	20.904	7.806	16.32	1426.501	16.32	-0.5	118.10%
5/20/2019 12:43	1427.001	20.886	7.807	16.319	1427.001	16.319	-0.501	118.10%
5/20/2019 12:43	1427.501	20.897	7.804	16.324	1427.501	16.324	-0.496	117.90%
5/20/2019 12:43	1428.001	20.913	7.806	16.32	1428.001	16.32	-0.5	118.10%
5/20/2019 12:43	1428.501	20.902	7.81	16.311	1428.501	16.311	-0.509	118.40%
5/20/2019 12:43	1429.001	20.918	7.808	16.315	1429.001	16.315	-0.505	118.30%
5/20/2019 12:43	1429.5	20.908	7.807	16.317	1429.5	16.317	-0.503	118.20%
5/20/2019 12:43	1430	20.9	7.808	16.315	1430	16.315	-0.505	118.30%
5/20/2019 12:43	1430.5	20.894	7.807	16.318	1430.5	16.318	-0.502	118.10%
5/20/2019 12:43	1431	20.891	7.808	16.315	1431	16.315	-0.505	118.30%
5/20/2019 12:43	1431.5	20.908	7.806	16.32	1431.5	16.32	-0.5	118.10%
5/20/2019 12:43	1432	20.901	7.807	16.317	1432	16.317	-0.503	118.20%
5/20/2019 12:43	1432.5	20.902	7.809	16.314	1432.5	16.314	-0.506	118.30%
5/20/2019 12:43	1433	20.894	7.808	16.315	1433	16.315	-0.505	118.30%
5/20/2019 12:43	1433.5	20.912	7.809	16.312	1433.5	16.312	-0.508	118.40%
5/20/2019 12:43	1434	20.926	7.805	16.322	1434	16.322	-0.498	118.00%
5/20/2019 12:43	1434.5	20.893	7.808	16.315	1434.5	16.315	-0.505	118.30%
5/20/2019 12:43	1435	20.915	7.807	16.318	1435	16.318	-0.502	118.10%
5/20/2019 12:43	1435.5	20.899	7.804	16.324	1435.5	16.324	-0.496	117.90%
5/20/2019 12:43	1436	20.912	7.807	16.317	1436	16.317	-0.503	118.20%
5/20/2019 12:43	1436.5	20.902	7.809	16.314	1436.5	16.314	-0.506	118.30%
5/20/2019 12:43	1437	20.887	7.809	16.314	1437	16.314	-0.506	118.30%
5/20/2019 12:43	1437.5	20.888	7.807	16.318	1437.5	16.318	-0.502	118.10%
5/20/2019 12:43	1438	20.915	7.807	16.317	1438	16.317	-0.503	118.20%
5/20/2019 12:43	1438.5	20.906	7.809	16.314	1438.5	16.314	-0.506	118.30%
5/20/2019 12:43	1439	20.92	7.808	16.316	1439	16.316	-0.504	118.20%
5/20/2019 12:43	1439.5	20.896	7.809	16.313	1439.5	16.313	-0.507	118.30%
5/20/2019 12:43	1440	20.898	7.809	16.313	1440	16.313	-0.507	118.30%
5/20/2019 12:43	1440.5	20.902	7.81	16.311	1440.5	16.311	-0.509	118.40%
5/20/2019 12:43	1441	20.881	7.807	16.317	1441	16.317	-0.503	118.20%
5/20/2019 12:43	1441.5	20.917	7.806	16.319	1441.5	16.319	-0.501	118.10%
5/20/2019 12:43	1442	20.889	7.806	16.32	1442	16.32	-0.5	118.10%
5/20/2019 12:43	1442.5	20.907	7.809	16.314	1442.5	16.314	-0.506	118.30%
5/20/2019 12:43	1443	20.922	7.807	16.318	1443	16.318	-0.502	118.10%
5/20/2019 12:43	1443.5	20.896	7.808	16.315	1443.5	16.315	-0.505	118.30%
5/20/2019 12:43	1444	20.902	7.805	16.322	1444	16.322	-0.498	118.00%
5/20/2019 12:43	1444.5	20.899	7.808	16.315	1444.5	16.315	-0.505	118.30%
5/20/2019 12:43	1445	20.905	7.808	16.316	1445	16.316	-0.504	118.20%
5/20/2019 12:43	1445.5	20.912	7.808	16.316	1445.5	16.316	-0.504	118.20%
5/20/2019 12:43	1446	20.888	7.809	16.314	1446	16.314	-0.506	118.30%
5/20/2019 12:43	1446.5	20.928	7.808	16.316	1446.5	16.316	-0.504	118.20%
5/20/2019 12:43	1447	20.907	7.806	16.319	1447	16.319	-0.501	118.10%
5/20/2019 12:43	1447.5	20.884	7.808	16.316	1447.5	16.316	-0.504	118.20%
5/20/2019 12:43	1448	20.9	7.806	16.319	1448	16.319	-0.501	118.10%
5/20/2019 12:43	1448.5	20.885	7.807	16.317	1448.5	16.317	-0.503	118.20%
5/20/2019 12:43	1449	20.881	7.807	16.319	1449	16.319	-0.501	118.10%
5/20/2019 12:43	1449.5	20.905	7.806	16.319	1449.5	16.319	-0.501	118.10%
5/20/2019 12:43	1450	20.915	7.808	16.316	1450	16.316	-0.504	118.20%
5/20/2019 12:43	1450.5	20.914	7.809	16.314	1450.5	16.314	-0.506	118.30%
5/20/2019 12:43	1451	20.902	7.81	16.311	1451	16.311	-0.509	118.40%
5/20/2019 12:43	1451.5	20.892	7.807	16.317	1451.5	16.317	-0.503	118.20%
5/20/2019 12:43	1452	20.891	7.807	16.317	1452	16.317	-0.503	118.20%
5/20/2019 12:43	1452.5	20.908	7.808	16.315	1452.5	16.315	-0.505	118.30%
5/20/2019 12:43	1453	20.911	7.807	16.318	1453	16.318	-0.502	118.10%
5/20/2019 12:43	1453.5	20.904	7.808	16.316	1453.5	16.316	-0.504	118.20%
5/20/2019 12:43	1454	20.889	7.807	16.319	1454	16.319	-0.501	118.10%
5/20/2019 12:43	1454.5	20.917	7.808	16.315	1454.5	16.315	-0.505	118.30%
5/20/2019 12:43	1455	20.912	7.808	16.316	1455	16.316	-0.504	118.20%
5/20/2019 12:43	1455.5	20.905	7.809	16.314	1455.5	16.314	-0.506	118.30%
5/20/2019 12:43	1456	20.907	7.806	16.319	1456	16.319	-0.501	118.10%
5/20/2019 12:43	1456.5	20.884	7.809	16.314	1456.5	16.314	-0.506	118.30%
5/20/2019 12:43	1457	20.897	7.808	16.315	1457	16.315	-0.505	118.30%

5/20/2019 12:43	1457.5	20.914	7.809	16.314	1457.5	16.314	-0.506	118.30%
5/20/2019 12:43	1458	20.907	7.808	16.316	1458	16.316	-0.504	118.20%
5/20/2019 12:43	1458.5	20.901	7.81	16.311	1458.5	16.311	-0.509	118.40%
5/20/2019 12:43	1459	20.908	7.809	16.313	1459	16.313	-0.507	118.30%
5/20/2019 12:43	1459.5	20.908	7.809	16.313	1459.5	16.313	-0.507	118.30%
5/20/2019 12:43	1460	20.933	7.806	16.32	1460	16.32	-0.5	118.10%
5/20/2019 12:43	1460.5	20.892	7.808	16.314	1460.5	16.314	-0.506	118.30%
5/20/2019 12:43	1461	20.888	7.808	16.316	1461	16.316	-0.504	118.20%
5/20/2019 12:43	1461.5	20.906	7.808	16.315	1461.5	16.315	-0.505	118.30%
5/20/2019 12:43	1462	20.872	7.809	16.314	1462	16.314	-0.506	118.30%
5/20/2019 12:43	1462.5	20.897	7.809	16.313	1462.5	16.313	-0.507	118.30%
5/20/2019 12:43	1463	20.897	7.807	16.317	1463	16.317	-0.503	118.20%
5/20/2019 12:43	1463.5	20.907	7.809	16.313	1463.5	16.313	-0.507	118.30%
5/20/2019 12:43	1464	20.924	7.808	16.315	1464	16.315	-0.505	118.30%
5/20/2019 12:43	1464.5	20.884	7.806	16.319	1464.5	16.319	-0.501	118.10%
5/20/2019 12:43	1465	20.899	7.808	16.316	1465	16.316	-0.504	118.20%
5/20/2019 12:43	1465.5	20.908	7.806	16.319	1465.5	16.319	-0.501	118.10%
5/20/2019 12:43	1466	20.892	7.81	16.31	1466	16.31	-0.51	118.40%
5/20/2019 12:43	1466.5	20.893	7.809	16.312	1466.5	16.312	-0.508	118.40%
5/20/2019 12:43	1467	20.903	7.81	16.312	1467	16.312	-0.508	118.40%
5/20/2019 12:43	1467.5	20.925	7.808	16.315	1467.5	16.315	-0.505	118.30%
5/20/2019 12:43	1468	20.894	7.808	16.316	1468	16.316	-0.504	118.20%
5/20/2019 12:43	1468.5	20.902	7.808	16.315	1468.5	16.315	-0.505	118.30%
5/20/2019 12:43	1469	20.886	7.81	16.311	1469	16.311	-0.509	118.40%
5/20/2019 12:43	1469.5	20.895	7.811	16.309	1469.5	16.309	-0.511	118.50%
5/20/2019 12:43	1470	20.91	7.809	16.313	1470	16.313	-0.507	118.30%
5/20/2019 12:43	1470.5	20.915	7.809	16.313	1470.5	16.313	-0.507	118.30%
5/20/2019 12:43	1471	20.907	7.809	16.312	1471	16.312	-0.508	118.40%
5/20/2019 12:43	1471.5	20.889	7.808	16.315	1471.5	16.315	-0.505	118.30%
5/20/2019 12:43	1472	20.901	7.809	16.313	1472	16.313	-0.507	118.30%
5/20/2019 12:43	1472.5	20.914	7.81	16.311	1472.5	16.311	-0.509	118.40%
5/20/2019 12:43	1473	20.89	7.808	16.316	1473	16.316	-0.504	118.20%
5/20/2019 12:43	1473.5	20.904	7.807	16.317	1473.5	16.317	-0.503	118.20%
5/20/2019 12:43	1474	20.912	7.808	16.315	1474	16.315	-0.505	118.30%
5/20/2019 12:43	1474.501	20.888	7.809	16.313	1474.501	16.313	-0.507	118.30%
5/20/2019 12:43	1475.001	20.914	7.81	16.311	1475.001	16.311	-0.509	118.40%
5/20/2019 12:43	1475.501	20.905	7.808	16.315	1475.501	16.315	-0.505	118.30%
5/20/2019 12:43	1476.001	20.886	7.81	16.311	1476.001	16.311	-0.509	118.40%
5/20/2019 12:43	1476.501	20.927	7.811	16.309	1476.501	16.309	-0.511	118.50%
5/20/2019 12:43	1477.001	20.902	7.808	16.316	1477.001	16.316	-0.504	118.20%
5/20/2019 12:43	1477.501	20.913	7.808	16.315	1477.501	16.315	-0.505	118.30%
5/20/2019 12:44	1478.001	20.92	7.808	16.315	1478.001	16.315	-0.505	118.30%
5/20/2019 12:44	1478.501	20.905	7.809	16.312	1478.501	16.312	-0.508	118.40%
5/20/2019 12:44	1479.001	20.901	7.81	16.31	1479.001	16.31	-0.51	118.40%
5/20/2019 12:44	1479.501	20.879	7.81	16.31	1479.501	16.31	-0.51	118.40%
5/20/2019 12:44	1480.001	20.889	7.808	16.316	1480.001	16.316	-0.504	118.20%
5/20/2019 12:44	1480.5	20.889	7.812	16.307	1480.5	16.307	-0.513	118.50%
5/20/2019 12:44	1481	20.901	7.808	16.316	1481	16.316	-0.504	118.20%
5/20/2019 12:44	1481.5	20.889	7.809	16.313	1481.5	16.313	-0.507	118.30%
5/20/2019 12:44	1482	20.915	7.81	16.311	1482	16.311	-0.509	118.40%
5/20/2019 12:44	1482.5	20.894	7.81	16.31	1482.5	16.31	-0.51	118.40%
5/20/2019 12:44	1483	20.902	7.809	16.313	1483	16.313	-0.507	118.30%
5/20/2019 12:44	1483.5	20.901	7.808	16.314	1483.5	16.314	-0.506	118.30%
5/20/2019 12:44	1484	20.905	7.808	16.315	1484	16.315	-0.505	118.30%
5/20/2019 12:44	1484.5	20.889	7.808	16.315	1484.5	16.315	-0.505	118.30%
5/20/2019 12:44	1485	20.895	7.811	16.307	1485	16.307	-0.513	118.50%
5/20/2019 12:44	1485.5	20.899	7.807	16.317	1485.5	16.317	-0.503	118.20%
5/20/2019 12:44	1486	20.899	7.81	16.312	1486	16.312	-0.508	118.40%
5/20/2019 12:44	1486.5	20.894	7.811	16.31	1486.5	16.31	-0.51	118.40%
5/20/2019 12:44	1487	20.888	7.808	16.316	1487	16.316	-0.504	118.20%
5/20/2019 12:44	1487.501	20.925	7.809	16.312	1487.501	16.312	-0.508	118.40%
5/20/2019 12:44	1488.001	20.913	7.811	16.309	1488.001	16.309	-0.511	118.50%
5/20/2019 12:44	1488.501	20.891	7.809	16.313	1488.501	16.313	-0.507	118.30%
5/20/2019 12:44	1489.001	20.887	7.808	16.316	1489.001	16.316	-0.504	118.20%
5/20/2019 12:44	1489.501	20.895	7.81	16.31	1489.501	16.31	-0.51	118.40%
5/20/2019 12:44	1490.001	20.9	7.808	16.315	1490.001	16.315	-0.505	118.30%
5/20/2019 12:44	1490.501	20.915	7.812	16.307	1490.501	16.307	-0.513	118.50%
5/20/2019 12:44	1491.001	20.888	7.807	16.318	1491.001	16.318	-0.502	118.10%

5/20/2019 12:44	1491.501	20.904	7.811	16.309	1491.501	16.309	-0.511	118.50%
5/20/2019 12:44	1492.001	20.899	7.808	16.316	1492.001	16.316	-0.504	118.20%
5/20/2019 12:44	1492.501	20.904	7.811	16.31	1492.501	16.31	-0.51	118.40%
5/20/2019 12:44	1493	20.909	7.81	16.312	1493	16.312	-0.508	118.40%
5/20/2019 12:44	1493.5	20.897	7.809	16.313	1493.5	16.313	-0.507	118.30%
5/20/2019 12:44	1494	20.887	7.81	16.311	1494	16.311	-0.509	118.40%
5/20/2019 12:44	1494.5	20.901	7.807	16.317	1494.5	16.317	-0.503	118.20%
5/20/2019 12:44	1495	20.911	7.809	16.313	1495	16.313	-0.507	118.30%
5/20/2019 12:44	1495.5	20.901	7.81	16.311	1495.5	16.311	-0.509	118.40%
5/20/2019 12:44	1496	20.92	7.81	16.311	1496	16.311	-0.509	118.40%
5/20/2019 12:44	1496.5	20.919	7.812	16.307	1496.5	16.307	-0.513	118.50%
5/20/2019 12:44	1497	20.903	7.81	16.31	1497	16.31	-0.51	118.40%
5/20/2019 12:44	1497.5	20.884	7.812	16.307	1497.5	16.307	-0.513	118.50%
5/20/2019 12:44	1498	20.881	7.809	16.312	1498	16.312	-0.508	118.40%
5/20/2019 12:44	1498.5	20.913	7.809	16.313	1498.5	16.313	-0.507	118.30%
5/20/2019 12:44	1499	20.889	7.808	16.316	1499	16.316	-0.504	118.20%
5/20/2019 12:44	1499.5	20.933	7.81	16.31	1499.5	16.31	-0.51	118.40%
5/20/2019 12:44	1500	20.899	7.81	16.31	1500	16.31	-0.51	118.40%
5/20/2019 12:44	1500.5	20.907	7.809	16.313	1500.5	16.313	-0.507	118.30%
5/20/2019 12:44	1501	20.906	7.81	16.31	1501	16.31	-0.51	118.40%
5/20/2019 12:44	1501.5	20.913	7.811	16.308	1501.5	16.308	-0.512	118.50%
5/20/2019 12:44	1502	20.92	7.81	16.31	1502	16.31	-0.51	118.40%
5/20/2019 12:44	1502.5	20.92	7.811	16.309	1502.5	16.309	-0.511	118.50%
5/20/2019 12:44	1503	20.902	7.808	16.316	1503	16.316	-0.504	118.20%
5/20/2019 12:44	1503.5	20.907	7.812	16.305	1503.5	16.305	-0.515	118.60%
5/20/2019 12:44	1504	20.888	7.809	16.313	1504	16.313	-0.507	118.30%
5/20/2019 12:44	1504.5	20.902	7.809	16.314	1504.5	16.314	-0.506	118.30%
5/20/2019 12:44	1505	20.886	7.811	16.31	1505	16.31	-0.51	118.40%
5/20/2019 12:44	1505.5	20.922	7.811	16.308	1505.5	16.308	-0.512	118.50%
5/20/2019 12:44	1506	20.915	7.811	16.309	1506	16.309	-0.511	118.50%
5/20/2019 12:44	1506.5	20.907	7.809	16.312	1506.5	16.312	-0.508	118.40%
5/20/2019 12:44	1507	20.917	7.811	16.308	1507	16.308	-0.512	118.50%
5/20/2019 12:44	1507.5	20.915	7.811	16.309	1507.5	16.309	-0.511	118.50%
5/20/2019 12:44	1508	20.895	7.811	16.309	1508	16.309	-0.511	118.50%
5/20/2019 12:44	1508.5	20.894	7.81	16.312	1508.5	16.312	-0.508	118.40%
5/20/2019 12:44	1509	20.917	7.809	16.314	1509	16.314	-0.506	118.30%
5/20/2019 12:44	1509.5	20.909	7.811	16.309	1509.5	16.309	-0.511	118.50%
5/20/2019 12:44	1510	20.917	7.81	16.312	1510	16.312	-0.508	118.40%
5/20/2019 12:44	1510.5	20.888	7.811	16.309	1510.5	16.309	-0.511	118.50%
5/20/2019 12:44	1511	20.881	7.809	16.313	1511	16.313	-0.507	118.30%
5/20/2019 12:44	1511.5	20.891	7.812	16.306	1511.5	16.306	-0.514	118.60%
5/20/2019 12:44	1512	20.915	7.808	16.315	1512	16.315	-0.505	118.30%
5/20/2019 12:44	1512.5	20.908	7.812	16.305	1512.5	16.305	-0.515	118.60%
5/20/2019 12:44	1513	20.912	7.812	16.306	1513	16.306	-0.514	118.60%
5/20/2019 12:44	1513.5	20.904	7.811	16.31	1513.5	16.31	-0.51	118.40%
5/20/2019 12:44	1514	20.907	7.813	16.303	1514	16.303	-0.517	118.70%
5/20/2019 12:44	1514.5	20.91	7.81	16.31	1514.5	16.31	-0.51	118.40%
5/20/2019 12:44	1515	20.915	7.81	16.312	1515	16.312	-0.508	118.40%
5/20/2019 12:44	1515.5	20.911	7.808	16.315	1515.5	16.315	-0.505	118.30%
5/20/2019 12:44	1516	20.913	7.81	16.311	1516	16.311	-0.509	118.40%
5/20/2019 12:44	1516.5	20.89	7.811	16.31	1516.5	16.31	-0.51	118.40%
5/20/2019 12:44	1517	20.894	7.809	16.313	1517	16.313	-0.507	118.30%
5/20/2019 12:44	1517.5	20.876	7.812	16.307	1517.5	16.307	-0.513	118.50%
5/20/2019 12:44	1518	20.915	7.811	16.309	1518	16.309	-0.511	118.50%
5/20/2019 12:44	1518.5	20.909	7.813	16.303	1518.5	16.303	-0.517	118.70%
5/20/2019 12:44	1519	20.892	7.808	16.316	1519	16.316	-0.504	118.20%
5/20/2019 12:44	1519.5	20.912	7.81	16.31	1519.5	16.31	-0.51	118.40%
5/20/2019 12:44	1520	20.907	7.812	16.307	1520	16.307	-0.513	118.50%
5/20/2019 12:44	1520.5	20.919	7.811	16.309	1520.5	16.309	-0.511	118.50%
5/20/2019 12:44	1521	20.899	7.81	16.311	1521	16.311	-0.509	118.40%
5/20/2019 12:44	1521.5	20.896	7.81	16.311	1521.5	16.311	-0.509	118.40%
5/20/2019 12:44	1522	20.894	7.812	16.307	1522	16.307	-0.513	118.50%
5/20/2019 12:44	1522.5	20.877	7.812	16.306	1522.5	16.306	-0.514	118.60%
5/20/2019 12:44	1523	20.872	7.811	16.309	1523	16.309	-0.511	118.50%
5/20/2019 12:44	1523.5	20.907	7.812	16.307	1523.5	16.307	-0.513	118.50%
5/20/2019 12:44	1524	20.925	7.81	16.311	1524	16.311	-0.509	118.40%
5/20/2019 12:44	1524.5	20.907	7.809	16.313	1524.5	16.313	-0.507	118.30%
5/20/2019 12:44	1525	20.894	7.811	16.309	1525	16.309	-0.511	118.50%

5/20/2019 12:44	1525.5	20.89	7.811	16.309	1525.5	16.309	-0.511	118.50%
5/20/2019 12:44	1526	20.9	7.81	16.311	1526	16.311	-0.509	118.40%
5/20/2019 12:44	1526.5	20.9	7.811	16.309	1526.5	16.309	-0.511	118.50%
5/20/2019 12:44	1527	20.916	7.812	16.306	1527	16.306	-0.514	118.60%
5/20/2019 12:44	1527.5	20.917	7.811	16.309	1527.5	16.309	-0.511	118.50%
5/20/2019 12:44	1528	20.911	7.81	16.31	1528	16.31	-0.51	118.40%
5/20/2019 12:44	1528.5	20.891	7.814	16.302	1528.5	16.302	-0.518	118.70%
5/20/2019 12:44	1529	20.895	7.812	16.307	1529	16.307	-0.513	118.50%
5/20/2019 12:44	1529.5	20.924	7.811	16.307	1529.5	16.307	-0.513	118.50%
5/20/2019 12:44	1530	20.899	7.812	16.305	1530	16.305	-0.515	118.60%
5/20/2019 12:44	1530.5	20.899	7.809	16.312	1530.5	16.312	-0.508	118.40%
5/20/2019 12:44	1531	20.913	7.81	16.311	1531	16.311	-0.509	118.40%
5/20/2019 12:44	1531.5	20.911	7.809	16.313	1531.5	16.313	-0.507	118.30%
5/20/2019 12:44	1532	20.94	7.815	16.3	1532	16.3	-0.52	118.80%
5/20/2019 12:44	1532.5	20.895	7.811	16.308	1532.5	16.308	-0.512	118.50%
5/20/2019 12:44	1533	20.917	7.813	16.303	1533	16.303	-0.517	118.70%
5/20/2019 12:44	1533.5	20.881	7.807	16.318	1533.5	16.318	-0.502	118.10%
5/20/2019 12:44	1534	20.902	7.81	16.31	1534	16.31	-0.51	118.40%
5/20/2019 12:44	1534.5	20.897	7.81	16.31	1534.5	16.31	-0.51	118.40%
5/20/2019 12:44	1535	20.894	7.811	16.308	1535	16.308	-0.512	118.50%
5/20/2019 12:44	1535.5	20.908	7.81	16.31	1535.5	16.31	-0.51	118.40%
5/20/2019 12:44	1536	20.899	7.811	16.308	1536	16.308	-0.512	118.50%
5/20/2019 12:44	1536.5	20.918	7.812	16.307	1536.5	16.307	-0.513	118.50%
5/20/2019 12:44	1537	20.903	7.813	16.303	1537	16.303	-0.517	118.70%
5/20/2019 12:44	1537.5	20.899	7.812	16.306	1537.5	16.306	-0.514	118.60%
5/20/2019 12:45	1538	20.909	7.81	16.311	1538	16.311	-0.509	118.40%
5/20/2019 12:45	1538.5	20.926	7.812	16.305	1538.5	16.305	-0.515	118.60%
5/20/2019 12:45	1539	20.889	7.812	16.307	1539	16.307	-0.513	118.50%
5/20/2019 12:45	1539.5	20.904	7.811	16.308	1539.5	16.308	-0.512	118.50%
5/20/2019 12:45	1540	20.912	7.813	16.304	1540	16.304	-0.516	118.60%
5/20/2019 12:45	1540.5	20.911	7.813	16.304	1540.5	16.304	-0.516	118.60%
5/20/2019 12:45	1541	20.898	7.811	16.309	1541	16.309	-0.511	118.50%
5/20/2019 12:45	1541.5	20.905	7.811	16.308	1541.5	16.308	-0.512	118.50%
5/20/2019 12:45	1542	20.889	7.812	16.306	1542	16.306	-0.514	118.60%
5/20/2019 12:45	1542.5	20.891	7.811	16.308	1542.5	16.308	-0.512	118.50%
5/20/2019 12:45	1543	20.908	7.812	16.307	1543	16.307	-0.513	118.50%
5/20/2019 12:45	1543.5	20.917	7.811	16.308	1543.5	16.308	-0.512	118.50%
5/20/2019 12:45	1544	20.886	7.813	16.304	1544	16.304	-0.516	118.60%
5/20/2019 12:45	1544.5	20.911	7.81	16.31	1544.5	16.31	-0.51	118.40%
5/20/2019 12:45	1545	20.891	7.814	16.302	1545	16.302	-0.518	118.70%
5/20/2019 12:45	1545.5	20.915	7.811	16.308	1545.5	16.308	-0.512	118.50%
5/20/2019 12:45	1546	20.923	7.813	16.303	1546	16.303	-0.517	118.70%
5/20/2019 12:45	1546.5	20.91	7.813	16.305	1546.5	16.305	-0.515	118.60%
5/20/2019 12:45	1547	20.887	7.809	16.313	1547	16.313	-0.507	118.30%
5/20/2019 12:45	1547.5	20.879	7.812	16.306	1547.5	16.306	-0.514	118.60%
5/20/2019 12:45	1548	20.9	7.812	16.307	1548	16.307	-0.513	118.50%
5/20/2019 12:45	1548.5	20.907	7.811	16.308	1548.5	16.308	-0.512	118.50%
5/20/2019 12:45	1549	20.885	7.811	16.308	1549	16.308	-0.512	118.50%
5/20/2019 12:45	1549.5	20.897	7.811	16.308	1549.5	16.308	-0.512	118.50%
5/20/2019 12:45	1550	20.892	7.814	16.301	1550	16.301	-0.519	118.80%
5/20/2019 12:45	1550.5	20.911	7.811	16.309	1550.5	16.309	-0.511	118.50%
5/20/2019 12:45	1551.001	20.924	7.81	16.31	1551.001	16.31	-0.51	118.40%
5/20/2019 12:45	1551.501	20.912	7.81	16.31	1551.501	16.31	-0.51	118.40%
5/20/2019 12:45	1552.001	20.896	7.81	16.31	1552.001	16.31	-0.51	118.40%
5/20/2019 12:45	1552.501	20.877	7.812	16.307	1552.501	16.307	-0.513	118.50%
5/20/2019 12:45	1553.001	20.904	7.813	16.304	1553.001	16.304	-0.516	118.60%
5/20/2019 12:45	1553.501	20.897	7.813	16.304	1553.501	16.304	-0.516	118.60%
5/20/2019 12:45	1554.001	20.915	7.813	16.304	1554.001	16.304	-0.516	118.60%
5/20/2019 12:45	1554.501	20.886	7.813	16.304	1554.501	16.304	-0.516	118.60%
5/20/2019 12:45	1555.001	20.909	7.811	16.31	1555.001	16.31	-0.51	118.40%
5/20/2019 12:45	1555.501	20.889	7.813	16.304	1555.501	16.304	-0.516	118.60%
5/20/2019 12:45	1556.001	20.884	7.813	16.303	1556.001	16.303	-0.517	118.70%
5/20/2019 12:45	1556.5	20.909	7.811	16.309	1556.5	16.309	-0.511	118.50%
5/20/2019 12:45	1557	20.899	7.811	16.308	1557	16.308	-0.512	118.50%
5/20/2019 12:45	1557.5	20.911	7.81	16.312	1557.5	16.312	-0.508	118.40%
5/20/2019 12:45	1558	20.915	7.81	16.31	1558	16.31	-0.51	118.40%
5/20/2019 12:45	1558.5	20.894	7.811	16.309	1558.5	16.309	-0.511	118.50%
5/20/2019 12:45	1559	20.904	7.812	16.306	1559	16.306	-0.514	118.60%



5/20/2019 12:45	1559.5	20.883	7.811	16.308	1559.5	16.308	-0.512	118.50%
5/20/2019 12:45	1560	20.917	7.815	16.299	1560	16.299	-0.521	118.80%
5/20/2019 12:45	1560.5	20.896	7.81	16.31	1560.5	16.31	-0.51	118.40%
5/20/2019 12:45	1561	20.907	7.813	16.304	1561	16.304	-0.516	118.60%
5/20/2019 12:45	1561.5	20.891	7.812	16.306	1561.5	16.306	-0.514	118.60%
5/20/2019 12:45	1562	20.894	7.814	16.301	1562	16.301	-0.519	118.80%
5/20/2019 12:45	1562.5	20.917	7.813	16.304	1562.5	16.304	-0.516	118.60%
5/20/2019 12:45	1563	20.89	7.811	16.309	1563	16.309	-0.511	118.50%
5/20/2019 12:45	1563.5	20.895	7.812	16.306	1563.5	16.306	-0.514	118.60%
5/20/2019 12:45	1564	20.89	7.812	16.306	1564	16.306	-0.514	118.60%
5/20/2019 12:45	1564.5	20.878	7.81	16.312	1564.5	16.312	-0.508	118.40%
5/20/2019 12:45	1565	20.888	7.814	16.302	1565	16.302	-0.518	118.70%
5/20/2019 12:45	1565.5	20.894	7.813	16.303	1565.5	16.303	-0.517	118.70%
5/20/2019 12:45	1566	20.904	7.812	16.307	1566	16.307	-0.513	118.50%
5/20/2019 12:45	1566.5	20.904	7.813	16.304	1566.5	16.304	-0.516	118.60%
5/20/2019 12:45	1567	20.896	7.812	16.306	1567	16.306	-0.514	118.60%
5/20/2019 12:45	1567.5	20.917	7.811	16.309	1567.5	16.309	-0.511	118.50%
5/20/2019 12:45	1568	20.917	7.811	16.309	1568	16.309	-0.511	118.50%
5/20/2019 12:45	1568.5	20.895	7.812	16.307	1568.5	16.307	-0.513	118.50%
5/20/2019 12:45	1569	20.901	7.811	16.308	1569	16.308	-0.512	118.50%
5/20/2019 12:45	1569.5	20.889	7.813	16.305	1569.5	16.305	-0.515	118.60%
5/20/2019 12:45	1570	20.913	7.809	16.313	1570	16.313	-0.507	118.30%
5/20/2019 12:45	1570.5	20.896	7.812	16.306	1570.5	16.306	-0.514	118.60%
5/20/2019 12:45	1571	20.922	7.814	16.302	1571	16.302	-0.518	118.70%
5/20/2019 12:45	1571.5	20.898	7.814	16.302	1571.5	16.302	-0.518	118.70%
5/20/2019 12:45	1572	20.899	7.812	16.305	1572	16.305	-0.515	118.60%
5/20/2019 12:45	1572.5	20.907	7.811	16.308	1572.5	16.308	-0.512	118.50%
5/20/2019 12:45	1573	20.912	7.812	16.306	1573	16.306	-0.514	118.60%
5/20/2019 12:45	1573.5	20.885	7.812	16.307	1573.5	16.307	-0.513	118.50%
5/20/2019 12:45	1574	20.896	7.814	16.301	1574	16.301	-0.519	118.80%
5/20/2019 12:45	1574.5	20.89	7.812	16.307	1574.5	16.307	-0.513	118.50%
5/20/2019 12:45	1575	20.909	7.814	16.301	1575	16.301	-0.519	118.80%
5/20/2019 12:45	1575.5	20.906	7.813	16.304	1575.5	16.304	-0.516	118.60%
5/20/2019 12:45	1576	20.904	7.816	16.298	1576	16.298	-0.522	118.90%
5/20/2019 12:45	1576.5	20.908	7.811	16.309	1576.5	16.309	-0.511	118.50%
5/20/2019 12:45	1577	20.916	7.813	16.304	1577	16.304	-0.516	118.60%
5/20/2019 12:45	1577.5	20.899	7.812	16.305	1577.5	16.305	-0.515	118.60%
5/20/2019 12:45	1578	20.91	7.812	16.305	1578	16.305	-0.515	118.60%
5/20/2019 12:45	1578.5	20.918	7.813	16.304	1578.5	16.304	-0.516	118.60%
5/20/2019 12:45	1579	20.882	7.812	16.307	1579	16.307	-0.513	118.50%
5/20/2019 12:45	1579.5	20.896	7.812	16.306	1579.5	16.306	-0.514	118.60%
5/20/2019 12:45	1580	20.875	7.815	16.3	1580	16.3	-0.52	118.80%
5/20/2019 12:45	1580.5	20.886	7.812	16.307	1580.5	16.307	-0.513	118.50%
5/20/2019 12:45	1581	20.915	7.814	16.301	1581	16.301	-0.519	118.80%
5/20/2019 12:45	1581.5	20.891	7.811	16.308	1581.5	16.308	-0.512	118.50%
5/20/2019 12:45	1582	20.902	7.813	16.305	1582	16.305	-0.515	118.60%
5/20/2019 12:45	1582.5	20.921	7.813	16.303	1582.5	16.303	-0.517	118.70%
5/20/2019 12:45	1583	20.893	7.812	16.306	1583	16.306	-0.514	118.60%
5/20/2019 12:45	1583.5	20.899	7.812	16.306	1583.5	16.306	-0.514	118.60%
5/20/2019 12:45	1584	20.894	7.814	16.302	1584	16.302	-0.518	118.70%
5/20/2019 12:45	1584.5	20.912	7.813	16.304	1584.5	16.304	-0.516	118.60%
5/20/2019 12:45	1585	20.907	7.813	16.304	1585	16.304	-0.516	118.60%
5/20/2019 12:45	1585.5	20.906	7.814	16.302	1585.5	16.302	-0.518	118.70%
5/20/2019 12:45	1586	20.895	7.813	16.303	1586	16.303	-0.517	118.70%
5/20/2019 12:45	1586.5	20.9	7.813	16.304	1586.5	16.304	-0.516	118.60%
5/20/2019 12:45	1587	20.912	7.815	16.3	1587	16.3	-0.52	118.80%
5/20/2019 12:45	1587.5	20.923	7.812	16.305	1587.5	16.305	-0.515	118.60%
5/20/2019 12:45	1588	20.892	7.812	16.306	1588	16.306	-0.514	118.60%
5/20/2019 12:45	1588.5	20.93	7.815	16.299	1588.5	16.299	-0.521	118.80%
5/20/2019 12:45	1589	20.914	7.812	16.305	1589	16.305	-0.515	118.60%
5/20/2019 12:45	1589.5	20.909	7.813	16.304	1589.5	16.304	-0.516	118.60%
5/20/2019 12:45	1590	20.902	7.814	16.301	1590	16.301	-0.519	118.80%
5/20/2019 12:45	1590.5	20.904	7.812	16.307	1590.5	16.307	-0.513	118.50%
5/20/2019 12:45	1591	20.904	7.812	16.305	1591	16.305	-0.515	118.60%
5/20/2019 12:45	1591.5	20.899	7.811	16.308	1591.5	16.308	-0.512	118.50%
5/20/2019 12:45	1592	20.9	7.812	16.306	1592	16.306	-0.514	118.60%
5/20/2019 12:45	1592.5	20.905	7.813	16.304	1592.5	16.304	-0.516	118.60%
5/20/2019 12:45	1593	20.881	7.814	16.3	1593	16.3	-0.52	118.80%

5/20/2019 12:45	1593.5	20.907	7.814	16.302	1593.5	16.302	-0.518	118.70%
5/20/2019 12:45	1594	20.895	7.813	16.305	1594	16.305	-0.515	118.60%
5/20/2019 12:45	1594.5	20.909	7.813	16.303	1594.5	16.303	-0.517	118.70%
5/20/2019 12:45	1595	20.92	7.814	16.301	1595	16.301	-0.519	118.80%
5/20/2019 12:45	1595.5	20.893	7.813	16.304	1595.5	16.304	-0.516	118.60%
5/20/2019 12:45	1596	20.888	7.814	16.301	1596	16.301	-0.519	118.80%
5/20/2019 12:45	1596.5	20.91	7.812	16.306	1596.5	16.306	-0.514	118.60%
5/20/2019 12:45	1597	20.909	7.812	16.306	1597	16.306	-0.514	118.60%
5/20/2019 12:45	1597.5	20.902	7.812	16.306	1597.5	16.306	-0.514	118.60%
5/20/2019 12:46	1598	20.905	7.814	16.302	1598	16.302	-0.518	118.70%
5/20/2019 12:46	1598.5	20.899	7.813	16.304	1598.5	16.304	-0.516	118.60%
5/20/2019 12:46	1599	20.888	7.812	16.306	1599	16.306	-0.514	118.60%
5/20/2019 12:46	1599.5	20.917	7.813	16.304	1599.5	16.304	-0.516	118.60%
5/20/2019 12:46	1600	20.886	7.814	16.301	1600	16.301	-0.519	118.80%
5/20/2019 12:46	1600.5	20.894	7.814	16.302	1600.5	16.302	-0.518	118.70%
5/20/2019 12:46	1601	20.891	7.815	16.299	1601	16.299	-0.521	118.80%
5/20/2019 12:46	1601.5	20.912	7.813	16.304	1601.5	16.304	-0.516	118.60%
5/20/2019 12:46	1602	20.905	7.815	16.299	1602	16.299	-0.521	118.80%
5/20/2019 12:46	1602.5	20.9	7.815	16.3	1602.5	16.3	-0.52	118.80%
5/20/2019 12:46	1603	20.913	7.812	16.306	1603	16.306	-0.514	118.60%
5/20/2019 12:46	1603.5	20.877	7.813	16.303	1603.5	16.303	-0.517	118.70%
5/20/2019 12:46	1604	20.923	7.812	16.305	1604	16.305	-0.515	118.60%
5/20/2019 12:46	1604.5	20.901	7.813	16.304	1604.5	16.304	-0.516	118.60%
5/20/2019 12:46	1605	20.902	7.812	16.307	1605	16.307	-0.513	118.50%
5/20/2019 12:46	1605.5	20.887	7.812	16.307	1605.5	16.307	-0.513	118.50%
5/20/2019 12:46	1606	20.912	7.812	16.306	1606	16.306	-0.514	118.60%
5/20/2019 12:46	1606.5	20.897	7.813	16.303	1606.5	16.303	-0.517	118.70%
5/20/2019 12:46	1607	20.891	7.815	16.3	1607	16.3	-0.52	118.80%
5/20/2019 12:46	1607.5	20.897	7.814	16.303	1607.5	16.303	-0.517	118.70%
5/20/2019 12:46	1608	20.891	7.814	16.302	1608	16.302	-0.518	118.70%
5/20/2019 12:46	1608.5	20.901	7.815	16.3	1608.5	16.3	-0.52	118.80%
5/20/2019 12:46	1609	20.896	7.813	16.304	1609	16.304	-0.516	118.60%
5/20/2019 12:46	1609.5	20.906	7.813	16.304	1609.5	16.304	-0.516	118.60%
5/20/2019 12:46	1610	20.916	7.814	16.302	1610	16.302	-0.518	118.70%
5/20/2019 12:46	1610.5	20.92	7.811	16.309	1610.5	16.309	-0.511	118.50%
5/20/2019 12:46	1611	20.889	7.815	16.3	1611	16.3	-0.52	118.80%
5/20/2019 12:46	1611.5	20.895	7.812	16.305	1611.5	16.305	-0.515	118.60%
5/20/2019 12:46	1612	20.906	7.813	16.303	1612	16.303	-0.517	118.70%
5/20/2019 12:46	1612.5	20.871	7.813	16.303	1612.5	16.303	-0.517	118.70%
5/20/2019 12:46	1613	20.912	7.815	16.299	1613	16.299	-0.521	118.80%
5/20/2019 12:46	1613.5	20.899	7.814	16.302	1613.5	16.302	-0.518	118.70%
5/20/2019 12:46	1614	20.913	7.814	16.301	1614	16.301	-0.519	118.80%
5/20/2019 12:46	1614.501	20.909	7.817	16.294	1614.501	16.294	-0.526	119.00%
5/20/2019 12:46	1615.001	20.912	7.813	16.304	1615.001	16.304	-0.516	118.60%
5/20/2019 12:46	1615.501	20.902	7.813	16.303	1615.501	16.303	-0.517	118.70%
5/20/2019 12:46	1616.001	20.896	7.815	16.3	1616.001	16.3	-0.52	118.80%
5/20/2019 12:46	1616.501	20.933	7.813	16.303	1616.501	16.303	-0.517	118.70%
5/20/2019 12:46	1617.001	20.92	7.815	16.299	1617.001	16.299	-0.521	118.80%
5/20/2019 12:46	1617.501	20.909	7.815	16.299	1617.501	16.299	-0.521	118.80%
5/20/2019 12:46	1618.001	20.903	7.816	16.296	1618.001	16.296	-0.524	118.90%
5/20/2019 12:46	1618.501	20.901	7.816	16.298	1618.501	16.298	-0.522	118.90%
5/20/2019 12:46	1619.001	20.902	7.813	16.303	1619.001	16.303	-0.517	118.70%
5/20/2019 12:46	1619.501	20.902	7.814	16.302	1619.501	16.302	-0.518	118.70%
5/20/2019 12:46	1620	20.899	7.815	16.3	1620	16.3	-0.52	118.80%
5/20/2019 12:46	1620.5	20.907	7.815	16.299	1620.5	16.299	-0.521	118.80%
5/20/2019 12:46	1621	20.899	7.813	16.305	1621	16.305	-0.515	118.60%
5/20/2019 12:46	1621.5	20.892	7.815	16.3	1621.5	16.3	-0.52	118.80%
5/20/2019 12:46	1622	20.899	7.813	16.303	1622	16.303	-0.517	118.70%
5/20/2019 12:46	1622.5	20.899	7.816	16.297	1622.5	16.297	-0.523	118.90%
5/20/2019 12:46	1623	20.913	7.815	16.299	1623	16.299	-0.521	118.80%
5/20/2019 12:46	1623.5	20.908	7.814	16.301	1623.5	16.301	-0.519	118.80%
5/20/2019 12:46	1624	20.891	7.813	16.303	1624	16.303	-0.517	118.70%
5/20/2019 12:46	1624.5	20.918	7.813	16.303	1624.5	16.303	-0.517	118.70%
5/20/2019 12:46	1625	20.9	7.813	16.303	1625	16.303	-0.517	118.70%
5/20/2019 12:46	1625.5	20.904	7.815	16.299	1625.5	16.299	-0.521	118.80%
5/20/2019 12:46	1626	20.907	7.816	16.297	1626	16.297	-0.523	118.90%
5/20/2019 12:46	1626.5	20.902	7.815	16.3	1626.5	16.3	-0.52	118.80%
5/20/2019 12:46	1627	20.92	7.811	16.308	1627	16.308	-0.512	118.50%

5/20/2019 12:46	1627.5	20.904	7.814	16.301	1627.5	16.301	-0.519	118.80%
5/20/2019 12:46	1628	20.919	7.812	16.305	1628	16.305	-0.515	118.60%
5/20/2019 12:46	1628.5	20.909	7.815	16.299	1628.5	16.299	-0.521	118.80%
5/20/2019 12:46	1629	20.904	7.813	16.303	1629	16.303	-0.517	118.70%
5/20/2019 12:46	1629.5	20.925	7.815	16.3	1629.5	16.3	-0.52	118.80%
5/20/2019 12:46	1630	20.882	7.814	16.301	1630	16.301	-0.519	118.80%
5/20/2019 12:46	1630.5	20.92	7.815	16.3	1630.5	16.3	-0.52	118.80%
5/20/2019 12:46	1631	20.918	7.815	16.299	1631	16.299	-0.521	118.80%
5/20/2019 12:46	1631.5	20.887	7.813	16.303	1631.5	16.303	-0.517	118.70%
5/20/2019 12:46	1632	20.909	7.815	16.299	1632	16.299	-0.521	118.80%
5/20/2019 12:46	1632.5	20.886	7.814	16.302	1632.5	16.302	-0.518	118.70%
5/20/2019 12:46	1633	20.901	7.815	16.3	1633	16.3	-0.52	118.80%
5/20/2019 12:46	1633.5	20.884	7.815	16.298	1633.5	16.298	-0.522	118.90%
5/20/2019 12:46	1634	20.886	7.812	16.305	1634	16.305	-0.515	118.60%
5/20/2019 12:46	1634.5	20.904	7.814	16.3	1634.5	16.3	-0.52	118.80%
5/20/2019 12:46	1635	20.907	7.814	16.301	1635	16.301	-0.519	118.80%
5/20/2019 12:46	1635.5	20.899	7.814	16.301	1635.5	16.301	-0.519	118.80%
5/20/2019 12:46	1636	20.902	7.814	16.302	1636	16.302	-0.518	118.70%
5/20/2019 12:46	1636.5	20.912	7.815	16.299	1636.5	16.299	-0.521	118.80%
5/20/2019 12:46	1637	20.907	7.815	16.299	1637	16.299	-0.521	118.80%
5/20/2019 12:46	1637.5	20.891	7.815	16.299	1637.5	16.299	-0.521	118.80%
5/20/2019 12:46	1638	20.913	7.815	16.3	1638	16.3	-0.52	118.80%
5/20/2019 12:46	1638.5	20.896	7.814	16.301	1638.5	16.301	-0.519	118.80%
5/20/2019 12:46	1639	20.912	7.815	16.299	1639	16.299	-0.521	118.80%
5/20/2019 12:46	1639.5	20.882	7.815	16.3	1639.5	16.3	-0.52	118.80%
5/20/2019 12:46	1640	20.894	7.814	16.302	1640	16.302	-0.518	118.70%
5/20/2019 12:46	1640.5	20.904	7.814	16.301	1640.5	16.301	-0.519	118.80%
5/20/2019 12:46	1641	20.915	7.814	16.302	1641	16.302	-0.518	118.70%
5/20/2019 12:46	1641.5	20.894	7.816	16.297	1641.5	16.297	-0.523	118.90%
5/20/2019 12:46	1642	20.887	7.816	16.297	1642	16.297	-0.523	118.90%
5/20/2019 12:46	1642.5	20.916	7.814	16.302	1642.5	16.302	-0.518	118.70%
5/20/2019 12:46	1643	20.891	7.815	16.3	1643	16.3	-0.52	118.80%
5/20/2019 12:46	1643.5	20.918	7.814	16.302	1643.5	16.302	-0.518	118.70%
5/20/2019 12:46	1644	20.909	7.815	16.299	1644	16.299	-0.521	118.80%
5/20/2019 12:46	1644.5	20.909	7.817	16.296	1644.5	16.296	-0.524	118.90%
5/20/2019 12:46	1645	20.905	7.815	16.299	1645	16.299	-0.521	118.80%
5/20/2019 12:46	1645.5	20.917	7.815	16.299	1645.5	16.299	-0.521	118.80%
5/20/2019 12:46	1646	20.909	7.815	16.3	1646	16.3	-0.52	118.80%
5/20/2019 12:46	1646.5	20.906	7.817	16.296	1646.5	16.296	-0.524	118.90%
5/20/2019 12:46	1647	20.914	7.816	16.298	1647	16.298	-0.522	118.90%
5/20/2019 12:46	1647.5	20.912	7.812	16.305	1647.5	16.305	-0.515	118.60%
5/20/2019 12:46	1648	20.904	7.815	16.298	1648	16.298	-0.522	118.90%
5/20/2019 12:46	1648.5	20.902	7.815	16.3	1648.5	16.3	-0.52	118.80%
5/20/2019 12:46	1649	20.915	7.816	16.297	1649	16.297	-0.523	118.90%
5/20/2019 12:46	1649.5	20.889	7.814	16.302	1649.5	16.302	-0.518	118.70%
5/20/2019 12:46	1650	20.894	7.815	16.298	1650	16.298	-0.522	118.90%
5/20/2019 12:46	1650.5	20.9	7.813	16.304	1650.5	16.304	-0.516	118.60%
5/20/2019 12:46	1651	20.891	7.815	16.3	1651	16.3	-0.52	118.80%
5/20/2019 12:46	1651.5	20.905	7.813	16.304	1651.5	16.304	-0.516	118.60%
5/20/2019 12:46	1652	20.907	7.818	16.292	1652	16.292	-0.528	119.10%
5/20/2019 12:46	1652.5	20.911	7.816	16.297	1652.5	16.297	-0.523	118.90%
5/20/2019 12:46	1653	20.876	7.814	16.302	1653	16.302	-0.518	118.70%
5/20/2019 12:46	1653.5	20.902	7.815	16.3	1653.5	16.3	-0.52	118.80%
5/20/2019 12:46	1654	20.903	7.815	16.299	1654	16.299	-0.521	118.80%
5/20/2019 12:46	1654.5	20.872	7.815	16.299	1654.5	16.299	-0.521	118.80%
5/20/2019 12:46	1655	20.915	7.815	16.3	1655	16.3	-0.52	118.80%
5/20/2019 12:46	1655.5	20.896	7.815	16.299	1655.5	16.299	-0.521	118.80%
5/20/2019 12:46	1656	20.897	7.816	16.298	1656	16.298	-0.522	118.90%
5/20/2019 12:46	1656.5	20.912	7.816	16.298	1656.5	16.298	-0.522	118.90%
5/20/2019 12:46	1657	20.904	7.814	16.301	1657	16.301	-0.519	118.80%
5/20/2019 12:46	1657.5	20.896	7.813	16.303	1657.5	16.303	-0.517	118.70%
5/20/2019 12:47	1658	20.918	7.814	16.303	1658	16.303	-0.517	118.70%
5/20/2019 12:47	1658.5	20.914	7.817	16.295	1658.5	16.295	-0.525	119.00%
5/20/2019 12:47	1659	20.909	7.815	16.299	1659	16.299	-0.521	118.80%
5/20/2019 12:47	1659.5	20.877	7.814	16.301	1659.5	16.301	-0.519	118.80%
5/20/2019 12:47	1660	20.891	7.815	16.3	1660	16.3	-0.52	118.80%
5/20/2019 12:47	1660.5	20.886	7.816	16.298	1660.5	16.298	-0.522	118.90%
5/20/2019 12:47	1661	20.899	7.814	16.301	1661	16.301	-0.519	118.80%

5/20/2019 12:47	1661.5	20.899	7.816	16.297	1661.5	16.297	-0.523	118.90%
5/20/2019 12:47	1662	20.943	7.817	16.296	1662	16.296	-0.524	118.90%
5/20/2019 12:47	1662.5	20.882	7.816	16.298	1662.5	16.298	-0.522	118.90%
5/20/2019 12:47	1663	20.881	7.815	16.298	1663	16.298	-0.522	118.90%
5/20/2019 12:47	1663.5	20.889	7.817	16.294	1663.5	16.294	-0.526	119.00%
5/20/2019 12:47	1664	20.907	7.817	16.294	1664	16.294	-0.526	119.00%
5/20/2019 12:47	1664.5	20.916	7.818	16.293	1664.5	16.293	-0.527	119.00%
5/20/2019 12:47	1665	20.896	7.813	16.303	1665	16.303	-0.517	118.70%
5/20/2019 12:47	1665.5	20.903	7.816	16.296	1665.5	16.296	-0.524	118.90%
5/20/2019 12:47	1666	20.912	7.815	16.3	1666	16.3	-0.52	118.80%
5/20/2019 12:47	1666.5	20.915	7.817	16.294	1666.5	16.294	-0.526	119.00%
5/20/2019 12:47	1667	20.921	7.816	16.297	1667	16.297	-0.523	118.90%
5/20/2019 12:47	1667.5	20.9	7.816	16.297	1667.5	16.297	-0.523	118.90%
5/20/2019 12:47	1668	20.907	7.813	16.303	1668	16.303	-0.517	118.70%
5/20/2019 12:47	1668.5	20.897	7.816	16.298	1668.5	16.298	-0.522	118.90%
5/20/2019 12:47	1669	20.889	7.818	16.293	1669	16.293	-0.527	119.00%
5/20/2019 12:47	1669.5	20.896	7.813	16.303	1669.5	16.303	-0.517	118.70%
5/20/2019 12:47	1670	20.891	7.814	16.301	1670	16.301	-0.519	118.80%
5/20/2019 12:47	1670.5	20.905	7.816	16.297	1670.5	16.297	-0.523	118.90%
5/20/2019 12:47	1671	20.883	7.817	16.295	1671	16.295	-0.525	119.00%
5/20/2019 12:47	1671.5	20.897	7.814	16.302	1671.5	16.302	-0.518	118.70%
5/20/2019 12:47	1672	20.899	7.816	16.298	1672	16.298	-0.522	118.90%
5/20/2019 12:47	1672.5	20.894	7.817	16.295	1672.5	16.295	-0.525	119.00%
5/20/2019 12:47	1673	20.899	7.815	16.3	1673	16.3	-0.52	118.80%
5/20/2019 12:47	1673.5	20.892	7.813	16.304	1673.5	16.304	-0.516	118.60%
5/20/2019 12:47	1674	20.89	7.817	16.294	1674	16.294	-0.526	119.00%
5/20/2019 12:47	1674.5	20.904	7.816	16.297	1674.5	16.297	-0.523	118.90%
5/20/2019 12:47	1675	20.904	7.815	16.299	1675	16.299	-0.521	118.80%
5/20/2019 12:47	1675.5	20.906	7.814	16.303	1675.5	16.303	-0.517	118.70%
5/20/2019 12:47	1676	20.899	7.815	16.3	1676	16.3	-0.52	118.80%
5/20/2019 12:47	1676.5	20.908	7.815	16.299	1676.5	16.299	-0.521	118.80%
5/20/2019 12:47	1677	20.899	7.815	16.298	1677	16.298	-0.522	118.90%
5/20/2019 12:47	1677.5	20.907	7.817	16.296	1677.5	16.296	-0.524	118.90%
5/20/2019 12:47	1678.001	20.888	7.817	16.295	1678.001	16.295	-0.525	119.00%
5/20/2019 12:47	1678.501	20.904	7.814	16.301	1678.501	16.301	-0.519	118.80%
5/20/2019 12:47	1679.001	20.888	7.816	16.298	1679.001	16.298	-0.522	118.90%
5/20/2019 12:47	1679.501	20.891	7.817	16.294	1679.501	16.294	-0.526	119.00%
5/20/2019 12:47	1680.001	20.886	7.815	16.3	1680.001	16.3	-0.52	118.80%
5/20/2019 12:47	1680.501	20.907	7.817	16.296	1680.501	16.296	-0.524	118.90%
5/20/2019 12:47	1681.001	20.926	7.815	16.298	1681.001	16.298	-0.522	118.90%
5/20/2019 12:47	1681.501	20.902	7.814	16.302	1681.501	16.302	-0.518	118.70%
5/20/2019 12:47	1682.001	20.902	7.817	16.295	1682.001	16.295	-0.525	119.00%
5/20/2019 12:47	1682.501	20.905	7.816	16.298	1682.501	16.298	-0.522	118.90%
5/20/2019 12:47	1683.001	20.896	7.819	16.291	1683.001	16.291	-0.529	119.10%
5/20/2019 12:47	1683.5	20.89	7.816	16.296	1683.5	16.296	-0.524	118.90%
5/20/2019 12:47	1684	20.922	7.815	16.3	1684	16.3	-0.52	118.80%
5/20/2019 12:47	1684.5	20.904	7.815	16.299	1684.5	16.299	-0.521	118.80%
5/20/2019 12:47	1685	20.905	7.815	16.3	1685	16.3	-0.52	118.80%
5/20/2019 12:47	1685.5	20.891	7.817	16.294	1685.5	16.294	-0.526	119.00%
5/20/2019 12:47	1686	20.872	7.814	16.301	1686	16.301	-0.519	118.80%
5/20/2019 12:47	1686.5	20.913	7.812	16.305	1686.5	16.305	-0.515	118.60%
5/20/2019 12:47	1687	20.904	7.815	16.299	1687	16.299	-0.521	118.80%
5/20/2019 12:47	1687.5	20.907	7.817	16.296	1687.5	16.296	-0.524	118.90%
5/20/2019 12:47	1688	20.891	7.818	16.293	1688	16.293	-0.527	119.00%
5/20/2019 12:47	1688.5	20.908	7.817	16.294	1688.5	16.294	-0.526	119.00%
5/20/2019 12:47	1689	20.93	7.815	16.298	1689	16.298	-0.522	118.90%
5/20/2019 12:47	1689.5	20.92	7.815	16.299	1689.5	16.299	-0.521	118.80%
5/20/2019 12:47	1690	20.915	7.814	16.3	1690	16.3	-0.52	118.80%
5/20/2019 12:47	1690.5	20.924	7.814	16.302	1690.5	16.302	-0.518	118.70%
5/20/2019 12:47	1691	20.907	7.815	16.299	1691	16.299	-0.521	118.80%
5/20/2019 12:47	1691.5	20.889	7.814	16.301	1691.5	16.301	-0.519	118.80%
5/20/2019 12:47	1692	20.889	7.816	16.296	1692	16.296	-0.524	118.90%
5/20/2019 12:47	1692.5	20.92	7.816	16.296	1692.5	16.296	-0.524	118.90%
5/20/2019 12:47	1693	20.893	7.815	16.3	1693	16.3	-0.52	118.80%
5/20/2019 12:47	1693.5	20.909	7.816	16.296	1693.5	16.296	-0.524	118.90%
5/20/2019 12:47	1694	20.881	7.815	16.299	1694	16.299	-0.521	118.80%
5/20/2019 12:47	1694.5	20.922	7.817	16.295	1694.5	16.295	-0.525	119.00%
5/20/2019 12:47	1695	20.902	7.816	16.298	1695	16.298	-0.522	118.90%

5/20/2019 12:47	1695.5	20.917	7.817	16.294	1695.5	16.294	-0.526	119.00%
5/20/2019 12:47	1696	20.92	7.817	16.294	1696	16.294	-0.526	119.00%
5/20/2019 12:47	1696.5	20.893	7.816	16.297	1696.5	16.297	-0.523	118.90%
5/20/2019 12:47	1697	20.918	7.816	16.298	1697	16.298	-0.522	118.90%
5/20/2019 12:47	1697.5	20.897	7.815	16.298	1697.5	16.298	-0.522	118.90%
5/20/2019 12:47	1698	20.915	7.816	16.298	1698	16.298	-0.522	118.90%
5/20/2019 12:47	1698.5	20.913	7.817	16.295	1698.5	16.295	-0.525	119.00%
5/20/2019 12:47	1699	20.892	7.817	16.296	1699	16.296	-0.524	118.90%
5/20/2019 12:47	1699.5	20.907	7.817	16.295	1699.5	16.295	-0.525	119.00%
5/20/2019 12:47	1700	20.903	7.816	16.298	1700	16.298	-0.522	118.90%
5/20/2019 12:47	1700.5	20.906	7.817	16.295	1700.5	16.295	-0.525	119.00%
5/20/2019 12:47	1701	20.892	7.816	16.297	1701	16.297	-0.523	118.90%
5/20/2019 12:47	1701.5	20.896	7.817	16.294	1701.5	16.294	-0.526	119.00%
5/20/2019 12:47	1702	20.912	7.817	16.293	1702	16.293	-0.527	119.00%
5/20/2019 12:47	1702.5	20.891	7.816	16.296	1702.5	16.296	-0.524	118.90%
5/20/2019 12:47	1703	20.901	7.816	16.297	1703	16.297	-0.523	118.90%
5/20/2019 12:47	1703.5	20.903	7.817	16.294	1703.5	16.294	-0.526	119.00%
5/20/2019 12:47	1704	20.909	7.817	16.295	1704	16.295	-0.525	119.00%
5/20/2019 12:47	1704.5	20.906	7.816	16.296	1704.5	16.296	-0.524	118.90%
5/20/2019 12:47	1705	20.898	7.814	16.3	1705	16.3	-0.52	118.80%
5/20/2019 12:47	1705.5	20.899	7.817	16.295	1705.5	16.295	-0.525	119.00%
5/20/2019 12:47	1706	20.884	7.811	16.308	1706	16.308	-0.512	118.50%
5/20/2019 12:47	1706.5	20.891	7.817	16.296	1706.5	16.296	-0.524	118.90%
5/20/2019 12:47	1707	20.899	7.817	16.293	1707	16.293	-0.527	119.00%
5/20/2019 12:47	1707.5	20.917	7.816	16.297	1707.5	16.297	-0.523	118.90%
5/20/2019 12:47	1708	20.9	7.817	16.295	1708	16.295	-0.525	119.00%
5/20/2019 12:47	1708.5	20.898	7.815	16.298	1708.5	16.298	-0.522	118.90%
5/20/2019 12:47	1709	20.905	7.815	16.299	1709	16.299	-0.521	118.80%
5/20/2019 12:47	1709.5	20.917	7.813	16.303	1709.5	16.303	-0.517	118.70%
5/20/2019 12:47	1710	20.898	7.816	16.298	1710	16.298	-0.522	118.90%
5/20/2019 12:47	1710.5	20.896	7.818	16.293	1710.5	16.293	-0.527	119.00%
5/20/2019 12:47	1711	20.891	7.818	16.293	1711	16.293	-0.527	119.00%
5/20/2019 12:47	1711.5	20.911	7.816	16.297	1711.5	16.297	-0.523	118.90%
5/20/2019 12:47	1712	20.923	7.815	16.3	1712	16.3	-0.52	118.80%
5/20/2019 12:47	1712.5	20.917	7.815	16.298	1712.5	16.298	-0.522	118.90%
5/20/2019 12:47	1713	20.899	7.816	16.298	1713	16.298	-0.522	118.90%
5/20/2019 12:47	1713.5	20.917	7.815	16.3	1713.5	16.3	-0.52	118.80%
5/20/2019 12:47	1714	20.906	7.816	16.297	1714	16.297	-0.523	118.90%
5/20/2019 12:47	1714.5	20.915	7.816	16.297	1714.5	16.297	-0.523	118.90%
5/20/2019 12:47	1715	20.907	7.817	16.294	1715	16.294	-0.526	119.00%
5/20/2019 12:47	1715.5	20.889	7.816	16.297	1715.5	16.297	-0.523	118.90%
5/20/2019 12:47	1716	20.891	7.818	16.292	1716	16.292	-0.528	119.10%
5/20/2019 12:47	1716.5	20.91	7.816	16.297	1716.5	16.297	-0.523	118.90%
5/20/2019 12:47	1717	20.889	7.815	16.299	1717	16.299	-0.521	118.80%
5/20/2019 12:47	1717.5	20.891	7.815	16.299	1717.5	16.299	-0.521	118.80%
5/20/2019 12:48	1718	20.898	7.815	16.3	1718	16.3	-0.52	118.80%
5/20/2019 12:48	1718.5	20.887	7.817	16.296	1718.5	16.296	-0.524	118.90%
5/20/2019 12:48	1719	20.908	7.816	16.297	1719	16.297	-0.523	118.90%
5/20/2019 12:48	1719.5	20.92	7.817	16.294	1719.5	16.294	-0.526	119.00%
5/20/2019 12:48	1720	20.918	7.819	16.291	1720	16.291	-0.529	119.10%
5/20/2019 12:48	1720.5	20.869	7.817	16.295	1720.5	16.295	-0.525	119.00%
5/20/2019 12:48	1721	20.913	7.816	16.296	1721	16.296	-0.524	118.90%
5/20/2019 12:48	1721.5	20.907	7.814	16.301	1721.5	16.301	-0.519	118.80%
5/20/2019 12:48	1722	20.899	7.816	16.298	1722	16.298	-0.522	118.90%
5/20/2019 12:48	1722.5	20.886	7.818	16.292	1722.5	16.292	-0.528	119.10%
5/20/2019 12:48	1723	20.904	7.816	16.298	1723	16.298	-0.522	118.90%
5/20/2019 12:48	1723.5	20.906	7.816	16.296	1723.5	16.296	-0.524	118.90%
5/20/2019 12:48	1724	20.917	7.816	16.297	1724	16.297	-0.523	118.90%
5/20/2019 12:48	1724.5	20.907	7.816	16.297	1724.5	16.297	-0.523	118.90%
5/20/2019 12:48	1725	20.897	7.815	16.298	1725	16.298	-0.522	118.90%
5/20/2019 12:48	1725.5	20.877	7.817	16.294	1725.5	16.294	-0.526	119.00%
5/20/2019 12:48	1726	20.909	7.815	16.298	1726	16.298	-0.522	118.90%
5/20/2019 12:48	1726.5	20.891	7.818	16.292	1726.5	16.292	-0.528	119.10%
5/20/2019 12:48	1727	20.896	7.817	16.294	1727	16.294	-0.526	119.00%
5/20/2019 12:48	1727.5	20.908	7.818	16.292	1727.5	16.292	-0.528	119.10%
5/20/2019 12:48	1728	20.906	7.817	16.295	1728	16.295	-0.525	119.00%
5/20/2019 12:48	1728.5	20.904	7.818	16.292	1728.5	16.292	-0.528	119.10%
5/20/2019 12:48	1729.003	20.899	7.818	16.292	1729.003	16.292	-0.528	119.10%

5/20/2019 12:48	1729.5	20.904	7.818	16.293	1729.5	16.293	-0.527	119.00%
5/20/2019 12:48	1730	20.913	7.818	16.292	1730	16.292	-0.528	119.10%
5/20/2019 12:48	1730.5	20.904	7.816	16.297	1730.5	16.297	-0.523	118.90%
5/20/2019 12:48	1731	20.884	7.816	16.296	1731	16.296	-0.524	118.90%
5/20/2019 12:48	1731.5	20.906	7.818	16.293	1731.5	16.293	-0.527	119.00%
5/20/2019 12:48	1732	20.909	7.817	16.294	1732	16.294	-0.526	119.00%
5/20/2019 12:48	1732.5	20.896	7.817	16.293	1732.5	16.293	-0.527	119.00%
5/20/2019 12:48	1733	20.904	7.817	16.294	1733	16.294	-0.526	119.00%
5/20/2019 12:48	1733.5	20.898	7.817	16.294	1733.5	16.294	-0.526	119.00%
5/20/2019 12:48	1734	20.928	7.816	16.296	1734	16.296	-0.524	118.90%
5/20/2019 12:48	1734.5	20.906	7.817	16.295	1734.5	16.295	-0.525	119.00%
5/20/2019 12:48	1735	20.897	7.818	16.291	1735	16.291	-0.529	119.10%
5/20/2019 12:48	1735.5	20.89	7.815	16.298	1735.5	16.298	-0.522	118.90%
5/20/2019 12:48	1736	20.918	7.817	16.295	1736	16.295	-0.525	119.00%
5/20/2019 12:48	1736.5	20.906	7.818	16.292	1736.5	16.292	-0.528	119.10%
5/20/2019 12:48	1737	20.931	7.818	16.291	1737	16.291	-0.529	119.10%
5/20/2019 12:48	1737.5	20.901	7.816	16.297	1737.5	16.297	-0.523	118.90%
5/20/2019 12:48	1738	20.899	7.817	16.295	1738	16.295	-0.525	119.00%
5/20/2019 12:48	1738.5	20.912	7.818	16.293	1738.5	16.293	-0.527	119.00%
5/20/2019 12:48	1739	20.895	7.816	16.296	1739	16.296	-0.524	118.90%
5/20/2019 12:48	1739.5	20.928	7.817	16.295	1739.5	16.295	-0.525	119.00%
5/20/2019 12:48	1740	20.92	7.816	16.296	1740	16.296	-0.524	118.90%
5/20/2019 12:48	1740.5	20.909	7.818	16.292	1740.5	16.292	-0.528	119.10%
5/20/2019 12:48	1741	20.872	7.817	16.295	1741	16.295	-0.525	119.00%
5/20/2019 12:48	1741.501	20.915	7.818	16.292	1741.501	16.292	-0.528	119.10%
5/20/2019 12:48	1742.001	20.905	7.817	16.294	1742.001	16.294	-0.526	119.00%
5/20/2019 12:48	1742.501	20.922	7.816	16.298	1742.501	16.298	-0.522	118.90%
5/20/2019 12:48	1743.001	20.894	7.818	16.293	1743.001	16.293	-0.527	119.00%
5/20/2019 12:48	1743.501	20.878	7.818	16.293	1743.501	16.293	-0.527	119.00%
5/20/2019 12:48	1744.001	20.938	7.816	16.296	1744.001	16.296	-0.524	118.90%
5/20/2019 12:48	1744.501	20.905	7.815	16.299	1744.501	16.299	-0.521	118.80%
5/20/2019 12:48	1745.001	20.92	7.816	16.296	1745.001	16.296	-0.524	118.90%
5/20/2019 12:48	1745.501	20.906	7.815	16.299	1745.501	16.299	-0.521	118.80%
5/20/2019 12:48	1746.001	20.904	7.816	16.297	1746.001	16.297	-0.523	118.90%
5/20/2019 12:48	1746.501	20.916	7.816	16.296	1746.501	16.296	-0.524	118.90%
5/20/2019 12:48	1747	20.902	7.819	16.29	1747	16.29	-0.53	119.20%
5/20/2019 12:48	1747.5	20.907	7.817	16.295	1747.5	16.295	-0.525	119.00%
5/20/2019 12:48	1748	20.921	7.817	16.296	1748	16.296	-0.524	118.90%
5/20/2019 12:48	1748.5	20.913	7.817	16.295	1748.5	16.295	-0.525	119.00%
5/20/2019 12:48	1749	20.894	7.818	16.293	1749	16.293	-0.527	119.00%
5/20/2019 12:48	1749.5	20.91	7.817	16.294	1749.5	16.294	-0.526	119.00%
5/20/2019 12:48	1750	20.899	7.817	16.294	1750	16.294	-0.526	119.00%
5/20/2019 12:48	1750.5	20.909	7.816	16.296	1750.5	16.296	-0.524	118.90%
5/20/2019 12:48	1751	20.92	7.818	16.293	1751	16.293	-0.527	119.00%
5/20/2019 12:48	1751.5	20.922	7.819	16.29	1751.5	16.29	-0.53	119.20%
5/20/2019 12:48	1752	20.907	7.819	16.29	1752	16.29	-0.53	119.20%
5/20/2019 12:48	1752.5	20.92	7.818	16.292	1752.5	16.292	-0.528	119.10%
5/20/2019 12:48	1753	20.9	7.818	16.291	1753	16.291	-0.529	119.10%
5/20/2019 12:48	1753.5	20.889	7.816	16.298	1753.5	16.298	-0.522	118.90%
5/20/2019 12:48	1754	20.891	7.814	16.301	1754	16.301	-0.519	118.80%
5/20/2019 12:48	1754.5	20.917	7.818	16.293	1754.5	16.293	-0.527	119.00%
5/20/2019 12:48	1755	20.899	7.819	16.29	1755	16.29	-0.53	119.20%
5/20/2019 12:48	1755.5	20.91	7.819	16.29	1755.5	16.29	-0.53	119.20%
5/20/2019 12:48	1756	20.901	7.817	16.295	1756	16.295	-0.525	119.00%
5/20/2019 12:48	1756.5	20.903	7.819	16.289	1756.5	16.289	-0.531	119.20%
5/20/2019 12:48	1757	20.876	7.817	16.295	1757	16.295	-0.525	119.00%
5/20/2019 12:48	1757.5	20.92	7.818	16.292	1757.5	16.292	-0.528	119.10%
5/20/2019 12:48	1758	20.873	7.818	16.293	1758	16.293	-0.527	119.00%
5/20/2019 12:48	1758.5	20.912	7.819	16.291	1758.5	16.291	-0.529	119.10%
5/20/2019 12:48	1759	20.902	7.818	16.292	1759	16.292	-0.528	119.10%
5/20/2019 12:48	1759.5	20.907	7.817	16.294	1759.5	16.294	-0.526	119.00%
5/20/2019 12:48	1760	20.9	7.817	16.295	1760	16.295	-0.525	119.00%
5/20/2019 12:48	1760.5	20.903	7.817	16.295	1760.5	16.295	-0.525	119.00%
5/20/2019 12:48	1761	20.902	7.817	16.295	1761	16.295	-0.525	119.00%
5/20/2019 12:48	1761.5	20.931	7.817	16.296	1761.5	16.296	-0.524	118.90%
5/20/2019 12:48	1762	20.881	7.816	16.298	1762	16.298	-0.522	118.90%
5/20/2019 12:48	1762.5	20.907	7.816	16.297	1762.5	16.297	-0.523	118.90%
5/20/2019 12:48	1763	20.91	7.818	16.293	1763	16.293	-0.527	119.00%

5/20/2019 12:48	1763.5	20.896	7.819	16.29	1763.5	16.29	-0.53	119.20%
5/20/2019 12:48	1764	20.902	7.819	16.29	1764	16.29	-0.53	119.20%
5/20/2019 12:48	1764.5	20.901	7.819	16.29	1764.5	16.29	-0.53	119.20%
5/20/2019 12:48	1765	20.917	7.815	16.298	1765	16.298	-0.522	118.90%
5/20/2019 12:48	1765.5	20.906	7.82	16.288	1765.5	16.288	-0.532	119.20%
5/20/2019 12:48	1766	20.915	7.818	16.291	1766	16.291	-0.529	119.10%
5/20/2019 12:48	1766.5	20.895	7.82	16.287	1766.5	16.287	-0.533	119.30%
5/20/2019 12:48	1767	20.913	7.817	16.296	1767	16.296	-0.524	118.90%
5/20/2019 12:48	1767.5	20.885	7.816	16.297	1767.5	16.297	-0.523	118.90%
5/20/2019 12:48	1768	20.909	7.819	16.291	1768	16.291	-0.529	119.10%
5/20/2019 12:48	1768.5	20.907	7.818	16.293	1768.5	16.293	-0.527	119.00%
5/20/2019 12:48	1769	20.905	7.818	16.293	1769	16.293	-0.527	119.00%
5/20/2019 12:48	1769.5	20.904	7.818	16.292	1769.5	16.292	-0.528	119.10%
5/20/2019 12:48	1770	20.904	7.818	16.292	1770	16.292	-0.528	119.10%
5/20/2019 12:48	1770.5	20.889	7.819	16.29	1770.5	16.29	-0.53	119.20%
5/20/2019 12:48	1771	20.893	7.819	16.29	1771	16.29	-0.53	119.20%
5/20/2019 12:48	1771.5	20.912	7.818	16.292	1771.5	16.292	-0.528	119.10%
5/20/2019 12:48	1772	20.891	7.819	16.291	1772	16.291	-0.529	119.10%
5/20/2019 12:48	1772.5	20.918	7.818	16.292	1772.5	16.292	-0.528	119.10%
5/20/2019 12:48	1773	20.921	7.818	16.292	1773	16.292	-0.528	119.10%
5/20/2019 12:48	1773.5	20.907	7.819	16.29	1773.5	16.29	-0.53	119.20%
5/20/2019 12:48	1774	20.896	7.818	16.291	1774	16.291	-0.529	119.10%
5/20/2019 12:48	1774.5	20.894	7.817	16.294	1774.5	16.294	-0.526	119.00%
5/20/2019 12:48	1775	20.91	7.815	16.3	1775	16.3	-0.52	118.80%
5/20/2019 12:48	1775.5	20.909	7.817	16.294	1775.5	16.294	-0.526	119.00%
5/20/2019 12:48	1776	20.902	7.818	16.292	1776	16.292	-0.528	119.10%
5/20/2019 12:48	1776.5	20.9	7.82	16.288	1776.5	16.288	-0.532	119.20%
5/20/2019 12:48	1777	20.901	7.817	16.294	1777	16.294	-0.526	119.00%
5/20/2019 12:48	1777.5	20.928	7.817	16.295	1777.5	16.295	-0.525	119.00%
5/20/2019 12:49	1778	20.912	7.817	16.294	1778	16.294	-0.526	119.00%
5/20/2019 12:49	1778.5	20.876	7.817	16.295	1778.5	16.295	-0.525	119.00%
5/20/2019 12:49	1779	20.905	7.818	16.292	1779	16.292	-0.528	119.10%
5/20/2019 12:49	1779.5	20.921	7.818	16.292	1779.5	16.292	-0.528	119.10%
5/20/2019 12:49	1780	20.896	7.817	16.296	1780	16.296	-0.524	118.90%
5/20/2019 12:49	1780.5	20.881	7.819	16.289	1780.5	16.289	-0.531	119.20%
5/20/2019 12:49	1781	20.904	7.818	16.292	1781	16.292	-0.528	119.10%
5/20/2019 12:49	1781.5	20.889	7.818	16.292	1781.5	16.292	-0.528	119.10%
5/20/2019 12:49	1782	20.896	7.817	16.294	1782	16.294	-0.526	119.00%
5/20/2019 12:49	1782.5	20.904	7.817	16.294	1782.5	16.294	-0.526	119.00%
5/20/2019 12:49	1783	20.925	7.817	16.295	1783	16.295	-0.525	119.00%
5/20/2019 12:49	1783.5	20.896	7.818	16.293	1783.5	16.293	-0.527	119.00%
5/20/2019 12:49	1784	20.896	7.818	16.293	1784	16.293	-0.527	119.00%
5/20/2019 12:49	1784.5	20.888	7.816	16.296	1784.5	16.296	-0.524	118.90%
5/20/2019 12:49	1785	20.904	7.818	16.291	1785	16.291	-0.529	119.10%
5/20/2019 12:49	1785.5	20.902	7.819	16.289	1785.5	16.289	-0.531	119.20%
5/20/2019 12:49	1786	20.929	7.816	16.298	1786	16.298	-0.522	118.90%
5/20/2019 12:49	1786.5	20.889	7.818	16.291	1786.5	16.291	-0.529	119.10%
5/20/2019 12:49	1787	20.894	7.819	16.29	1787	16.29	-0.53	119.20%
5/20/2019 12:49	1787.5	20.907	7.819	16.29	1787.5	16.29	-0.53	119.20%
5/20/2019 12:49	1788	20.925	7.818	16.291	1788	16.291	-0.529	119.10%
5/20/2019 12:49	1788.5	20.906	7.819	16.289	1788.5	16.289	-0.531	119.20%
5/20/2019 12:49	1789	20.901	7.817	16.294	1789	16.294	-0.526	119.00%
5/20/2019 12:49	1789.5	20.887	7.819	16.29	1789.5	16.29	-0.53	119.20%
5/20/2019 12:49	1790	20.923	7.82	16.288	1790	16.288	-0.532	119.20%
5/20/2019 12:49	1790.5	20.911	7.817	16.295	1790.5	16.295	-0.525	119.00%
5/20/2019 12:49	1791	20.901	7.821	16.286	1791	16.286	-0.534	119.30%
5/20/2019 12:49	1791.5	20.924	7.819	16.29	1791.5	16.29	-0.53	119.20%
5/20/2019 12:49	1792	20.903	7.817	16.295	1792	16.295	-0.525	119.00%
5/20/2019 12:49	1792.5	20.896	7.818	16.292	1792.5	16.292	-0.528	119.10%
5/20/2019 12:49	1793	20.888	7.817	16.294	1793	16.294	-0.526	119.00%
5/20/2019 12:49	1793.5	20.914	7.817	16.295	1793.5	16.295	-0.525	119.00%
5/20/2019 12:49	1794	20.889	7.82	16.287	1794	16.287	-0.533	119.30%
5/20/2019 12:49	1794.5	20.922	7.819	16.29	1794.5	16.29	-0.53	119.20%
5/20/2019 12:49	1795	20.897	7.82	16.288	1795	16.288	-0.532	119.20%
5/20/2019 12:49	1795.5	20.92	7.819	16.289	1795.5	16.289	-0.531	119.20%
5/20/2019 12:49	1796	20.896	7.818	16.293	1796	16.293	-0.527	119.00%
5/20/2019 12:49	1796.5	20.917	7.817	16.294	1796.5	16.294	-0.526	119.00%
5/20/2019 12:49	1797	20.899	7.817	16.294	1797	16.294	-0.526	119.00%



5/20/2019 12:49	1797.5	20.911	7.817	16.294	1797.5	16.294	-0.526	119.00%
5/20/2019 12:49	1798	20.899	7.817	16.295	1798	16.295	-0.525	119.00%
5/20/2019 12:49	1798.5	20.907	7.819	16.291	1798.5	16.291	-0.529	119.10%
5/20/2019 12:49	1799	20.909	7.818	16.292	1799	16.292	-0.528	119.10%
5/20/2019 12:49	1799.5	20.887	7.819	16.29	1799.5	16.29	-0.53	119.20%
5/20/2019 12:49	1800	20.909	7.817	16.294	1800	16.294	-0.526	119.00%
5/20/2019 12:49	1800.5	20.902	7.818	16.293	1800.5	16.293	-0.527	119.00%
5/20/2019 12:49	1801	20.909	7.819	16.289	1801	16.289	-0.531	119.20%
5/20/2019 12:49	1801.5	20.911	7.816	16.298	1801.5	16.298	-0.522	118.90%
5/20/2019 12:49	1802	20.878	7.817	16.295	1802	16.295	-0.525	119.00%
5/20/2019 12:49	1802.5	20.911	7.817	16.295	1802.5	16.295	-0.525	119.00%
5/20/2019 12:49	1803.052	20.933	7.819	16.291	1803.052	16.291	-0.529	119.10%
5/20/2019 12:49	1803.5	20.905	7.816	16.296	1803.5	16.296	-0.524	118.90%
5/20/2019 12:49	1804	20.902	7.817	16.295	1804	16.295	-0.525	119.00%
5/20/2019 12:49	1804.5	20.905	7.818	16.293	1804.5	16.293	-0.527	119.00%
5/20/2019 12:49	1805	20.913	7.817	16.295	1805	16.295	-0.525	119.00%
5/20/2019 12:49	1805.5	20.92	7.819	16.29	1805.5	16.29	-0.53	119.20%
5/20/2019 12:49	1806	20.9	7.819	16.29	1806	16.29	-0.53	119.20%
5/20/2019 12:49	1806.5	20.907	7.817	16.294	1806.5	16.294	-0.526	119.00%
5/20/2019 12:49	1807	20.906	7.819	16.289	1807	16.289	-0.531	119.20%
5/20/2019 12:49	1807.5	20.915	7.818	16.292	1807.5	16.292	-0.528	119.10%
5/20/2019 12:49	1808	20.925	7.82	16.287	1808	16.287	-0.533	119.30%
5/20/2019 12:49	1808.5	20.928	7.816	16.297	1808.5	16.297	-0.523	118.90%
5/20/2019 12:49	1809	20.905	7.82	16.288	1809	16.288	-0.532	119.20%
5/20/2019 12:49	1809.5	20.892	7.82	16.288	1809.5	16.288	-0.532	119.20%
5/20/2019 12:49	1810	20.894	7.816	16.296	1810	16.296	-0.524	118.90%
5/20/2019 12:49	1810.5	20.899	7.819	16.29	1810.5	16.29	-0.53	119.20%
5/20/2019 12:49	1811	20.901	7.818	16.293	1811	16.293	-0.527	119.00%
5/20/2019 12:49	1811.5	20.896	7.816	16.297	1811.5	16.297	-0.523	118.90%
5/20/2019 12:49	1812	20.893	7.817	16.295	1812	16.295	-0.525	119.00%
5/20/2019 12:49	1812.5	20.899	7.817	16.295	1812.5	16.295	-0.525	119.00%
5/20/2019 12:49	1813	20.914	7.818	16.292	1813	16.292	-0.528	119.10%
5/20/2019 12:49	1813.5	20.928	7.819	16.291	1813.5	16.291	-0.529	119.10%
5/20/2019 12:49	1814	20.898	7.819	16.29	1814	16.29	-0.53	119.20%
5/20/2019 12:49	1814.5	20.906	7.818	16.292	1814.5	16.292	-0.528	119.10%
5/20/2019 12:49	1815	20.902	7.818	16.292	1815	16.292	-0.528	119.10%
5/20/2019 12:49	1815.5	20.889	7.819	16.29	1815.5	16.29	-0.53	119.20%
5/20/2019 12:49	1816	20.907	7.82	16.288	1816	16.288	-0.532	119.20%
5/20/2019 12:49	1816.5	20.918	7.819	16.289	1816.5	16.289	-0.531	119.20%

**APPENDIX G**  
Disposal Manifest

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Environmental Soils Inc.  
PO Box 295 • Lattimore, NC 28089  
Phone 704-434-0075 • Fax 704-434-9533

Non-Hazardous Waste Manifest #

Date 4-18-19 Load Number 1

(numbered sequentially as trucks are dispatched)

ENVIRONMENTAL CONSULTANT: ATC

Contact: Henry Wells Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

GENERATOR: Edgefield Fuel and Convenience

Address: 107 1/2 Courthouse Square, Edgefield, SC County: Edgefield

Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

WASTE ORIGINATION POINT: Complete Address: Edgefield Fuel & Convenience 3

311 Main St. Edgefield, SC

Class & Type of Contaminant in soil petroleum

SOURCE OF CONTAMINATION: (ex. UST or other source) UST

GENERATORS CERTIFICATION OF WASTE CONSTITUENTS: *In lieu of submitting analytical data (methods 8240 and 8270) verifying that the waste in question does not contain organic constituents other than those which would normally appear in analysis of virgin petroleum product residue, I am submitting this Certificate of Waste Constituents. I certify that I am familiar with the source of contamination of the soil and further certify the source, to the best of my knowledge, contains no contaminants other than that listed above.*

Generators Signature: \_\_\_\_\_ Date: \_\_\_\_\_

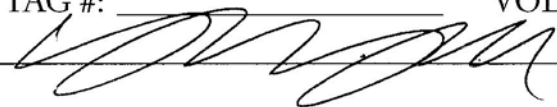
TRANSPORTER: Environmental Drilling & Probing Services

Contact: T. Bolyard Phone: 704.607.7529

As the carrier, I certify that the materials described above being shipped under this non-hazardous materials manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designate.

Carrier Signature:  Date: 4-18-19

TRUCK #: Dodge w/ Dump Tr. TAG #: \_\_\_\_\_ VOLUME: 16860

TRUCK DRIVER SIGNATURE:  DATE: 4-18-19

DESTINATION: Environmental Soils Inc. 910 Crowder Rd, Shelby, NC 28150 Dedicated Land Application Site Permit #SR0300038

I certify that the carrier has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature: Matt Campbell Date: 4/18/19

Signature: Matt Campbell Date: 4/18/19

Company Name ESI Title: \_\_\_\_\_

White/Facility

Canary/Invoice

Pink/Carrier

Goldenrod/Generator

**NON-HAZARDOUS WASTE MANIFEST**

1 Generator ID Number  
2 Page 1 of 1  
3 Emergency Response Phone 704 607 7529  
4 Waste Tracking Number

5 Generator's Name and Mailing Address  
Edgefield Fuel and Convenience  
107 1/2 Courthouse Square  
Edgefield, SC  
Generator's Site Address (if different than mailing address)  
Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC

6 Transporter 1 Company Name  
Environmental Drilling & Probing serv.  
U.S. EPA ID Number

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

8 Designated Facility Name and Site Address  
DART Acquisitions, LLC  
4132 Pompano Rd.  
Charlotte, NC 28216  
Facility's Phone: 704 395 9559  
U.S. EPA ID Number  
MCO 121 700 777

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Mt./Vol.
	No.	Type		
1 Non-Regulated Material (petroleum-impacted water/mud)	6	D	55	
2				
3				
4				

13 Special Handling Instructions and Additional Information  
1 - 1917-1

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name \_\_\_\_\_ Signature \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

15 International Shipments  Import to U.S.  Export from U.S. Port of entry/exit \_\_\_\_\_ Date leaving U.S. \_\_\_\_\_

16. Transporter Acknowledgment of Receipt of Materials  
Transporter Signature (for exports only) \_\_\_\_\_  
Transporter 1 Printed/Typed Name Brandon Bohard Signature [Signature] Month 4 Day 18 Year 19  
Transporter 2 Printed/Typed Name \_\_\_\_\_ Signature \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

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


17b. Alternate Facility (or Generator) \_\_\_\_\_ Manifest Reference Number \_\_\_\_\_ U.S. EPA ID Number \_\_\_\_\_  
Facility's Phone \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

17c. Signature of Alternate Facility (or Generator) \_\_\_\_\_

18 Designated Facility Owner or Operator Certification of receipt of materials covered by the manifest except as noted in item 17a  
Printed/Typed Name Robert Sellers Signature [Signature] Month 04 Day 18 Year 19

# NON-HAZARDOUS WASTE MANIFEST

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

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No.		Manifest Document No.	2. Page 1 of 1
3. Generator's Name and Mailing Address Edgefield Fuel & Convenience 3 - 311 main Street, Edgefield, SC Edgefield Fuel & Convenience LLC					
4. Generator's Phone ( )					
5. Transporter 1 Company Name ATC Group Services		6. US EPA ID Number		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 704-529-3200	
9. Designated Facility Name and Site Address Haz mat <del>XXXXXXXXXXXXXXXXXXXX</del> 201 Patton Ave, CLT, NC 28706		10. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone	
11. WASTE DESCRIPTION			12. Containers		13. Total Quantity
			No.	Type	
a. Non Haz Petroleum contact water			1	TT	40 Gal
b.					
c.					
d.					
G. Additional Descriptions for Materials Listed Above			H. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information					
					
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.					
Printed/Typed Name Austin Rubenstein as agent of Edgefield Fuel & Convenience LLC				Signature <i>Austin Rubenstein</i>	
				Date 5   31   19	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Austin Rubenstein as an agent of Edgefield Fuel & Convenience LLC				Signature <i>Austin Rubenstein</i>	
				Date 5   31   19	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name				Signature	
				Date	
19. Discrepancy Indication Space					
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.					
Printed/Typed Name Edwin Mendo				Signature <i>Edwin Mendo</i>	
				Date 5   31   19	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



# MATERIAL MANIFEST

EMERGENCY PHONE NO.  
(336) 841-5276



POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No. 91029
Page 1 of 1
Zebra Job No. 91029

## GENERATOR INFORMATION

Name <b>AJC Group Services</b>	US EPA ID No.
Street Address <b>311 main St. edgefield, S.C.</b>	Mailing Address
	Phone No. <b>1-703-407-9276</b>
	Contact <b>Henry</b>

## DESCRIPTION OF MATERIALS

a.	HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers		Total Quantity	Unit Wt./Vol.
						Qty.	Type		
	N/A	NON REGULATED LIQUIDS N.O.S	N/A	N/A	N/A	1	TI	5,087	G
b.									
c.									

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <b>Henry Wells (rep. of EFC)</b>	Signature 	Mo. / Day / Yr. <b>5/8/19</b>
--	---------------	----------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator/site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature 	Shipment Date <b>5/8/19</b>
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <b>RTE-4</b>	Signature 	Delivery Date <b>5/8/19</b>
Phone <b>(336) 841-5276</b>		

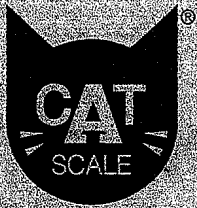
## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature 	Receipt Date <b>5/8/19</b>
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	



59775190

TICKET NUMBER



# CERTIFIED AUTOMATED TRUCK SCALE

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

08:56

59775190

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

IMPRINT SEAL HERE  
(IF APPLICABLE)

WEIGH NUMBER  
5190

CUSTOMER COPY

### THE CAT SCALE GUARANTEE

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

### WEIGH WHAT WE SAY OR WE PAY®

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 5-08-19

STEER AXLE 9920 1b

SCALE: 95

DRIVE AXLE 15320 1b

LOCATION:

BILLS TRUCK STOP  
I-85 EXIT 86  
LINWOOD NC

TRAILER AXLE 10840 1b

GROSS WEIGHT 36080 1b

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY: ZEBRA ENVIRONMENTAL

TRACTOR # 156

TRAILER # T4

FEE \$11.50

WEIGHMASTER OR  
WEIGHER SIGNATURE

DENISE F

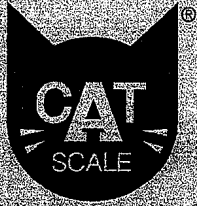
TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

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



59775218

TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 5-08-19

STEER AXLE 9240 1b

DRIVE AXLE 33540 1b

TRAILER AXLE 32520 1b

\*GROSS WEIGHT 75300 1b

17:09

SCALE: 95

LOCATION:

BILLS TRUCK STOP  
I-85 EXIT B6  
LINWOOD NC

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEBRA ENVIROMENTAL

TRACTOR # 156

TRAILER # T4

WEIGH NUMBER

5190

FEE \$2.00

WEIGHMASTER OR  
WEIGHER SIGNATURE

*Bob Walser*  
BOB WALSER

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

59775190

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

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page	1 of 1
Zebra Job No. 91029	

## GENERATOR INFORMATION

Name <i>Edgfield Fuel + Convenience 3</i>		US EPA ID No.
Street Address <i>311 Main St. Edgfield S.C. 29824</i>	Mailing Address	Phone No. 3 <i>704-407-9276</i>
		Contact <i>Henry</i>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	<i>NON-HAZ NON-Reg. liquids (NOS)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>1</i>	<i>TT</i>	<i>4407</i>	<i>G</i>
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			<i>Petroleum Contact water</i>
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <i>Henry Wells (rep of EFC)</i>	Signature <i>[Signature]</i>	Mo. / Day / Yr. <i>5 10 2019</i>
---	---------------------------------	-------------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>Michael Parks</i>	Shipment Date <i>5-10-2019</i>
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <i>PT-875F</i>	Signature <i>Michael Parks</i>	Delivery Date <i>5-10-2019</i>
Phone <b>(336) 841-5276</b>		

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>David Tedder</i>	Receipt Date <i>5/10/19</i>
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	

Empty

**CITY TRANSFER AND STORAGE COMPANY**

(336) 889-6155

1100 REDDING DRIVE

P.O. BOX 2122, HIGH POINT, NORTH CAROLINA 27260

- SINCE 1908 -

DATE

CUSTOMER'S NAME

Zebra

ADDRESS

DRIVER

CARRIER

DATE

TIME

lb GROSS

lb TARE -

lb NET

38060

05-13-19

12:25 PM

NORTH CAROLINA  
PUBLIC WEIGHMASTER  
LICENSE EXPIRES JUNE 30, 2019  
JUSTIN LASSITER 39148

ORDER NUMBER

UNIT NUMBER

RT-10/T-1

WEIGHER

~~INVALID UNLESS SIGNED~~



59648099  
TICKET NUMBER



# CERTIFIED AUTOMATED TRUCK SCALE

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

## THE CAT SCALE GUARANTEE

*LOADED*

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

### WEIGH WHAT WE SAY OR WE PAY®

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

WEIGH  
FASTER  
WITH OUR APP.  
FIND OUT MORE AT  
[WEIGHMYTRUCK.COM](http://WEIGHMYTRUCK.COM)

\* The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 5-10-19

STEER AXLE	10160	1b
DRIVE AXLE	30460	1b
TRAILER AXLE	30380	1b
GROSS WEIGHT	71000	1b

23:28

SCALE: 1709

59648099

LOCATION: L0VES

PUBLIC WEIGHMASTERS  
CERTIFICATE OF  
WEIGHT & MEASURE

I 85 EXIT 71  
SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY OR ARTICLE WEIGHED

FREIGHT ALL KINDS

ZEBRA ENVIRONMENTAL

RT10,

T1

COMPANY

TRACTOR #

TRAILER #

WEIGH NUMBER  
8099

FEE \$11.50

WEIGHMASTER OF  
WEIGHER SIGNATURE

*Mary Ann Hastings*  
MARY ANN HASTINGS

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

CUSTOMER COPY

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	
Page	of
Zebra Job No. 91029	

## GENERATOR INFORMATION

Name <i>Edge Field Fuel &amp; CONVENIENCE 3</i>	US EPA ID No.
Street Address <i>311 Main St Edgefield SC</i>	Mailing Address
	Phone No. <i>703-409-9276</i>
	Contact <i>Henry</i>

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers		Total Quantity	Unit Wt./Vol.
					Qty.	Type		
a.	<i>NON HAZ LIQUIDS NOS</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>1</i>	<i>55</i>	<i>5,162</i>	<i>G</i>
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name <i>Henry Wells (rep of EFL)</i>	Signature <i>[Signature]</i>	Mo. / Day / Yr. <i>5/15/19</i>
---	---------------------------------	-----------------------------------

## TRANSPORTER INFORMATION

Transporter <b>Zebra Environmental &amp; Industrial Services Inc</b>	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>T Travis Wilson</i>	Shipment Date <i>5-15-19</i>
Transporter or EPA ID No. <b>NCO991302669</b>	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No. <i>KT-2, T-4</i>	Signature <i>[Signature]</i>	Delivery Date <i>5/15/19</i>
Phone <b>(336) 841-5276</b>		

## FACILITY INFORMATION

Facility <b>Zebra Environmental &amp; Industrial Services, Inc.</b>	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address <b>901 East Springfield Road High Point, NC 27263</b>	Signature <i>[Signature]</i>	Receipt Date <i>5/15/19</i>
Facility or EPA ID No. <b>NCO991302669</b>	Discrepancies / Routing Codes / Handling Methods	
Phone <b>(336) 841-5276</b>	a.	
Contact <b>David Tedder</b>	b.	
	c.	



# Scale Ticket

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facia evidence of the accuracy of the weight shown as prescribed by law.

May 15 2019

Ticket : 5659  
Cust. Name: ZEBRA  
  
Truck ID: RT2  
Trailer ID: T4  
Weigh Fee: 11.50

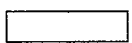


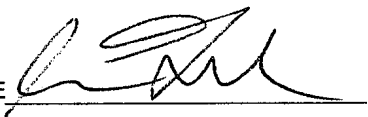
PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

IMPRINT SEAL HERE  
(IF APPLICABLE)

Quiktrip 1092  
1169 Anderson RD. S  
Rock Hill, SC 29370

Axle 1 : 16900 1b  
Axle 2 : 7320 1b  
Axle 3 : 11040 1b  
Total : 35260 1b



WEIGHMASTER OR  
WEIGHER SIGNATURE 

FULL WEIGH  
TICKET # \_\_\_\_\_  
(IF REWEIGH)

DRIVER IN TRUCK UNLESS CHECKED HERE: \_\_\_\_\_



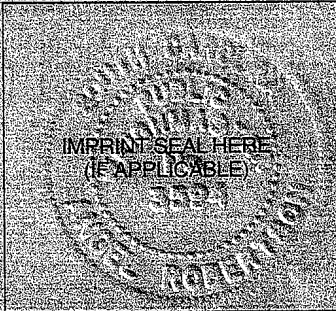
60001141  
TICKET NUMBER



# CERTIFIED AUTOMATED TRUCK SCALE

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

10:28 SCALE:  
6000 LOCATION:  
PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE



WEIGHT NUMBER  
1140

### THE CAT SCALE GUARANTEE

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash. ©

### WEIGH WHAT WE SAY OR WE PAY®

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong; **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT, and was weighed on a full-length platform scale. All weights are guaranteed by CAT Scale.

DATE:	5-15-19	STEER AXLE	10860	LB
		DRIVE AXLE	32940	LB
	1685	TRAILER AXLE	33320	LB
	LOVES COUNTRY STORES	GROSS WEIGHT	77020	LB
	I 20 EXIT 51			
	LEXINGTON SC			

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

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

COMPANY ZEBRA TRACTOR # RT2 TRAILER # T4

FEE \$11.50 WEIGHMASTER OR WEIGHER SIGNATURE [Signature] TICKET # OF FULL'S WEIGHT (IF REWEIGH)                     

CHANIAH BURGESS

WEIGH  
FASTER  
WITH OUR APP.  
FIND OUT MORE AT  
[WEIGHMYTRUCK.COM](http://WEIGHMYTRUCK.COM)



# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	01
Page	2 of 2
Zebra Job No.	91029

## GENERATOR INFORMATION

Name	ATC Edgefield Fuel & Convenience		US EPA ID No.
Street Address	311 Main Street	Mailing Address	Phone No. 704-407-9276
	Edgefield S.C.		Contact Henry

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	non hazardous liquids (N.O.S.)	—	—	—	1	TS	4.645	G
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
Henry Wells (rep of EFC)		5/16/19

## TRANSPORTER INFORMATION

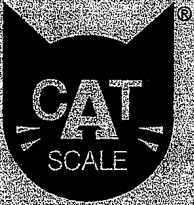
Transporter	Zebra Environmental & Industrial Services Inc		I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.
Address	901 East Springfield Road High Point, NC 27263		Signature Shipment Date 5-16-19
Transporter or EPA ID No.	NCO991302669	Unit No. RT-4	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.
Phone	(336) 841-5276	T-4	Signature Delivery Date 5-16-19

## FACILITY INFORMATION

Facility	Zebra Environmental & Industrial Services, Inc.		I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.
Address	901 East Springfield Road High Point, NC 27263		Signature Receipt Date 5/16/19
Facility or EPA ID No.	NCO991302669		Discrepancies / Routing Codes / Handling Methods
Phone	(336) 841-5276		a.
Contact	David Tedder		b.
			c.

59648297

TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, **OR**
- (2) A representative of CAT Scale Company will appear in court **WITH** the driver as an expert witness if we believe our scale was correct.

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

\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 5-16-19

STEER AXLE 10000 1b

DRIVE AXLE 14140 1b

TRAILER AXLE 10940 1b

\*GROSS WEIGHT 35080 1b

08:07

SCALE: 1709

59648297

LOCATION: LOVES

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

I 85 EXIT 71

SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEBRA

TRACTOR # RT4

TRAILER # T4

WEIGH NUMBER

8297

FEE \$11.50

WEIGHMASTER OR  
WEIGHER SIGNATURE

SIGN A VAN CAMP

TICKET # OF  
FULL'S WEIGH  
(IF REWEIGH)

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

CUSTOMER COPY



59648327  
TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

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\*The four weights shown below are separate weights. The GROSS WEIGHT is the CERTIFIED WEIGHT and was weighed on a full length platform scale. All weights are guaranteed by CAT Scale.

DATE: 5-16-19

STEER AXLE 9740 1b

DRIVE AXLE 29480 1b

TRAILER AXLE 29480 1b

GROSS WEIGHT 68700 1b

15:44

SCALE: 1709

59648327

LOCATION:

LDVES

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

I 85 EXIT 71

SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY ZEBRA

TRACTOR # RT4

TRAILER # T4

WEIGH NUMBER  
8297

FEE \$2.00

WEIGHMASTER OF  
WEIGHER SIGNATURE

*Ashley Goad*  
ASHLEY GOAD

TICKET # OF  
FULL S WEIGHT  
(IF REWEIGH) 59648297

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WITH OUR APP.  
FIND OUT MORE AT  
WEIGHMYTRUCK.COM

# MATERIAL MANIFEST



EMERGENCY PHONE NO.  
(336) 841-5276

POST OFFICE BOX 357  
HIGH POINT, NC 27261

TEL (336) 841-5276  
FAX (336) 841-5509

Manifest Document No.	02
Page	2 of 2
Zebra Job No.	91029

## GENERATOR INFORMATION

Name	ATC	US EPA ID No.	
Street Address	311 Main Street Edgefield S.C.	Mailing Address	
		Phone No.	
		Contact	Henry

## DESCRIPTION OF MATERIALS

HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.	non hazardous liquids (N.O.S.)	—	—	—	2	TJ	3271	Gallons
b.								
c.								

## ADDITIONAL INFORMATION

	ERG No.	Zebra Profile Code	Facility Use
a.			
b.			
c.			

## GENERATOR'S CERTIFICATION

This is to certify that the above-described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2 ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name	Signature	Mo. / Day / Yr.
Henry Wells (Rep of ER)		5-17-19

## TRANSPORTER INFORMATION

Transporter	Zebra Environmental & Industrial Services Inc	I hereby acknowledge receipt of the above-described materials for transport from the generator site listed above.	
Address	901 East Springfield Road High Point, NC 27263	Signature	Shipment Date 5-17-19
Transporter or EPA ID No.	NCO991302669	I hereby acknowledge receipt of the above-described materials were received from the generator site and were transported to the facility listed below.	
Unit No.	RT-4 T-2	Signature	Delivery Date 5-17-19
Phone	(336) 841-5276		

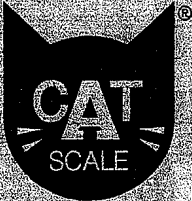
## FACILITY INFORMATION

Facility	Zebra Environmental & Industrial Services, Inc.	I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy noted below.	
Address	901 East Springfield Road High Point, NC 27263	Signature	Receipt Date 5/17/19
Facility or EPA ID No.	NCO991302669	Discrepancies / Routing Codes / Handling Methods	
Phone	(336) 841-5276	a.	
Contact	David Tedder	b.	
		c.	



59648366

TICKET NUMBER



**CERTIFIED  
AUTOMATED  
TRUCK  
SCALE**

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

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back-up our guarantee with cash.®

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state **AFTER** one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

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

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DATE: 5-17-19

STEER AXLE	10140	1b
DRIVE AXLE	18920	1b
TRAILER AXLE	18860	1b
GROSS WEIGHT	47920	1b

14:24

SCALE: 1709

59648366

LOCATION: L0VES

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

I 85 EXIT 71  
SALISBURY NC

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as prescribed by law.

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

RT4 T2  
FREIGHT ALL KINDS

COMPANY: ZEBRA

TRACTOR # RT4 TRAILER # 22

WEIGH NUMBER

8366

FEE \$11.50

WEIGHMASTER OR  
WEIGHER SIGNATURE

*Penny Wilson*  
PENNY WILSON

TICKET # OF  
FULL S WEIGHT  
(IF REWEIGH)

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

DRIVER INSTRUCTIONS: UNLESS OTHERWISE NOTED

CUSTOMER COPY

61012  
TICKET

**THE CAT SCALE GUARANTEE**

The CAT Scale Company guarantees that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash. ©

**WEIGH WHAT WE SAY OR WE PAY®**

If you get an overweight fine from the state AFTER one of our CAT Scales showed a legal weight, we will immediately check our scale and we will:

- (1) Reimburse you for the cost of the overweight fine if our scale is wrong, OR
- (2) A representative of CAT Scale Company will appear in court WITH the driver as an expert witness if we believe our scale was correct.

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

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

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DATE: 5-10-19

STEER AXLE 12280 1b

DRIVE AXLE 12080 1b

TRAILER AXLE 7040 1b

GROSS WEIGHT 31400 1b

10:26

SCALE: 756

61012890

LOCATION: PILOT TRAVEL CENTER

10959 ST HWY 200

GREAT FALLS SC

PUBLIC WEIGHMASTER'S  
CERTIFICATE OF  
WEIGHT & MEASURE

This is to certify that the following described merchandise was weighed, counted, or measured by a public or deputy weighmaster, and when properly signed and sealed shall be prima facie evidence of the accuracy of the weight shown as presented by law.

*Spotted Tanker*

IMPRINT SEAL HERE  
(IF APPLICABLE)

LIVESTOCK, PRODUCE, PROPERTY, COMMODITY, OR ARTICLE WEIGHED

FREIGHT ALL KINDS

COMPANY: ZEBRA ENV

TRACTOR # RTA TRAILER # T2

WEIGH NUMBER  
8690

FEE \$11.50

WEIGHMASTER OR  
WEIGHER SIGNATURE

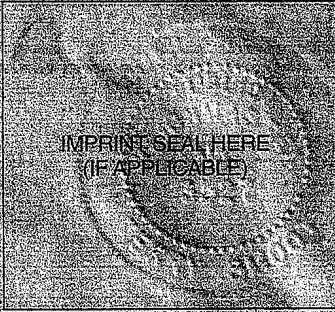
*M. Thomas*  
MARGHA THOMAS

TICKET # OF  
FULL \$ WEIGH  
(IF REWEIGH)

WEIGH  
FASTER  
WITH OUR APP.  
FIND OUT MORE AT  
[WEIGHMYTRUCK.COM](http://WEIGHMYTRUCK.COM)

CERTIFIED  
AUTOMATED  
TRUCK  
SCALE

CAT SCALE COMPANY  
PO BOX 630  
WALCOTT, IA 52773  
(563) 284-6263  
[www.catscale.com](http://www.catscale.com)



CUSTOMER COPY

**APPENDIX J**

---

Access Agreements




Edgefield County Historical Society  
PO Box 174  
Edgefield, South Carolina 29824

Contact Name: Bettis C Rainford

Phone Number: 863-637-2233

Email Address: brainsford@rainforddevelopment.com

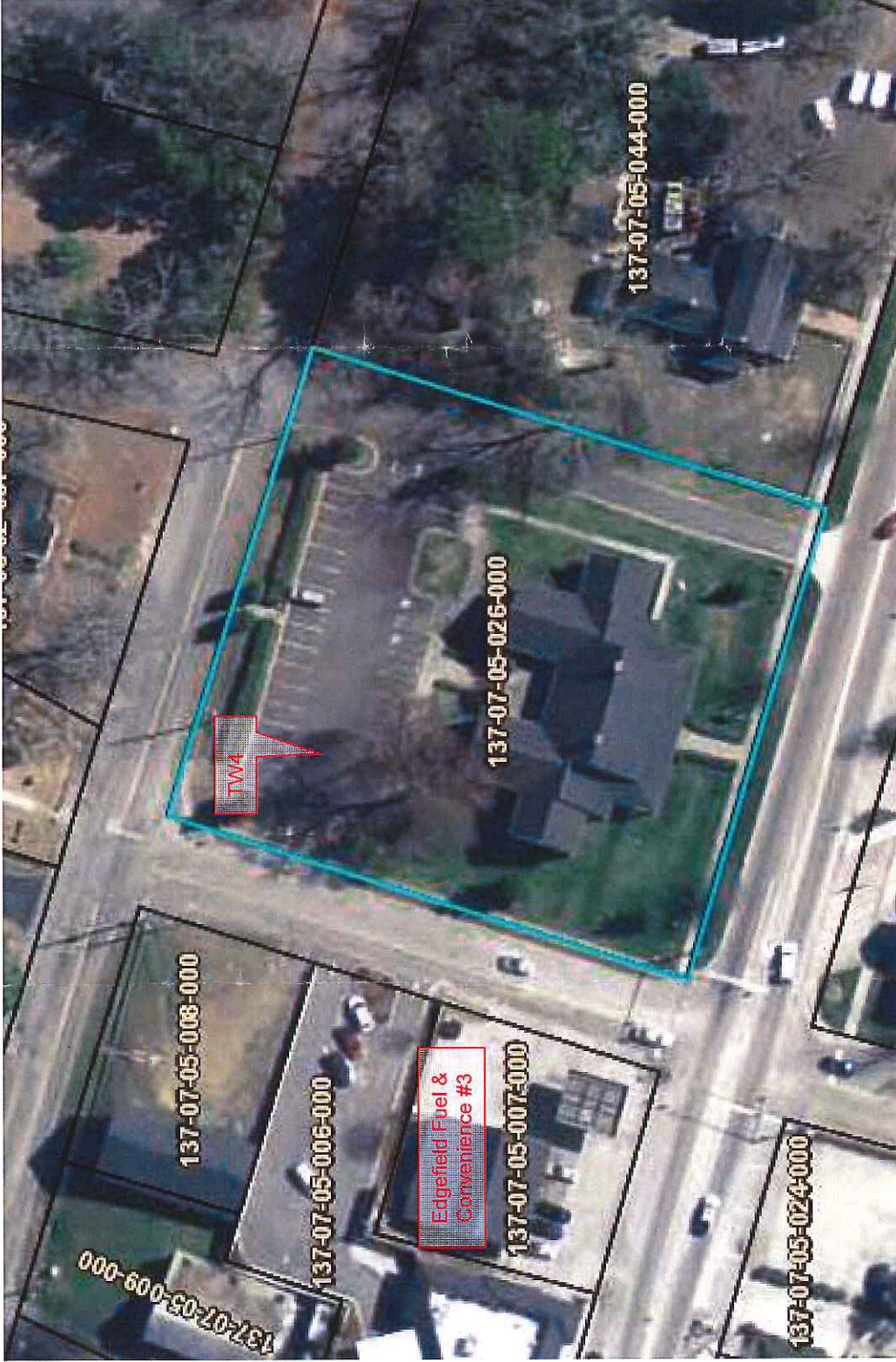
Dated: 12/19/18

By:   
Name: \_\_\_\_\_  
Its duly authorized Agent

ATC Group Services, LLC

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Its duly authorized \_\_\_\_\_



7606 Whitehall Executive Center Drive, Suite 800  
 Charlotte, North Carolina 28273  
 (704) 529-3200

SOURCE: Edgefield County GIS

**Proposed Monitoring Well Location**

Edgefield Fuel & Convenience #3  
 311 Main Street  
 Edgefield, South Carolina



## SITE ACCESS AGREEMENT

THIS SITE ACCESS AGREEMENT (this "Agreement") is dated as of the 13<sup>th</sup> day of December, 2018 by and between Edgefield County Historical Society with a mailing address of PO Box 174, Edgefield, South Carolina 29824 ("Owner") and ATC Group Services, LLC, with a mailing address of 7606 Whitehall Executive Center Drive, Suite 800, Charlotte, North Carolina 28273 ("ATC"). Where applicable, all of the forgoing are collectively referred to as the "Parties" or "Party" as the case may be.

### RECITALS:

WHEREAS, Owner owns that certain real estate commonly referred to as Parcel Number 137-07-05-026-000 (the "Property"); and

WHEREAS, the Property is the subject of a Monitoring Well Installation Notice to Proceed which involves the installation a permanent monitoring well; and

WHEREAS, ATC has been engaged by Edgefield Fuel & Convenience, LLC, the responsible party, for the purpose of conducting the installation of temporary field screening points and permanent monitoring wells at the Property pursuant to the Monitoring Well Installation Notice to Proceed, dated December 7, 2018, issued by South Carolina Department of Health and Environmental Control (SC DHEC); and

WHEREAS, ATC, on behalf of Edgefield Fuel & Convenience, LLC, has requested permission from Owner to access the Property for the sole purpose of conducting such installation of temporary field screening points and permanent monitoring wells of the Property pursuant to the Monitoring Well Installation Notice to Proceed issued by SC DHEC;

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Grant of Access. Owner hereby grants to ATC the right to access the Property for the sole purpose of conducting the installation of temporary field screening points and permanent monitoring wells at the Property pursuant to the Monitoring Well Installation Notice to Proceed issued by SC DHEC (the "Scope of Work").

2. Conditions to Grant of Access. The following conditions shall apply to the grant of access set forth in Section 1 above:

A. ATC agrees to indemnify and hold Owner harmless from and against any and all loss, cost, damage, injury or expense (including reasonable attorney's fees and costs) arising out of or in any way related to the acts or omissions of ATC, its agents, employees and consultants in connection with the Scope of Work, and such obligation shall survive this Agreement. ATC shall maintain insurance which reasonably protects the Owner from third party claims for bodily injury or death, and workers' compensation insurance as required by law. A certificate of insurance evidencing such coverage and additional insured endorsements shall be furnished to the Owner

upon request. ATC shall restore the Property to reasonably the same condition existing immediately prior to conducting the Scope of Work. The repair and restoration obligations of ATC which may be required after the completion of the Scope of Work shall exist to the extent that those obligations are approved by Edgefield Petroleum & Convenience, LLC. The indemnification obligations of ATC under this Section shall survive this Agreement.

B. ATC acknowledges that the Scope of Work carried out on the Property under this Agreement shall be in strict accordance with all federal, state and local laws, regulations and ordinances.

C. ATC acknowledges that the Scope of Work shall be done in such a manner so as to not interfere with the Owner's (to include Owner, its agents, tenants, guests and vendors) use and enjoyment of the Property.

D. ATC shall provide not less than five (5) business day's written notice to Owner prior to undertaking the Scope of Work.

E. ATC shall provide copies of all analytical data resulting from the Scope of Work to Owner at the same time that such data is submitted to any third party or the South Carolina Department of Health and Environmental Control (SC DHEC).

3. Termination. This Agreement shall be terminated by either party upon written notice of termination to the other or the expiration or revocation of the Permit. Upon delivery of such termination notice, this Agreement shall terminate and the parties shall have no further obligations to each other relating to the subject matter of this Agreement, except as specifically reserved in Section 2 above.

4. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same instrument.

5. Governing Law. This Agreement shall be governed exclusively by the laws of the South Carolina (exclusive of its laws governing conflicts of law).

6. Notices. All notices under this Agreement shall be in writing and shall be delivered personally or shall be delivered by: (i) hand, (ii) recognized overnight mail service (e.g., Federal Express, UPS), (iii) facsimile, or (iv) prepaid registered or certified mail, return receipt requested, addressed to the Party at the address set forth above or at such other address provided by such Party in writing.

7. Rights Limited. This is a permissive access agreement only, and does not grant or imply the grant of any real property rights or interest in the Property of any kind.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as an instrument under seal effective as of the date first written above.

*[The remainder of this page is intentionally left blank.]*

*[The signature page(s) follow.]*

Edgefield United Methodist Church  
309 Norris Street  
Edgefield, South Carolina 29824

Contact Name: Bill Cali

Phone Number: 803 480 5713

Email Address: fitnessworks@yahoo.com

Dated: 3/12/19

By: Bill Cali  
Name:  
Its duly authorized Agent

ATC Group Services, LLC

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Name:  
Its duly authorized \_\_\_\_\_



## SITE ACCESS AGREEMENT

THIS SITE ACCESS AGREEMENT (this "Agreement") is dated as of the 11<sup>th</sup> day of February, 2019 by and between Methodist Church with a mailing address of PO Box 25, Edgefield, South Carolina 29824 ("Owner") and ATC Group Services, LLC, with a mailing address of 7606 Whitehall Executive Center Drive, Suite 800, Charlotte, North Carolina 28273 ("ATC"). Where applicable, all of the forgoing are collectively referred to as the "Parties" or "Party" as the case may be.

### **RECITALS:**

WHEREAS, Owner owns that certain real estate commonly referred to as Parcel Number 137-07-05-024-000 (the "Property"); and

WHEREAS, the Property is the subject of a Monitoring Well Installation Notice to Proceed which involves the installation a permanent monitoring well; and

WHEREAS, ATC has been engaged by Edgefield Fuel & Convenience, LLC, the responsible party, for the purpose of conducting the installation of temporary field screening points and permanent monitoring wells at the Property pursuant to the Monitoring Well Installation Notice to Proceed, dated December 7, 2018, issued by South Carolina Department of Health and Environmental Control (SC DHEC); and

WHEREAS, ATC, on behalf of Edgefield Fuel & Convenience, LLC, has requested permission from Owner to access the Property for the sole purpose of conducting such installation of temporary field screening points and permanent monitoring wells of the Property pursuant to the Monitoring Well Installation Notice to Proceed issued by SC DHEC;

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Grant of Access. Owner hereby grants to ATC the right to access the Property for the sole purpose of conducting the installation of temporary field screening points and permanent monitoring wells at the Property pursuant to the Monitoring Well Installation Notice to Proceed issued by SC DHEC (the "Scope of Work").

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**Noelle France**

---

**From:** Erin Greene  
**Sent:** Wednesday, March 20, 2019 7:32 AM  
**To:** Noelle France  
**Subject:** FW: [EXTERNAL] SCDOT Encroachment Permit: Notice of Approval for Application # 200063434

**Erin E. Greene**  
Direct Dial +1 704 972 4086 | Mobile +1 704 817 0896 | Main Office +1 704 529 3200

7606 Whitehall Executive Center Drive, Suite 800 | Charlotte, NC 28273  
[erin.greene@atcgs.com](mailto:erin.greene@atcgs.com) | [www.atcgroupservices.com](http://www.atcgroupservices.com)

---

**From:** Erin Greene  
**Sent:** Thursday, January 17, 2019 3:45 PM  
**To:** Noelle France <Noelle.France@atcgs.com>  
**Subject:** FW: [EXTERNAL] SCDOT Encroachment Permit: Notice of Approval for Application # 200063434

FYI Encroachment Approval for EFC#3.  
I'll get the access agreement out tomorrow.

---

**From:** Encroachment Permits [<mailto:SMPSHPT1302@scdot.org>]  
**Sent:** Thursday, January 17, 2019 3:43 PM  
**To:** Erin Greene <[Erin.Greene@atcgs.com](mailto:Erin.Greene@atcgs.com)>  
**Cc:** [kitsosam@scdot.org](mailto:kitsosam@scdot.org)  
**Subject:** [EXTERNAL] SCDOT Encroachment Permit: Notice of Approval for Application # 200063434

[External Email] This email originated from outside of the ATC mail system. Please use caution when opening attachments.



This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email.

SC Department of Transportation has completed the review of your encroachment permit application. Application # 200063434 has been approved and your encroachment permit number is: 220025. You should log into your account to access the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Engineer by e-mail at [kitsosam@scdot.org](mailto:kitsosam@scdot.org) or by phone at (803) 637-6511 if you have any questions. Please reference your Permit # in any correspondence.

Please also remember to contact the County Permit Engineer prior to beginning construction of this encroachment. Thank you!



**APPENDIX K**

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Data Verification Checklist

## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		

Explanation for missing and incomplete information?

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Project Verifier (signature)  \_\_\_\_\_

(print name) Kenneth J. Perignat, PE \_\_\_\_\_

Date 6-12-19 \_\_\_\_\_

## **APPENDIX L**

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*Aggressive Fluid Vapor Recovery Event Data  
Including Before & After Data; Field Data Sheet;  
Air Flow Calculations; Emission Calculations*



**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name:	<u>Edgefield Fuel and Convenience #3</u>	UST Permit No:	<u>12175</u>
Project No:	<u>EFC3003</u>	ATC Field Rep. 1:	<u>H. Wells</u>
Start Date:	<u>5/6/2019</u>	ATC Field Rep. 2:	<u>A. Rubenstein</u>
End Date:	<u>5/10/2019</u>		

AFVR Measurements Prior to and After Event

**Measurements Prior to AFVR Event**

Blower Model	<u>Dekker Vmax 3030</u>		
Water Tank Storage Capacity:	<u>0</u>	gallons	Zebra ( T-5 )
Inside Diameter of Blower Outlet Stack	<u>3.068</u>	inches	
Is Tank Empty & Clean (Y/N)	<u>Y</u>		

**Measurements Before AFVR Event**

**5/6/2019**

Tanker Product volume	<u>0</u>	gallons	
Tanker Water volume	<u>0</u>	gallons	
Transfer Pump Flow Meter	<u>NA</u>	gallons	

**Measurements After AFVR Event**

**May 10/2019**

Tanker Product volume	<u>0</u>	gallons	
Tanker Water volume	<u>NA</u>	gallons	
Transfer Pump Flow Meter	<u>NA</u>	gallons	

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
12175-MW25	19.10	20.95	NP	24.30	NP	21.30
12175-RW2	18.75	21.11	NP	22.50	22.12	22.26
12175-RW4	NP	19.45	NP	23.02	NP	21.23
12175-MW18	NP	20.97	NP	21.18	NP	20.17
12175-MW18	NP	19.95	NP	20.11	NP	20.11

NP denotes no measurable free product.

NM denotes not measured.

Project: Edgedfield Fuel and Convenience #  
 Project: EFC3003  
 Date: 5/6/19 - 5/10/19

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ATC Field Rep. 1: H. Wells  
 ATC Field Rep. 2: A. Rubenstein

Elapsed Time (hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																
		Date & Time	Stack Outlet			PID (ppm)		Blower Vacuum (in.Hg)	AFVR Wells						Non-AFVR Wells			
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre- Treatment	Post- Treatment		12175-MW25		12175-RW2		12175-RW4		12175-MW18	12175-MW26		
							Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)		
		5/6/19 12:30 PM	←	Start time														
1 hr	30	5/6/19 13:00	237	123.1	49.8	15,000	--	23.0	15.00	19.10	6.00	18.75	16.00	19.45	20.97	0.00	19.95	0.00
	30	5/6/19 13:30	205	132.7	40.1	1,197	--	23.0	15.50	19.60	6.50	19.25	16.00	19.95	20.97	0.00	19.95	0.00
2 hr	30	5/6/19 14:00	254	120.3	50.5	1,137	--	23.0	14.00	21.10	6.00	19.75	16.00	20.45	20.97	0.00	19.95	0.00
	30	5/6/19 14:30	315	134.5	30.7	1,175	--	23.0	15.00	20.60	6.00	20.25	16.00	20.95	20.99	0.00	19.94	0.00
3 hr	30	5/6/19 15:00	279	126.0	35.1	1,144	--	23.0	15.00	21.10	6.50	20.75	17.00	21.45	20.99	0.00	19.94	0.00
	30	5/6/19 15:30	311	120.6	43.2	1,288	--	23.0	15.00	21.60	6.50	21.25	17.00	21.95	20.99	0.00	19.94	0.00
4 hr	30	5/6/19 16:00	154	121.6	100.0	15,000	--	23.0	15.00	22.10	6.00	21.75	16.00	22.45	20.99	0.00	19.94	0.00
	30	5/6/19 16:30	196	119.6	100.0	1,530	--	23.0	14.00	22.60	6.00	22.25	17.00	22.95	21.00	0.00	19.93	0.00
5 hr	30	5/6/19 17:00	198	117.3	100.0	15,000	--	23.0	15.00	23.10	6.00	22.75	16.00	23.45	21.00	0.00	19.93	0.00
	30	5/6/19 17:30	182	120.4	100.0	1,551	--	23.0	16.00	23.60	5.50	23.25	17.00	23.95	21.00	0.00	19.93	0.00
6 hr	30	5/6/19 18:00	215	125.3	100.0	2,534	--	23.0	16.00	24.00	6.00	23.75	17.00	24.00	21.00	0.00	19.93	0.00
	30	5/6/19 18:30	210	127.4	100.0	15,000	--	23.0	16.00	24.00	6.00	24.00	16.00	24.00	21.02	0.00	19.93	0.00
7 hr	30	5/6/19 19:00	212	121.2	100.0	15,000	--	23.0	16.00	24.00	6.00	24.00	17.00	24.00	21.02	0.00	19.93	0.00
	30	5/6/19 19:30	242	116.8	100.0	2,441	--	23.0	16.00	24.00	6.00	24.00	17.00	24.00	21.02	0.00	19.93	0.00
8 hr	30	5/6/19 20:00	259	126.6	100.0	3,195	--	23.0	16.00	24.00	6.00	24.00	18.00	24.00	21.02	0.00	19.93	0.00
	30	5/6/19 20:30	227	123.9	100.0	1,284	--	23.0	16.00	24.00	6.00	24.00	17.00	24.00	21.03	0.00	19.98	0.00
9 hr	60	5/6/19 21:30	235	127.9	100.0	1,877	--	23.0	16.00	24.00	6.00	24.00	17.00	24.00	21.03	0.00	19.98	0.00
10 hr	60	5/6/19 22:30	199	126.8	100.0	2,173	--	23.0	16.00	24.00	6.00	24.00	17.00	24.00	21.07	0.00	20.01	0.00
11 hr	60	5/6/19 23:30	217	129.3	100.0	1,517	--	23.0	15.00	24.00	6.50	24.00	18.00	24.00	21.07	0.00	20.01	0.00
12 hr	60	5/7/19 0:30	226	124.8	100.0	1,842	--	23.0	16.00	24.00	6.00	24.00	18.50	24.00	21.07	0.00	20.02	0.00
13 hr	60	5/7/19 1:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
14 hr	60	5/7/19 2:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
15 hr	60	5/7/19 3:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
16 hr	60	5/7/19 4:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
17 hr	60	5/7/19 5:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
18 hr	60	5/7/19 6:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
19 hr	60	5/7/19 7:30	261	118.9	100.0	8,421	--	23.5	15.50	24.00	5.50	24.00	17.25	24.00	21.07	0.00	20.02	0.00
20 hr	60	5/7/19 8:30	261	118.9	100.0	15,000	--	24.0	15.00	24.00	5.00	24.00	16.00	24.00	21.08	0.00	20.02	0.00
21 hr	60	5/7/19 9:30	261	118.9	100.0	15,000	--	24.0	16.00	20.60	6.00	20.25	15.00	20.45	21.08	0.00	20.02	0.00
22 hr	60	5/7/19 10:30	261	118.9	100.0	15,000	--	24.0	16.00	20.60	6.00	20.25	14.00	20.45	21.09	0.00	20.03	0.00
23 hr	60	5/7/19 11:30	295	113.0	100.0	15,000	--	24.0	13.00	20.60	5.00	20.25	10.00	20.45	21.09	0.00	20.03	0.00
24 hr	60	5/7/19 12:30	195	117.3	100.0	15,000	--	24.0	17.00	20.60	6.50	20.25	15.00	20.45	21.08	0.00	20.03	0.00
26 hr	120	5/7/19 14:30	352	114.2	100.0	15,000	--	24.0	17.50	20.60	6.50	20.25	15.00	20.45	21.08	0.00	20.01	0.00
28 hr	120	5/7/19 16:30	234	121.6	100.0	15,000	--	24.0	17.00	20.60	6.50	20.25	16.00	20.45	21.08	0.00	20.01	0.00
30 hr	120	5/7/19 18:30	275	110.8	100.0	15,000	--	24.0	17.00	20.60	6.50	20.25	16.00	20.45	21.08	0.00	20.01	0.00
32 hr	120	5/7/19 20:30	258	115.0	100.0	15,000	--	23.0	17.00	20.60	6.50	20.25	15.00	20.45	21.10	0.00	20.03	0.00
34 hr	120	5/7/19 22:30	241	124.5	100.0	15,000	--	23.0	17.00	20.60	6.50	20.25	18.00	20.45	21.10	0.00	20.05	0.00
36 hr	120	5/8/19 0:30	281	128.7	100.0	15,000	--	23.0	17.00	20.60	6.50	20.25	15.00	20.45	21.12	0.00	20.06	0.00

Project: Edgfield Fuel and Convenience #  
 Project: EFC3003  
 Date: 5/8/19 - 5/10/19

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ATC Field Rep. 1: H. Wells  
 ATC Field Rep. 2: A. Rubenstein

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																
		Date & Time	Stack Outlet			PID (ppm)		Blower Vacuum (in.Hg)	AFVR Wells						Non-AFVR Wells			
			Air Flow (fpm)	Temperature (°F)	R.H. (%)	Pre-Treatment	Post-Treatment		12175-MW25		12175-RW2		12175-RW4		12175-MW18	12175-MW26		
							Vacuum (in.Hg)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)	
	5/8/19 12:30 PM	← Start time																
38 hr	120	5/8/19 2:30	253	110.5	100.0	15,000	--	23.5	17.25	20.60	6.25	20.25	15.00	20.45	21.12	0.00	20.06	0.00
40 hr	120	5/8/19 4:30	253	110.5	100.0	15,000	--	23.5	17.25	20.60	6.25	20.25	15.00	20.45	21.12	0.00	20.06	0.00
42 hr	120	5/8/19 6:30	253	110.5	100.0	15,000	--	23.5	17.25	20.60	6.25	20.25	15.00	20.45	21.12	0.00	20.06	0.00
44 hr	120	5/8/19 8:30	225	92.2	100.0	15,000	--	24.0	17.50	20.60	6.00	20.25	15.00	20.45	21.11	0.00	20.05	0.00
46 hr	120	5/8/19 10:30	284	85.2	98.8	15,000	--	24.0	18.00	20.60	6.00	20.25	15.50	20.45	21.13	0.00	20.05	0.00
48 hr	120	5/8/19 12:30	318	115.0	97.1	15,000	--	24.0	18.00	20.60	7.00	20.25	16.00	20.45	21.10	0.00	20.05	0.00
50 hr	120	5/8/19 14:30	325	115.7	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.50	20.45	21.09	0.00	20.03	0.00
52 hr	120	5/8/19 16:30	268	117.5	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	17.00	20.45	21.10	0.00	20.02	0.00
54 hr	120	5/8/19 18:30	298	111.6	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	17.00	20.45	21.10	0.00	20.03	0.00
56 hr	120	5/8/19 20:30	274	122.4	100.0	15,000	--	24.0	17.50	20.60	7.00	20.25	17.00	20.45	21.10	0.00	20.03	0.00
58 hr	120	5/8/19 22:30	301	115.8	100.0	15,000	--	24.0	17.50	20.60	7.00	20.25	16.50	20.45	21.11	0.00	20.03	0.00
60 hr	120	5/9/19 0:30	313	116.2	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	17.00	20.45	21.11	0.00	20.04	0.00
62 hr	120	5/9/19 2:30	275	112.7	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.11	0.00	20.04	0.00
64 hr	120	5/9/19 4:30	275	112.7	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.11	0.00	20.04	0.00
66 hr	120	5/9/19 6:30	275	112.7	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.11	0.00	20.04	0.00
68 hr	120	5/9/19 8:30	236	109.2	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.11	0.00	20.04	0.00
70 hr	120	5/9/19 10:30	256	112.2	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.13	0.00	20.04	0.00
72 hr	120	5/9/19 12:30	315	110.0	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.14	0.00	20.06	0.00
74 hr	120	5/9/19 14:30	282	119.7	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.13	0.00	20.05	0.00
76 hr	120	5/9/19 16:30	297	121.0	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.13	0.00	20.05	0.00
78 hr	120	5/9/19 18:30	308	118.6	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.13	0.00	20.05	0.00
80 hr	120	5/9/19 20:30	312	115.2	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	15.00	20.45	21.13	0.00	20.06	0.00
82 hr	120	5/9/19 22:30	291	113.3	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.13	0.00	20.06	0.00
84 hr	120	5/10/19 0:30	298	119.0	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.14	0.00	20.06	0.00
86 hr	120	5/10/19 2:30	261	108.3	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.15	0.00	20.06	0.00
88 hr	120	5/10/19 4:30	261	108.3	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.15	0.00	20.06	0.00
90 hr	120	5/10/19 6:30	261	108.3	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.15	0.00	20.06	0.00
92 hr	120	5/10/19 8:30	224	97.6	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.16	0.00	20.09	0.00
94 hr	120	5/10/19 10:30	326	101.4	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.18	0.00	21.11	0.00
96 hr	120	5/10/19 12:30	333	108.5	100.0	15,000	--	24.0	17.00	20.60	7.00	20.25	16.00	20.45	21.18	0.00	21.11	0.00

**NOTES**  
 \*\* - Off-gas treatment system not in operation at this time interval; pre-treatment value applied in post-treatment emission calculation during this time interval.

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
AIR FLOW CALCULATIONS**

SITE NAME: EFC3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER 19.38  
 DESCRIBE SOIL IN THE SATURATED ZONE: Clayey SILT and Silty SANDS  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): Unknown  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AF: 12175-MW1, 12175-RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in.Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>ws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	11:00								
05/13/19	11:30	24.00	231	3	104.9	61.9	0.03021226064	0.0462	10
05/13/19	12:00	24.00	362	3	117.0	48.1	0.02885000610	0.0442	16
05/13/19	12:30	24.00	351	3	111.6	47.1	0.02783936634	0.0427	15
05/13/19	13:00	24.00	289	3	114.4	45.1	0.02892554059	0.0443	12
05/13/19	13:30	24.00	312	3	116.7	39.8	0.02716835827	0.0417	13
05/13/19	14:00	24.00	247	3	111.4	47.0	0.02761133985	0.0424	11
05/13/19	14:30	24.00	331	3	115.5	48.4	0.03218568599	0.0490	14
05/13/19	15:00	24.00	318	3	116.4	38.1	0.02573197978	0.0396	14
05/13/19	15:30	24.00	336	3	117.5	25.7	0.01768009365	0.0275	15
05/13/19	16:00	24.00	346	3	116.5	44.4	0.03028277107	0.0463	15
05/13/19	16:30	24.00	296	3	107.1	36.0	0.01840492944	0.0286	13
05/13/19	17:00	24.00	317	3	104.7	41.4	0.01976587644	0.0307	14
05/13/19	17:30	24.00	321	3	108.3	51.2	0.02749349946	0.0422	14
05/13/19	18:00	24.00	318	3	105.6	48.7	0.02403522772	0.0371	14
05/13/19	18:30	24.00	324	3	108.5	41.4	0.02217782499	0.0343	14
05/13/19	19:00	24.00	347	3	106.1	42.8	0.02134697067	0.0331	15
05/13/19	20:00	24.00	355	3	112.7	54.3	0.03320621707	0.0505	15
05/13/19	21:00	24.00	321	3	114.8	62.0	0.04096243087	0.0616	14
05/13/19	22:00	24.00	315	3	115.6	57.2	0.03851437929	0.0581	13
05/13/19	23:00	24.00	334	3	109.0	59.0	0.03258683782	0.0496	14
05/14/19	0:00	24.00	313	3	107.3	56.6	0.02961589773	0.0453	14
05/14/19	1:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	2:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	3:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	4:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	5:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	6:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	7:00	24.00	291	3	86.5	77.7	0.02128190587	0.0330	13
05/14/19	8:00	24.00	337	3	65.6	98.7	0.01332098150	0.0209	16
05/14/19	9:00	24.00	318	3	75.9	100.0	0.01934055973	0.0301	15
05/14/19	10:00	24.00	342	3	87.7	98.6	0.02836390859	0.0435	15
05/14/19	11:00	24.00	405	3	97.6	68.1	0.02656050246	0.0408	18
05/14/19	13:00	24.00	348	3	107.1	36.8	0.01882630718	0.0293	15
05/14/19	15:00	24.00	368	3	111.5	48.3	0.02849547385	0.0437	16
05/14/19	17:00	24.00	381	3	106.6	39.3	0.01984453437	0.0308	17
05/14/19	19:00	24.00	424	3	109.2	42.6	0.02333112316	0.0360	19
05/14/19	21:00	24.00	377	3	104.0	48.2	0.02264188492	0.0350	17
05/14/19	23:00	24.00	332	3	111.3	46.1	0.02697853338	0.0414	14
05/15/19	1:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	3:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	5:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	7:00	24.00	287	3	94.7	73.1	0.02841891627	0.0436	13
05/15/19	9:00	24.00	331	3	78.0	100.0	0.02078044143	0.0322	15

05/15/19	11:00	24.00	363	3	103.5	55.5	0.04811229588	0.0716	16
05/15/19	13:00	24.00	350	3	112.5	43.4	0.02625910489	0.0404	15
05/15/19	15:00	24.00	342	3	114.7	38.9	0.02501119093	0.0385	15
05/15/19	17:00	24.00	329	3	111.0	43.7	0.02528810625	0.0389	14
05/15/19	19:00	24.00	351	3	115.6	45.2	0.03004415825	0.0459	15
05/15/19	21:00	24.00	345	3	107.2	50.3	0.02610104258	0.0401	15
05/15/19	23:00	24.00	359	3	113.3	47.2	0.02935848122	0.0449	16
05/16/19	1:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	3:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	5:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	7:00	24.00	373	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	9:00	24.00	355	3	93.3	100.0	0.03460732077	0.0525	16
05/16/19	11:00	24.00	328	3	100.3	55.5	0.02337192721	0.0361	15
05/16/19	13:00	24.00	376	3	118.4	43.4	0.03126944041	0.0477	16
05/16/19	15:00	24.00	353	3	120.8	38.9	0.03805725769	0.0575	15
05/16/19	17:00	24.00	368	3	116.2	43.7	0.02951975557	0.0452	16
05/16/19	19:00	24.00	340	3	107.7	45.2	0.02371196588	0.0366	15
05/16/19	21:00	24.00	377	3	114.1	50.3	0.03214487910	0.0490	16
05/16/19	23:00	24.00	348	3	117.9	47.2	0.03365725545	0.0512	15
05/17/19	1:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	3:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	5:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	7:00	24.00	319	3	101.0	73.3	0.03194204401	0.0487	14
05/17/19	9:00	24.00	329	3	84.1	99.4	0.02537416176	0.0391	15
05/17/19	11:00	24.00	0	3	90.3	88.9	0.02772884470	0.0425	0
<b>Average</b>		<b>24.00</b>	<b>331.24</b>	<b>3.00</b>	<b>103.51</b>	<b>59.90</b>	<b>0.0274</b>	<b>0.04</b>	<b>14.59</b>

#### NOTES

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)

Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)

Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)

Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)

Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping

B<sub>ws</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.

B<sub>ws</sub> = water vapor % by volume

#### EQUATIONS

$$B_{ws} = (B_{ws}/18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{ws}/18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528^\circ\text{R}/(\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC3

AFVR EVENT DATE: 5/13/19-5/17/19

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	10	4,862	4,862	5,097	0.47	2,396	1,195	0.00007	0.05	0.05	0.03
60	16	3,065	3,065	3,207	0.47	1,507	752	0.00005	0.04	0.05	0.03
90	15	2,098	2,098	2,192	0.47	1,030	514	0.00003	0.03	0.03	0.02
120	12	1,957	1,957	2,048	0.47	962	480	0.00003	0.02	0.03	0.01
150	13	1,884	1,884	1,966	0.47	924	461	0.00003	0.02	0.03	0.01
180	11	1,781	1,781	1,860	0.47	874	436	0.00003	0.02	0.02	0.01
210	14	1,829	1,829	1,923	0.47	904	451	0.00003	0.02	0.03	0.01
240	14	1,714	1,714	1,785	0.47	839	419	0.00003	0.02	0.03	0.01
270	15	1,527	1,527	1,570	0.47	738	368	0.00002	0.02	0.02	0.01
300	15	1,542	1,542	1,617	0.47	760	379	0.00002	0.02	0.02	0.01
330	13	852	852	877	0.47	412	206	0.00001	0.01	0.01	0.01
360	14	1,341	1,341	1,383	0.47	650	324	0.00002	0.02	0.02	0.01
390	14	1,023	1,023	1,068	0.47	502	250	0.00002	0.01	0.02	0.01
420	14	3,538	3,538	3,674	0.47	1,727	862	0.00005	0.05	0.05	0.03
450	14	6,744	6,744	6,984	0.47	3,282	1,638	0.00010	0.09	0.10	0.05
480	15	15,000	15,000	15,513	0.47	7,291	3,638	0.00023	0.21	0.25	0.12
540	15	15,000	15,000	15,798	0.47	7,425	3,705	0.00023	0.21	0.25	0.25
600	14	15,000	15,000	15,984	0.47	7,513	3,749	0.00023	0.19	0.23	0.23
660	13	15,000	15,000	15,926	0.47	7,485	3,735	0.00023	0.19	0.22	0.22
720	14	15,000	15,000	15,783	0.47	7,418	3,701	0.00023	0.20	0.24	0.24
780	14	15,000	15,000	15,712	0.47	7,385	3,685	0.00023	0.19	0.22	0.22
840	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
900	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
960	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1020	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1080	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1140	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1200	13	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.18	0.22	0.22
1260	16	15,000	15,000	15,320	0.47	7,200	3,593	0.00022	0.22	0.26	0.26
1320	15	15,000	15,000	15,465	0.47	7,268	3,627	0.00023	0.20	0.24	0.24
1380	15	15,000	15,000	15,682	0.47	7,370	3,678	0.00023	0.21	0.25	0.25
1440	18	15,000	15,000	15,638	0.47	7,350	3,667	0.00023	0.25	0.29	0.29
1560	15	15,000	15,000	15,452	0.47	7,263	3,624	0.00023	0.21	0.25	0.50
1680	16	12,747	12,747	13,329	0.47	6,265	3,126	0.00020	0.19	0.22	0.44
1800	17	15,000	15,000	15,477	0.47	7,274	3,630	0.00023	0.23	0.27	0.54
1920	19	15,000	15,000	15,561	0.47	7,314	3,649	0.00023	0.25	0.30	0.60
2040	17	15,000	15,000	15,544	0.47	7,306	3,645	0.00023	0.23	0.27	0.54
2160	14	15,000	15,000	15,648	0.47	7,355	3,670	0.00023	0.20	0.24	0.47
2280	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2400	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2520	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2640	13	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.18	0.21	0.42
2760	15	15,000	15,000	15,499	0.47	7,285	3,635	0.00023	0.21	0.25	0.50
2880	16	15,000	15,000	16,156	0.47	7,593	3,789	0.00024	0.22	0.26	0.52
3000	15	15,000	15,000	15,631	0.47	7,347	3,666	0.00023	0.21	0.25	0.49
3120	15	15,000	15,000	15,601	0.47	7,333	3,659	0.00023	0.20	0.24	0.48
3240	14	15,000	15,000	15,608	0.47	7,336	3,660	0.00023	0.20	0.23	0.47

3360	15	15,000	15,000	15,722	0.47	7,389	3,687	0.00023	0.21	0.25	0.49
3480	15	15,000	15,000	15,627	0.47	7,345	3,665	0.00023	0.21	0.25	0.49
3600	16	15,000	15,000	15,706	0.47	7,382	3,683	0.00023	0.21	0.25	0.51
3720	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
3840	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
3960	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
4080	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.23	0.27	0.54
4200	16	15,000	15,000	15,832	0.47	7,441	3,713	0.00023	0.22	0.26	0.52
4320	15	15,000	15,000	15,562	0.47	7,314	3,649	0.00023	0.20	0.24	0.47
4440	16	15,000	15,000	15,752	0.47	7,403	3,694	0.00023	0.22	0.26	0.53
4560	15	15,000	15,000	15,915	0.47	7,480	3,732	0.00023	0.21	0.25	0.49
4680	16	15,000	15,000	15,709	0.47	7,383	3,684	0.00023	0.22	0.26	0.52
4800	15	15,000	15,000	15,570	0.47	7,318	3,651	0.00023	0.20	0.24	0.48
4920	16	15,000	15,000	15,773	0.47	7,413	3,699	0.00023	0.22	0.27	0.53
5040	15	15,000	15,000	15,809	0.47	7,430	3,707	0.00023	0.21	0.24	0.49
5160	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5280	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5400	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5520	14	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.19	0.23	0.46
5640	15	15,000	15,000	15,610	0.47	7,337	3,661	0.00023	0.21	0.24	0.49
5760	0	15,000	15,000	15,666	0.47	7,363	3,674	0.00023	0.00	0.00	0.00
<b>Average</b>	<b>15</b>	<b>12184</b>	<b>12184</b>	<b>12727</b>	<b>0.47</b>	<b>5982</b>	<b>2985</b>	<b>0.00019</b>	<b>0.17</b>	<b>0.20</b>	<b>0.32</b>

Total Pretreatment emissions in pounds: 21.69

Total Pretreatment emissions in gallons: 3.61

#### NOTES

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)

100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)

PPM<sub>wet</sub> = "wet" concentration

PPM<sub>dry</sub> = "dry" concentration

CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.

K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)

PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP

C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon

M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon

K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP

C<sub>c</sub> = lb/dcsf, mass concentration of VOC emissions as carbon, dry basis at STP

PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon

PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline

PMR = lb, pollutant mass removal of VOC's as gasoline

#### EQUATIONS

$$PPM_{wet} = PPM_{measured}$$

$$PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$$

$$PPM_c = (PPM_d)(K)$$

$$C_{c,m} = (PPM_c)(M_c / K_3)$$

$$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

$$PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$$

$$PMR_g = (PMR_c)(M_g/M_{cg})$$

$$PMR = (PMR_g)(\#minutes/60)$$



**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
BEFORE AND AFTER DATA**

Project Name: EFC3 UST Permit No: 12175  
 Project No: EFC3003 ATC Field Rep. 1: H Wells  
 Start Date: 5/13/2019 ATC Field Rep. 2: A Rubenstein  
 End Date: 5/17/2019

AFVR Measurements Prior to and After Event

**Measurements Prior to AFVR Event**

Blower Model Dekker Vmax 3030  
 Water Tank Storage Capacity: 9,000 gallons Zebra ( T-2)  
 Inside Diameter of Blower Outlet Stack 3.068 inches  
 Is Tank Empty & Clean (Y/N) Y

**Measurements Before AFVR Event 5/13/2019**

Tanker Product volume 0 gallons  
 Tanker Water volume 0 gallons  
 Transfer Pump Flow Meter NA gallons

**Measurements After AFVR Event 5/17/2019**

Tanker Product volume 0 gallons  
 Tanker Water volume 3,271 gallons  
 Transfer Pump Flow Meter NA gallons

Well ID	Prior to AFVR -		Immediately Post AFVR		20-min Post AFVR	
	Depth to Product	Depth to Water	Depth to Product	Depth to Water	Depth to Product	Depth to Water
12175 MW1	16.73	20.11	NP	19.85	NP	19.50
12175 RW1	16.55	18.89	NP	18.99	NP	19.10
12175 MW3	NP	19.57	NP	19.93	NP	19.91
12175 MW6	NP	18.98	NP	19.49	NP	19.46

NP denotes no measurable free product.

NM denotes not measured.

ave dtw 19.3875

Project EFC3  
 Project EFC3003  
 Date: 5/13/19-5/17/19

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**AFVR EVENT FIELD DATA SHEETS**

UST Permit No: 12175  
 ATC Field Rep. 1: H Wells  
 ATC Field Rep. 2: A Rubenstein

Elapsed Time (Hours)	Reading Interval (Mins)	Measurements During 96-hr AFVR Event																
		Date & Time	Air Flow (fpm)	Temperature (°F)	R.H. (%)	PID (ppm)		Blower Vacuum (in.Hg)	AFVR Wells				Non-AFVR Wells					
						Pre-Treatment	Post-Treatment		12175 MW1		12175 RW1		12175 MW3		12175 MW6			
							Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	Vacuum (in.Hg)	Stinger Depth (ft.)	DTW (ft)	Vacuum (in.wc)	DTW (ft)	Vacuum (in.wc)		
		5/13/19 11:00 AM	← Start time															
1 hr	30	5/13/19 11:30	231	104.9	61.9	4,862	-	24.0			8.00	16.73	13.50	16.55	19.57	0.00	18.98	0.00
	30	5/13/19 12:00	362	117.0	48.1	3,065	-	24.0			8.00	17.23	12.00	17.05	19.57	0.00	18.89	0.00
2 hr	30	5/13/19 12:30	351	111.6	47.1	2,098	-	24.0			8.00	17.73	13.00	17.55	19.57	0.00	18.89	0.00
	30	5/13/19 13:00	289	114.4	45.1	1,957	-	24.0			8.00	18.23	13.00	18.05	19.56	0.00	19.06	0.00
3 hr	30	5/13/19 13:30	312	116.7	39.8	1,884	-	24.0			8.00	18.73	13.00	18.55	19.56	0.00	19.06	0.00
	30	5/13/19 14:00	247	111.4	47.0	1,781	-	24.0			8.00	19.23	13.00	19.05	19.56	0.00	19.06	0.00
4 hr	30	5/13/19 14:30	331	115.5	48.4	1,829	-	24.0			7.50	19.73	13.00	19.55	19.56	0.00	19.06	0.00
	30	5/13/19 15:00	318	116.4	38.1	1,714	-	24.0			7.50	20.23	13.00	20.00	19.58	0.00	19.17	0.00
5 hr	30	5/13/19 15:30	336	117.5	26.7	1,527	-	24.0			7.50	20.73	13.00	20.00	19.58	0.00	19.17	0.00
	30	5/13/19 16:00	302	116.5	44.4	1,542	-	24.0			7.00	21.23	13.00	20.00	19.58	0.00	19.17	0.00
6 hr	30	5/13/19 16:30	346	107.1	36.0	852	-	24.0			7.00	21.73	13.00	20.00	19.58	0.00	19.17	0.00
	30	5/13/19 17:00	296	104.7	41.4	1,341	-	24.0			7.00	22.23	13.00	20.00	19.60	0.00	19.20	0.00
7 hr	30	5/13/19 17:30	317	108.3	51.2	1,023	-	24.0			7.00	22.73	13.00	20.00	19.60	0.00	19.20	0.00
	30	5/13/19 18:00	321	105.6	48.7	3,538	-	24.0			7.00	23.23	13.00	20.00	19.60	0.00	19.20	0.00
8 hr	30	5/13/19 18:30	318	108.5	41.4	6,744	-	24.0			7.00	23.73	13.00	20.00	19.60	0.00	19.20	0.00
	30	5/13/19 19:00	324	106.1	42.8	15,000	-	24.0			7.00	24.23	13.00	20.00	19.65	0.00	19.23	0.00
9 hr	60	5/13/19 20:00	347	112.7	54.3	15,000	-	24.0			7.00	25.23	13.00	20.00	19.65	0.00	19.23	0.00
	60	5/13/19 21:00	355	114.8	62.0	15,000	-	24.0			7.00	26.00	13.00	20.00	19.67	0.00	19.25	0.00
11 hr	60	5/13/19 22:00	321	115.6	57.2	15,000	-	24.0			7.00	26.00	13.00	20.00	19.67	0.00	19.25	0.00
	60	5/13/19 23:00	315	109.0	59.0	15,000	-	24.0			7.00	26.00	13.00	20.00	19.68	0.00	19.25	0.00
13 hr	60	5/14/19 0:00	334	107.3	56.6	15,000	-	24.0			7.00	26.00	13.00	20.00	19.68	0.00	19.25	0.00
	60	5/14/19 1:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
15 hr	60	5/14/19 2:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
	60	5/14/19 3:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
17 hr	60	5/14/19 4:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
	60	5/14/19 5:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
19 hr	60	5/14/19 6:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
	60	5/14/19 7:00	313	86.5	77.7	15,000	-	24.0			7.00	26.00	12.50	20.00	19.68	0.00	19.25	0.00
21 hr	60	5/14/19 8:00	291	65.6	98.7	15,000	-	24.0			7.00	26.00	12.00	20.00	19.68	0.00	19.25	0.00
	60	5/14/19 9:00	337	75.9	100.0	15,000	-	24.0			7.00	26.00	13.00	20.00	19.71	0.00	19.18	0.00
23 hr	60	5/14/19 10:00	318	87.7	98.6	15,000	-	24.0			7.00	26.00	13.00	20.00	19.71	0.00	19.18	0.00
	60	5/14/19 11:00	342	97.6	68.1	15,000	-	24.0			7.00	26.00	13.00	20.00	19.73	0.00	19.28	0.00
26 hr	120	5/14/19 13:00	405	107.1	36.8	15,000	-	24.0			7.00	26.00	13.00	20.00	19.72	0.00	19.37	0.00
	120	5/14/19 15:00	348	111.5	48.3	12,747	-	24.0			7.00	26.00	13.00	20.00	19.72	0.00	19.38	0.00
30 hr	120	5/14/19 17:00	368	106.6	39.3	15,000	-	24.0			7.00	26.00	13.00	20.00	19.73	0.00	19.37	0.00

32 hr	120	5/14/19 19:00	381	109.2	42.6	15,000	-	24.0			7.00	26.00	13.00	20.00	19.75	0.00	19.40	0.00
34 hr	120	5/14/19 21:00	424	104.0	48.2	15,000	-	24.0			7.00	26.00	13.00	20.00	19.79	0.00	19.45	0.00
36 hr	120	5/14/19 23:00	377	111.3	46.1	15,000	-	24.0			7.00	26.00	13.00	20.00	19.81	0.00	19.48	0.00
38 hr	120	5/15/19 1:00	332	94.7	73.1	15,000		24.0			7.25	26.00	13.50	20.00	19.81	0.00	19.48	0.00
40 hr	120	5/15/19 3:00	332	94.7	73.1	15,000		24.0			7.25	26.00	13.50	20.00	19.81	0.00	19.48	0.00
42 hr	120	5/15/19 5:00	332	94.7	73.1	15,000		24.0			7.25	26.00	13.50	20.00	19.81	0.00	19.48	0.00
44 hr	120	5/15/19 7:00	332	94.7	73.1	15,000		24.0			7.25	26.00	13.50	20.00	19.81	0.00	19.48	0.00
46 hr	120	5/15/19 9:00	287	78.0	100	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.52	0.00
48 hr	120	5/15/19 11:00	331	103.5	53.6	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.56	0.00
50 hr	120	5/15/19 13:00	363	112.5	48.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.85	0.00	19.55	0.00
52 hr	120	5/15/19 15:00	350	114.7	43.7	15,000	-	24.0			7.50	26.00	14.00	20.00	19.86	0.00	19.56	0.00
54 hr	120	5/15/19 17:00	342	111.0	50.7	15,000	-	24.0			7.50	26.00	14.00	20.00	19.85	0.00	19.52	0.00
56 hr	120	5/15/19 19:00	329	115.6	52.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.85	0.00	19.53	0.00
58 hr	120	5/15/19 21:00	351	107.2	48.7	15,000	-	24.0			7.50	26.00	14.00	20.00	19.86	0.00	19.55	0.00
60 hr	120	5/15/19 23:00	345	113.3	42.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.57	0.00
62 hr	120	5/16/19 1:00	359	103.3	71.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.57	0.00
64 hr	120	5/16/19 3:00	359	103.3	71.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.57	0.00
66 hr	120	5/16/19 5:00	359	103.3	71.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.57	0.00
68 hr	120	5/16/19 7:00	359	103.3	71.1	15,000	-	24.0			7.50	26.00	14.00	20.00	19.87	0.00	19.57	0.00
70 hr	120	5/16/19 9:00	373	93.3	100.0	15,000	-	24.0			7.50	26.00	14.00	20.00	19.91	0.00	19.58	0.00
72 hr	120	5/16/19 11:00	355	100.3	55.5	15,000	-	24.0			7.50	26.00	14.00	20.00	19.91	0.00	19.60	0.00
74 hr	120	5/16/19 13:00	328	118.4	43.4	15,000	-	24.0			7.50	26.00	14.00	20.00	19.90	0.00	19.60	0.00
76 hr	120	5/16/19 15:00	376	120.8	38.9	15,000	-	24.0			7.50	26.00	14.00	20.00	19.90	0.00	19.60	0.00
78 hr	120	5/16/19 17:00	353	116.2	43.7	15,000	-	24.0			7.50	26.00	14.00	20.00	19.90	0.00	19.60	0.00
80 hr	120	5/16/19 19:00	368	107.7	45.2	15,000	-	24.0			7.50	26.00	14.00	20.00	19.90	0.00	19.59	0.00
82 hr	120	5/16/19 21:00	340	114.1	50.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.91	0.00	19.60	0.00
84 hr	120	5/16/19 23:00	377	117.9	47.2	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.60	0.00
86 hr	120	5/17/19 1:00	348	101.0	73.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.60	0.00
88 hr	120	5/17/19 3:00	348	101.0	73.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.60	0.00
90 hr	120	5/17/19 5:00	348	101.0	73.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.60	0.00
92 hr	120	5/17/19 7:00	348	101.0	73.3	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.60	0.00
94 hr	120	5/17/19 9:00	319	84.1	99.4	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.51	0.00
96 hr	120	5/17/19 11:00	329	90.3	88.9	15,000	-	24.0			7.50	26.00	14.00	20.00	19.93	0.00	19.49	0.00

**NOTES**

\*\* = Off-gas treatment system not in operation at this time interval; pre-treatment value applied in post-treatment emission calculation during this time interval.

**APPENDIX L  
AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA  
AIR FLOW CALCULATIONS**

SITE NAME: EFC3  
 UST PERMIT NUMBER: 12175  
 AVERAGE DEPTH TO GROUNDWATER 19.38  
 DESCRIBE SOIL IN THE SATURATED ZONE: Clayey SILT and Silty SANDS  
 INDICATE AVERAGE HYDRAULIC CONDUCTIVITY (if known): Unknown  
 IDENTIFY THE WELL AND THE I.D. OF EACH WELL USED FOR AF: 12175-MW1, 12175-RW1  
 PROVIDE BLOWER SPECIFICATIONS OF THE VACUUM PUMP (cfm @ in.Hg): 275cfm @ 25 in.Hg

**AIR FLOW CALCULATIONS**

Date	Time	Vacuum (in.Hg)	Velocity (ft/min)	Pipe ID (in)	Temp (°F)	Relative Humidity	B <sub>sws</sub> (Wt/Wt)	B <sub>ws</sub> (vol/vol)	Q <sub>std</sub> (DSCFM)
Start	11:00								
05/13/19	11:30	24.00	231	3	104.9	61.9	0.03021226064	0.0462	10
05/13/19	12:00	24.00	362	3	117.0	48.1	0.02885000610	0.0442	16
05/13/19	12:30	24.00	351	3	111.6	47.1	0.02783936634	0.0427	15
05/13/19	13:00	24.00	289	3	114.4	45.1	0.02892554059	0.0443	12
05/13/19	13:30	24.00	312	3	116.7	39.8	0.02716835827	0.0417	13
05/13/19	14:00	24.00	247	3	111.4	47.0	0.02761133985	0.0424	11
05/13/19	14:30	24.00	331	3	115.5	48.4	0.03218568599	0.0490	14
05/13/19	15:00	24.00	318	3	116.4	38.1	0.02573197978	0.0396	14
05/13/19	15:30	24.00	336	3	117.5	25.7	0.01768009365	0.0275	15
05/13/19	16:00	24.00	346	3	116.5	44.4	0.03028277107	0.0463	15
05/13/19	16:30	24.00	296	3	107.1	36.0	0.01840492944	0.0286	13
05/13/19	17:00	24.00	317	3	104.7	41.4	0.01976587644	0.0307	14
05/13/19	17:30	24.00	321	3	108.3	51.2	0.02749349946	0.0422	14
05/13/19	18:00	24.00	318	3	105.6	48.7	0.02403522772	0.0371	14
05/13/19	18:30	24.00	324	3	108.5	41.4	0.02217782499	0.0343	14
05/13/19	19:00	24.00	347	3	106.1	42.8	0.02134697067	0.0331	15
05/13/19	20:00	24.00	355	3	112.7	54.3	0.03320621707	0.0505	15
05/13/19	21:00	24.00	321	3	114.8	62.0	0.04096243087	0.0616	14
05/13/19	22:00	24.00	315	3	115.6	57.2	0.03851437929	0.0581	13
05/13/19	23:00	24.00	334	3	109.0	59.0	0.03258683782	0.0496	14
05/14/19	0:00	24.00	313	3	107.3	56.6	0.02961589773	0.0453	14
05/14/19	1:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	2:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	3:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	4:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	5:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	6:00	24.00	313	3	86.5	77.7	0.02128190587	0.0330	14
05/14/19	7:00	24.00	291	3	86.5	77.7	0.02128190587	0.0330	13
05/14/19	8:00	24.00	337	3	65.6	98.7	0.01332098150	0.0209	16
05/14/19	9:00	24.00	318	3	75.9	100.0	0.01934055973	0.0301	15
05/14/19	10:00	24.00	342	3	87.7	98.6	0.02836390859	0.0435	15
05/14/19	11:00	24.00	405	3	97.6	68.1	0.02656050246	0.0408	18
05/14/19	13:00	24.00	348	3	107.1	36.8	0.01882630718	0.0293	15
05/14/19	15:00	24.00	368	3	111.5	48.3	0.02849547385	0.0437	16
05/14/19	17:00	24.00	381	3	106.6	39.3	0.01984453437	0.0308	17
05/14/19	19:00	24.00	424	3	109.2	42.6	0.02333112316	0.0360	19
05/14/19	21:00	24.00	377	3	104.0	48.2	0.02264188492	0.0350	17
05/14/19	23:00	24.00	332	3	111.3	46.1	0.02697853338	0.0414	14
05/15/19	1:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	3:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	5:00	24.00	332	3	94.7	73.1	0.02841891627	0.0436	15
05/15/19	7:00	24.00	287	3	94.7	73.1	0.02841891627	0.0436	13
05/15/19	9:00	24.00	331	3	78.0	100.0	0.02078044143	0.0322	15

05/15/19	11:00	24.00	363	3	103.5	55.5	0.04811229588	0.0716	16
05/15/19	13:00	24.00	350	3	112.5	43.4	0.02625910489	0.0404	15
05/15/19	15:00	24.00	342	3	114.7	38.9	0.02501119093	0.0385	15
05/15/19	17:00	24.00	329	3	111.0	43.7	0.02528810625	0.0389	14
05/15/19	19:00	24.00	351	3	115.6	45.2	0.03004415825	0.0459	15
05/15/19	21:00	24.00	345	3	107.2	50.3	0.02610104258	0.0401	15
05/15/19	23:00	24.00	359	3	113.3	47.2	0.02935848122	0.0449	16
05/16/19	1:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	3:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	5:00	24.00	359	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	7:00	24.00	373	3	103.3	71.1	0.03325116264	0.0506	16
05/16/19	9:00	24.00	355	3	93.3	100.0	0.03460732077	0.0525	16
05/16/19	11:00	24.00	328	3	100.3	55.5	0.02337192721	0.0361	15
05/16/19	13:00	24.00	376	3	118.4	43.4	0.03126944041	0.0477	16
05/16/19	15:00	24.00	353	3	120.8	38.9	0.03805725769	0.0575	15
05/16/19	17:00	24.00	368	3	116.2	43.7	0.02951975557	0.0452	16
05/16/19	19:00	24.00	340	3	107.7	45.2	0.02371196588	0.0366	15
05/16/19	21:00	24.00	377	3	114.1	50.3	0.03214487910	0.0490	16
05/16/19	23:00	24.00	348	3	117.9	47.2	0.03365725545	0.0512	15
05/17/19	1:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	3:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	5:00	24.00	348	3	101.0	73.3	0.03194204401	0.0487	15
05/17/19	7:00	24.00	319	3	101.0	73.3	0.03194204401	0.0487	14
05/17/19	9:00	24.00	329	3	84.1	99.4	0.02537416176	0.0391	15
05/17/19	11:00	24.00	0	3	90.3	88.9	0.02772884470	0.0425	0
<b>Average</b>		<b>24.00</b>	<b>331.24</b>	<b>3.00</b>	<b>103.51</b>	<b>59.90</b>	<b>0.0274</b>	<b>0.04</b>	<b>14.59</b>

#### NOTES

Qstd = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

Vacuum = The level of vacuum being applied recorded from the liquid ring pump inlet in inches of Mercury (in.Hg)

Velocity = The rate at which air flows is measured at the blower discharge piping in feet per minute (fpm)

Pipe ID = The inside diameter of the blower discharge piping (from the vacuum pump) in inches (in)

Temperature = air stream temp exiting the blower discharge piping (dry bulb temp) in degrees Fahrenheit (°F)

Relative humidity = The % relative humidity of the air stream exiting the blower discharge piping

B<sub>ws</sub> = water vapor % by weight, i.e., pounds of water per pound of dry air, derived from the Psychrometric chart (temp Vs relative humidity) based on an elevation of 458 feet above sea level.

B<sub>ws</sub> = water vapor % by volume

#### EQUATIONS

$$B_{ws} = (B_{ws}/18 \text{ lb-mole H}_2\text{O}) / [(1/28.84 \text{ lb-mole dry air}) + (B_{ws}/18 \text{ lb-mole H}_2\text{O})]$$

$$Q_{std} = (1 - \text{Water Vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528^\circ\text{R}/(\text{Temp} + 460))$$

**APPENDIX L**  
**AGGRESSIVE FLUID VAPOR RECOVERY EVENT DATA**  
**PRE-TREATMENT EMISSION CALCULATIONS**

SITE NAME: EFC3

AFVR EVENT DATE: 5/13/19-5/17/19

Elapsed Time (min)	Flow (DSCFM)	PPM <sub>measured</sub> (ppm)	PPM <sub>wet</sub> (ppm)	PPM <sub>dry</sub> (ppm)	CF	PPM <sub>conc</sub> (ppm)	C <sub>c:m</sub> (mg/dsm <sup>3</sup> )	C <sub>c</sub> (lb/dscf)	PMR <sub>c</sub> (lb/hr)	PMR <sub>g</sub> (lb/hr)	PMR (lb)
0	--	--	--	--	--	--	--	--	--	--	
30	10	4,862	4,862	5,097	0.47	2,396	1,195	0.00007	0.05	0.05	0.03
60	16	3,065	3,065	3,207	0.47	1,507	752	0.00005	0.04	0.05	0.03
90	15	2,098	2,098	2,192	0.47	1,030	514	0.00003	0.03	0.03	0.02
120	12	1,957	1,957	2,048	0.47	962	480	0.00003	0.02	0.03	0.01
150	13	1,884	1,884	1,966	0.47	924	461	0.00003	0.02	0.03	0.01
180	11	1,781	1,781	1,860	0.47	874	436	0.00003	0.02	0.02	0.01
210	14	1,829	1,829	1,923	0.47	904	451	0.00003	0.02	0.03	0.01
240	14	1,714	1,714	1,785	0.47	839	419	0.00003	0.02	0.03	0.01
270	15	1,527	1,527	1,570	0.47	738	368	0.00002	0.02	0.02	0.01
300	15	1,542	1,542	1,617	0.47	760	379	0.00002	0.02	0.02	0.01
330	13	852	852	877	0.47	412	206	0.00001	0.01	0.01	0.01
360	14	1,341	1,341	1,383	0.47	650	324	0.00002	0.02	0.02	0.01
390	14	1,023	1,023	1,068	0.47	502	250	0.00002	0.01	0.02	0.01
420	14	3,538	3,538	3,674	0.47	1,727	862	0.00005	0.05	0.05	0.03
450	14	6,744	6,744	6,984	0.47	3,282	1,638	0.00010	0.09	0.10	0.05
480	15	15,000	15,000	15,513	0.47	7,291	3,638	0.00023	0.21	0.25	0.12
540	15	15,000	15,000	15,798	0.47	7,425	3,705	0.00023	0.21	0.25	0.25
600	14	15,000	15,000	15,984	0.47	7,513	3,749	0.00023	0.19	0.23	0.23
660	13	15,000	15,000	15,926	0.47	7,485	3,735	0.00023	0.19	0.22	0.22
720	14	15,000	15,000	15,783	0.47	7,418	3,701	0.00023	0.20	0.24	0.24
780	14	15,000	15,000	15,712	0.47	7,385	3,685	0.00023	0.19	0.22	0.22
840	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
900	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
960	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1020	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1080	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1140	14	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.20	0.23	0.23
1200	13	15,000	15,000	15,511	0.47	7,290	3,638	0.00023	0.18	0.22	0.22
1260	16	15,000	15,000	15,320	0.47	7,200	3,593	0.00022	0.22	0.26	0.26
1320	15	15,000	15,000	15,465	0.47	7,268	3,627	0.00023	0.20	0.24	0.24
1380	15	15,000	15,000	15,682	0.47	7,370	3,678	0.00023	0.21	0.25	0.25
1440	18	15,000	15,000	15,638	0.47	7,350	3,667	0.00023	0.25	0.29	0.29
1560	15	15,000	15,000	15,452	0.47	7,263	3,624	0.00023	0.21	0.25	0.50
1680	16	12,747	12,747	13,329	0.47	6,265	3,126	0.00020	0.19	0.22	0.44
1800	17	15,000	15,000	15,477	0.47	7,274	3,630	0.00023	0.23	0.27	0.54
1920	19	15,000	15,000	15,561	0.47	7,314	3,649	0.00023	0.25	0.30	0.60
2040	17	15,000	15,000	15,544	0.47	7,306	3,645	0.00023	0.23	0.27	0.54
2160	14	15,000	15,000	15,648	0.47	7,355	3,670	0.00023	0.20	0.24	0.47
2280	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2400	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2520	15	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.20	0.24	0.48
2640	13	15,000	15,000	15,683	0.47	7,371	3,678	0.00023	0.18	0.21	0.42
2760	15	15,000	15,000	15,499	0.47	7,285	3,635	0.00023	0.21	0.25	0.50
2880	16	15,000	15,000	16,156	0.47	7,593	3,789	0.00024	0.22	0.26	0.52
3000	15	15,000	15,000	15,631	0.47	7,347	3,666	0.00023	0.21	0.25	0.49
3120	15	15,000	15,000	15,601	0.47	7,333	3,659	0.00023	0.20	0.24	0.48
3240	14	15,000	15,000	15,608	0.47	7,336	3,660	0.00023	0.20	0.23	0.47

3360	15	15,000	15,000	15,722	0.47	7,389	3,687	0.00023	0.21	0.25	0.49
3480	15	15,000	15,000	15,627	0.47	7,345	3,665	0.00023	0.21	0.25	0.49
3600	16	15,000	15,000	15,706	0.47	7,382	3,683	0.00023	0.21	0.25	0.51
3720	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
3840	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
3960	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.22	0.26	0.52
4080	16	15,000	15,000	15,799	0.47	7,426	3,705	0.00023	0.23	0.27	0.54
4200	16	15,000	15,000	15,832	0.47	7,441	3,713	0.00023	0.22	0.26	0.52
4320	15	15,000	15,000	15,562	0.47	7,314	3,649	0.00023	0.20	0.24	0.47
4440	16	15,000	15,000	15,752	0.47	7,403	3,694	0.00023	0.22	0.26	0.53
4560	15	15,000	15,000	15,915	0.47	7,480	3,732	0.00023	0.21	0.25	0.49
4680	16	15,000	15,000	15,709	0.47	7,383	3,684	0.00023	0.22	0.26	0.52
4800	15	15,000	15,000	15,570	0.47	7,318	3,651	0.00023	0.20	0.24	0.48
4920	16	15,000	15,000	15,773	0.47	7,413	3,699	0.00023	0.22	0.27	0.53
5040	15	15,000	15,000	15,809	0.47	7,430	3,707	0.00023	0.21	0.24	0.49
5160	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5280	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5400	15	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.21	0.25	0.50
5520	14	15,000	15,000	15,768	0.47	7,411	3,698	0.00023	0.19	0.23	0.46
5640	15	15,000	15,000	15,610	0.47	7,337	3,661	0.00023	0.21	0.24	0.49
5760	0	15,000	15,000	15,666	0.47	7,363	3,674	0.00023	0.00	0.00	0.00
<b>Average</b>	<b>15</b>	<b>12184</b>	<b>12184</b>	<b>12727</b>	<b>0.47</b>	<b>5982</b>	<b>2985</b>	<b>0.00019</b>	<b>0.17</b>	<b>0.20</b>	<b>0.32</b>

Total Pretreatment emissions in pounds: 21.69

Total Pretreatment emissions in gallons: 3.61

#### NOTES

PPM<sub>measured</sub> = Actual measurements taken with TLV at the blower discharge piping in Parts Per Million (ppm)

100,000 ppm applied in calculation where TLV measurement was greater than 100,000 ppm (when applicable)

PPM<sub>wet</sub> = "wet" concentration

PPM<sub>dry</sub> = "dry" concentration

CF (Correction Factor) = Multiplying factor for converting ppm meter readings of isobutylene-calibrated PID instruments to ppm concentrations of other gases: 0.47 for benzene; 0.45 for toluene; 0.45 for o-xylene. Multiplying factor obtained from Technical Note TN-106, RAE Systems, 01/12/2016 for 10.6eV lamp.

K = Number of carbons in calibration gas: (Methane K = 1, or Propane K = 3, or Hexane K = 6)

PPM<sub>c</sub> = PPM<sub>v</sub>, Volumetric concentration of VOC emissions as carbon, dry basis at STP

C<sub>c,m</sub> = mg/dsm<sup>3</sup>, mass concentration of VOC emissions as carbon

M<sub>c</sub> = 12.01 mg/mg-mole, molecular weight of carbon

K<sub>3</sub> = 24.07 dsm<sup>3</sup>/10<sup>6</sup> mg-mole, mass to volume conversion factor at STP

C<sub>c</sub> = lb/dcsf, mass concentration of VOC emissions as carbon, dry basis at STP

PMR<sub>c</sub> = lb/hr, pollutant mass removal rate of VOC's as carbon

PMR<sub>g</sub> = lb/hr, pollutant mass removal rate of of VOC's as gasoline

PMR = lb, pollutant mass removal of VOC's as gasoline

#### EQUATIONS

$$PPM_{wet} = PPM_{measured}$$

$$PPM_{dry} = (PPM_{wet}) / (1 - B_{ws})$$

$$PPM_c = (PPM_d)(K)$$

$$C_{c,m} = (PPM_c)(M_c / K_3)$$

$$C_c = (C_{c,m})(62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

$$PMR_c = (C_c)(Q_{std})(60 \text{ min/hr})$$

$$PMR_g = (PMR_c)(M_g/M_{cg})$$

$$PMR = (PMR_g)(\#minutes/60)$$





Healthy People. Healthy Communities.



EDGEFIELD FUEL & CONVENIENCE LLC  
107 1/2 COURTHOUSE SQ  
EDGEFIELD SC 29824

OCT 05 2020

Re: **Site-Specific Work Plan Request for Groundwater Sampling**  
Split Stop 311, 311 Main St, Edgefield, SC  
UST Permit #12175  
Release reported December 31, 2008  
Assessment Report received June 14, 2019  
Edgefield County

To Whom it May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the soil and groundwater above Risk-Based Screening Levels.

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations R.61-92, implementation of groundwater sampling is necessary. The groundwater sampling must be conducted in accordance with the most recent revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and in compliance with all applicable regulations. A copy of the UST QAPP is available at [SCDHEC.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance](http://SCDHEC.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance).

Groundwater samples should be collected from all monitoring wells associated with this release along with all water supply wells and surface waters within a 1,000 foot radius of the site. Samples should be analyzed for BTEX, Naphthalene, MTBE, 1,2-DCA, the 8 oxygenates, and EDB. All wells should be purged prior to sampling.

**Your contractor must complete the SSWP and submit it within 30 days from the date of this letter.** Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from DHEC must be issued before work begins.**

On all correspondence concerning this site, please reference UST Permit #12175. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0586, by fax at (803) 898-0673, or by e-mail at [hippsc@dhec.sc.gov](mailto:hippsc@dhec.sc.gov).

Sincerely,

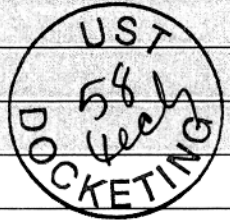
Sawyer Hipp, Hydrogeologist  
Corrective Action & Quality Assurance Section  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

cc: ATC Group Services LLC., 7606 Whitehall Exe. Ctr. Dr., STE 800, Charlotte, NC 28273  
Technical file



## Underground Storage Tank Management Division Tank Owner Information Form

Facility Name: SPLIT STOP 311	Permit ID: 12175	Release Date(s): 12/31/08
Facility Address: 311 MAIN ST		
City: EDGEFIELD	South Carolina	Zip Code: 29824-1325
Tank Owner Name: EDGEFIELD FUEL & CONVENIENCE LLC		
Mailing Address: 107 1/2 COURTHOUSE SQ		
City: EDGEFIELD	State: SC	Zip Code: 29824-1373
Name of Tank Owner (or Authorized Agent if Owner is a Business Entity) (print):		
Signature:		Date:
If you are a sole proprietor as the tank owner and choose to not to have any agents, please initial _____, identifying you are the only person authorized to sign invoices and/or select a certified site rehabilitation contractor for the referenced release(s).		
I certify that the agents identified below are <b>authorized to select a certified site rehabilitation contractor and/or sign invoices</b> on behalf of the tank owner for compensation from SUPERB Account for site rehabilitation activities conducted under the UST release(s) referenced above; print name, affiliation with tank owner, and signature (non-black ink). _____ (tank owner initial)		
	Authorized to sign invoices on behalf of the tank owner	Authorized to select a certified site rehabilitation contractor
Name:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Affiliation:		
Signature:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Date:		
Name:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Affiliation:		
Signature:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Date:		
Name:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Affiliation:		
Signature:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Date:		
Name:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Affiliation:		
Signature:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Date:		





EDGEFIELD FUEL & CONVENIENCE LLC  
107 1/2 COURTHOUSE SQ  
EDGEFIELD, SC 29824-1373

**DEC 16 2020**

**Re: Tank Owner Information**

To Whom It May Concern:

The South Carolina Department Health and Environmental Control (DHEC) Underground Storage Tank (UST) Management Division (Division) is enhancing its efforts to accurately update our agency database with correct information in regards to the tank owner and identified agents. The Division is preparing for the transition to our new ePermitting database system in the foreseeable future. This updated information will allow the Division to provide consistency in communication with the tank owner and authorized agents via telephone, email, or postal service when necessary. For your convenience if there is any information that is incorrect, either on this form or in the DHEC UST registry on our webpage (<https://apps.dhec.sc.gov/Environment/USTRegistry>), please provide the correct information.

Please return the enclosed form no later than 30 days from receipt of this letter. If you have any questions or need additional time to submit the form, please contact me at [ariailrd@dhec.sc.gov](mailto:ariailrd@dhec.sc.gov) or (803) 898-9418. You can also contact the Division at (803) 898-2254 or (803) 898-0589.

Sincerely,

Ryan D. Ariail, Customer Service Liaison  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

Cc: Technical File

Enc: Tank Owner Information Form (D-4075)



Mr. Sawyer Hipp  
Corrective Action Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201

May 10, 2021  
ATC Project #EFC3005



Re: Site Specific Work Plan  
Spilt Stop 311  
311 Main Street  
Edgefield, South Carolina  
UST Permit No. 12175

Mr. Hipp:

Enclosed please find the Site Specific Work Plan requested for the referenced site per the email dated May 6, 2021. Should you have any questions or require additional information, please do not hesitate to call me at (704) 529-3200 or by email at [Noelle.france@atcgs.com](mailto:Noelle.france@atcgs.com)

Sincerely,  
**ATC Group Services, LLC**

A handwritten signature in cursive script that reads "Noelle A. France".

Noelle A. France  
Project Manager



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

To: Mr. Sawyer Hipp (SCDHEC Project Manager)
From: Noelle France (Contractor Project Manager)
Contractor: ATC Group Services, LLC UST Contractor Certification Number: 358

Facility Name: Split Stop 311 UST Permit #: 12175
Facility Address: 311 Main Street, Edgefield, South Carolina
Responsible Party: Edgefield Fuel and Convenience, LLC Phone: 803-367-1900
RP Address: 107 1/2 Courthouse Square, Edgefield, South Carolina
Property Owner (if different): As above
Property Owner Address: As above
Current Use of Property: Gas station and convenience store



Scope of Work (Please check all that apply)

- IGWA, Tier I, Tier II, Monitoring Well Installation, Groundwater Sampling, GAC, Other

Analyses (Please check all that apply)

- Groundwater/Surface Water: BTEXNMDCA, Oxygenates, EDB, PAH, Lead, 8 RCRA Metals, TPH, pH, BOD, Nitrate, Sulfate, Other, Methane, Ethanol, Dissolved Iron
Drinking Water Supply Wells: BTEXNMDCA, Oxygenates & Ethanol, Mercury, RCRA Metals, EDB
Soil: BTEXNM, PAH, Lead, RCRA Metals, Oil & Grease, TPH-DRO, TPH-GRO, Grain Size, TOC
Air: BTEXN

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

NA Soil, NA Water Supply Wells, NA Air, 3 Field Blank, 32 Monitoring Wells, NA Surface Water, 2 Duplicate, 2 Trip Blank

Field Screening Methodology

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

Permanent Monitoring Wells

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

UST Permit #: 12175 Facility Name: Split Stop 311

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: Within 30 days of receipt of directive Field Work Completion: Within sixty days of receipt of directive  
Report Submittal: Within 90 days of receipt of directive # of Copies Provided to Property Owners: 1

**Aquifer Characterization**

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

NA  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Derived Waste Disposal**

Soil: NA Tons Purge Water: 100 Gallons  
Drilling Fluids: NA Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ATC will purge and sample groundwater monitoring wells 12175-MW1 through MW26, 12175-TW1 and TW2, and 12175-RW1 through RW4. All samples will be analyzed per the methods specified above.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: \_\_\_\_\_

SCDHEC Certification Number: \_\_\_\_\_

Name of Laboratory Director: \_\_\_\_\_

NA Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: \_\_\_\_\_

SCLLR Certification Number: \_\_\_\_\_

NA Other variations from ACQAP. Please describe below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



Healthy People. Healthy Communities.

**ASSESSMENT COMPONENT INVOICE**

**SOUTH CAROLINA**

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

January 1, 2020

**Facility Name:** Split Stop 311

**UST Permit #:** 12175

**Cost Agreement #:** \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>A. Plan Preparation</b>				
1. Site-specific Work Plan	1	each	\$160.05	\$160.05
2. Tax Map		each	\$74.69	\$0.00
3. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>B. Receptor Survey *</b>				
		each	\$587.92	\$0.00
<b>C. Survey (500 ft x 500 ft)</b>				
1. Comprehensive Survey		each	\$1,109.68	\$0.00
Subsurface Geophysical Survey				
2. < 10 meters below grade		each	\$1,387.10	\$0.00
3. > 10 meters below grade		each	\$2,464.77	\$0.00
4. Geophysical UST or Drum Survey		each	\$970.97	\$0.00
<b>D. Mob/Demob</b>				
1. Equipment		each	\$1,088.34	\$0.00
2. Personnel	2	each	\$451.34	\$902.68
3. Adverse Terrain Vehicle		each	\$533.50	\$0.00
<b>E.. Soil Borings (hand auger)*</b>				
		foot	\$5.34	\$0.00
<b>F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including water ssample, soil sample, soil gas sample, etc.)*</b>				
1. Standard		per foot	\$16.01	\$0.00
2. Fractured Rock		per foot	\$21.55	\$0.00
<b>G. Soil Leachability Model</b>				
		each	\$64.02	\$0.00
<b>H. Abandonment (per foot)*</b>				
1. 2" diameter or less		per foot	\$3.31	\$0.00
2. Greater than 2" to 6" diameter		per foot	\$4.80	\$0.00
3. Dug/Bored well (up to 6 feet diameter)		per foot	\$16.00	\$0.00
<b>I. Well Installation (per foot)*</b>				
1. Water Table (hand augered)		per foot	\$11.31	\$0.00
2. Water Table (drill rig) 2" Diameter		per foot	\$40.55	\$0.00
3. Telescoping		per foot	\$53.35	\$0.00
4. Rock Drilling		per foot	\$61.89	\$0.00
5. 2" Rock Coring		per foot	\$32.97	\$0.00
6. Rock Multi-sampling ports/screens		per foot	\$35.64	\$0.00
7. Recovery Well (4" diameter)		per foot	\$48.02	\$0.00
8. Pushed Pre-packed screen (1.25" dia)		per foot	\$16.01	\$0.00
9. Rotosonic (2" diameter)		per foot	\$46.95	\$0.00
10. Re-develop Existing Well		per foot	\$11.74	\$0.00
<b>J. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
1. Groundwater Purge	32	per well	\$64.02	\$2,048.64
2. Air or Vapors		sample	\$12.80	\$0.00
3. Water Supply Sample or Duplicate		sample	\$23.47	\$0.00



4. Groundwater No Purge or Duplicate or Grab	2	sample	\$29.88	\$59.76
5. Gauge Well only		sample	\$7.47	\$0.00
6. Sample Below Product		sample	\$12.80	\$0.00
7. Passive Diffusion Bag		sample	\$27.74	\$0.00
8. Field Blank	3	sample	\$26.25	\$78.75
9. Groundwater (low flow purge)		sample	\$97.10	\$0.00
10. Equipment Blank		sample	\$26.25	\$0.00
<b>K. Laboratory Analyses-Groundwater</b>				
1. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	39	per sample	\$130.17	\$5,076.63
2. Lead, Filtered		per sample	\$14.72	\$0.00
3. Rush EPA Method 8260B		per sample	\$163.89	\$0.00
4. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$29.88	\$0.00
5. PAH's		per sample	\$64.66	\$0.00
6. Lead		per sample	\$17.07	\$0.00
7. EDB by EPA 8011	27	per sample	\$48.23	\$1,302.21
8. EDB by EPA Method 8011 Rush		per sample	\$72.77	\$0.00
9. 8 RCRA Metals		per sample	\$67.65	\$0.00
10. TPH (9070)		per sample	\$43.75	\$0.00
11. PH		per sample	\$5.55	\$0.00
12. BOD		per sample	\$21.34	\$0.00
13. Ethanol		per sample	\$15.79	\$0.00
<b>K. Analyses-Drinking Water</b>				
14. BTEXNM+1,2 DCA (524.2)		per sample	\$132.36	\$0.00
15. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$97.90	\$0.00
16. EDB (504.1)		per sample	\$84.83	\$0.00
17. RCRA METALS (200.8)		per sample	\$106.70	\$0.00
<b>K. Analyses-Soil</b>				
18. BTEX + Naphth.		per sample	\$68.29	\$0.00
19. PAH's		per sample	\$68.33	\$0.00
20. 8 RCRA Metals		per sample	\$60.18	\$0.00
21. TPH-DRO (3550C/8015C)		per sample	\$42.68	\$0.00
22. TPH- GRO (5035B/8015C)		per sample	\$38.37	\$0.00
23. Grain size/hydrometer		per sample	\$110.97	\$0.00
24. Total Organic Carbon		per sample	\$32.65	\$0.00
<b>K. Analyses-Air</b>				
25. BTEX + Naphthalene		per sample	\$230.47	\$0.00
<b>K. Analyses-Free Phase Product</b>				
26. Hydrocarbon Fuel Identification		per sample	\$380.92	\$0.00
<b>L. Aquifer Characterization*</b>				
1. Pumping Test		per hour	\$24.54	\$0.00
2. Slug Test		per test	\$203.80	\$0.00
3. Fractured Rock		per test	\$106.70	\$0.00
<b>M. Free Product Recovery Rate Test*</b>				
		each	\$40.55	\$0.00
<b>N. Fate/Transport Modeling</b>				
1. Mathematical Model		each	\$106.70	\$0.00
2. Computer Model		each	\$106.70	\$0.00
<b>O. Risk Evaluation</b>				
1. Tier I Risk Evaluation		each	\$320.10	\$0.00
2. Tier II Risk Evaluation		each	\$106.70	\$0.00
<b>P. Subsequent Survey*</b>				
		each	\$260.00	\$0.00
<b>Q. Disposal (gallons or tons)*</b>				
1. Wastewater	100	gallon	\$0.60	\$60.00
2. Free Product		gallon	\$0.53	\$0.00
3. Soil Treatment/Disposal		ton	\$64.02	\$0.00
4. Drilling fluids		gallon	\$0.45	\$0.00

<b>R. Miscellaneous (attach receipts)</b>					
<b>Survey</b>		each	\$1.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
<b>T. Tier I Assessment (Use DHEC 3665 form)</b>					\$0.00
1. Southeast Region		standard	\$11,026.00		\$0.00
2. All Other Counties		standard	\$12,093.00		\$0.00
<b>U. IGWA (Use DHEC 3666 form)</b>					
1. Southeast Region		standard	\$3,803.00		\$0.00
2. All Other Counties		standard	\$4,123.00		\$0.00
<b>22. Corrective Action (Use DHEC 3667 form)</b>					\$0.00
<b>W. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>					
1. 8-hour Event*		per event	\$1,467.13		\$0.00
2. 24-hour Event*		per event	\$4,081.28		\$0.00
3. 48-hour Event*		per event	\$6,706.10		\$0.00
4. 96-hour Event*		per event	\$13,409.52		\$0.00
5. Off-gas Treatment 8 hour		per event	\$130.71		\$0.00
6. Off-gas Treatment 24 hour		per event	\$257.68		\$0.00
7. Off-gas Treatment 48 hour		per event	\$348.91		\$0.00
8. Off-gas Treatment 96 hour		per event	\$832.26		\$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	\$430.00		\$0.00
10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	\$500.00		\$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	\$1,000.00		\$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	\$2,000.00		\$0.00
13. AFVR Effluent Disposal(w/chlorinated compounds)		gallon	\$0.50		\$0.00
14. AFVR Site Reconnaissance		each	\$216.87		\$0.00
15. Additional Hook-ups		each	\$27.48		\$0.00
16. AFVR Effluent Disposal		gallon	\$0.47		\$0.00
17. AFVR Mobilization/Demobilization		each	\$417.73		\$0.00
<b>X. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>					
1. New GAC System Installation*		each	\$2,027.30		\$0.00
2. Refurbished GAC Sys. Install*		each	\$960.30		\$0.00
3. Filter replacement/removal*		each	\$373.45		\$0.00
4. GAC System removal, cleaning, & refurbishment*		each	\$293.43		\$0.00
5. GAC System housing*		each	\$266.75		\$0.00
6. In-line particulate filter		each	\$160.05		\$0.00
7. Additional piping & fittings		foot	\$1.60		\$0.00
<b>Y. Well Repair</b>					
1. Additional Copies of the Report Delivered		each	\$53.35		\$0.00
2. Repair 2x2 MW pad*		each	\$53.35		\$0.00
3. Repair 4x4 MW pad*		each	\$93.90		\$0.00
4. Replace well vault*		each	\$125.91		\$0.00
5. Replace well cover bolts		each	\$2.77		\$0.00
6. Replace locking well cap & lock		each	\$16.00		\$0.00
7. Replace/Repair stick-up*		each	\$142.98		\$0.00
8. Convert Flush-mount to Stick-up*		each	\$160.05		\$0.00
9. Convert Stick-up to Flush-mount*		each	\$138.71		\$0.00
10. Replace missing/illegible well ID plate		each	\$12.80		\$0.00
<b>S. Report Prep &amp; Project Management</b>		12%	percent	\$9,688.72	\$1,162.65
<b>TOTAL</b>					\$10,851.37

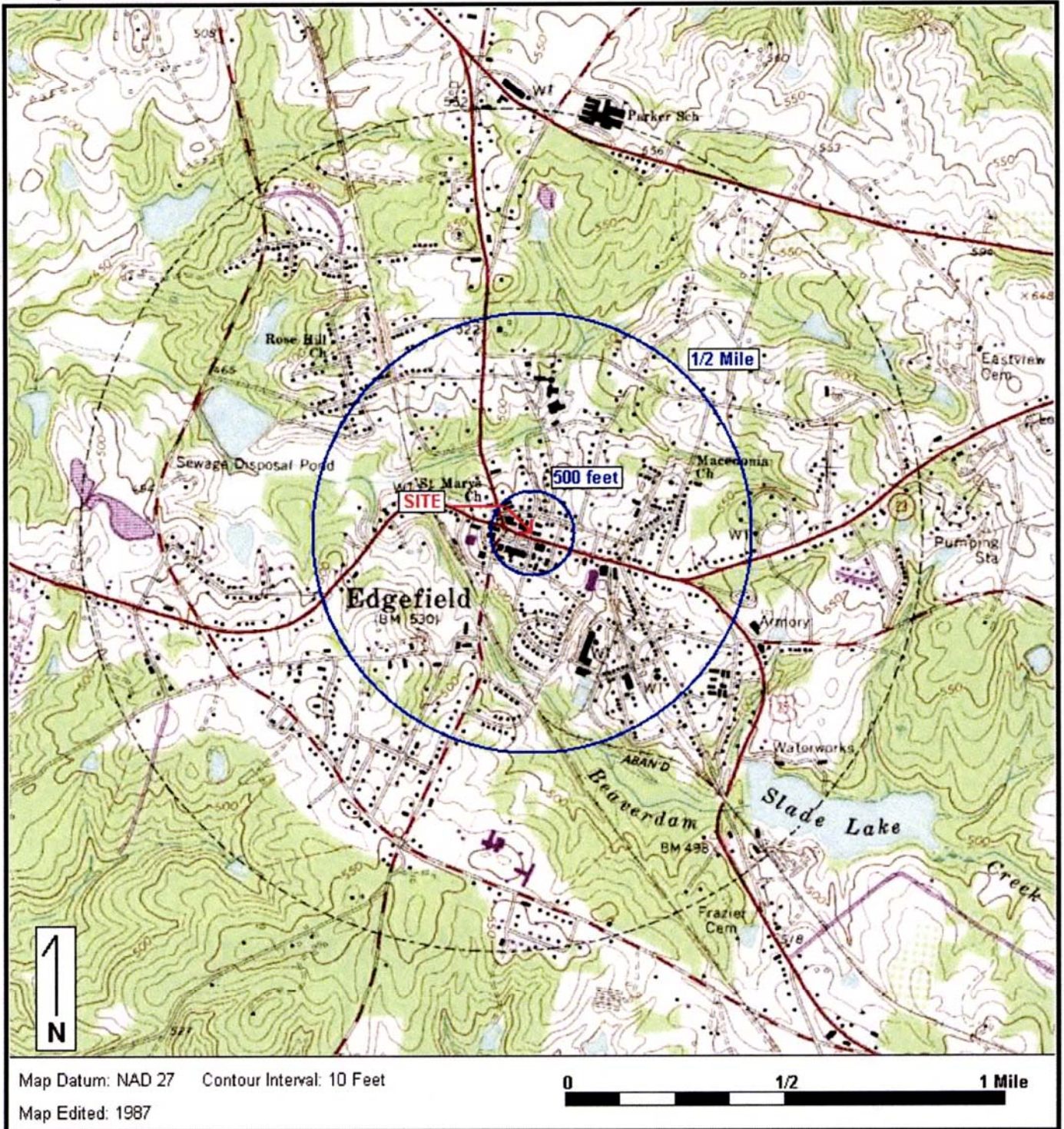
DHEC D-4073 (1-2020) \*The appropriate mobilization cost can be added to complete these tasks, as necessary





Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

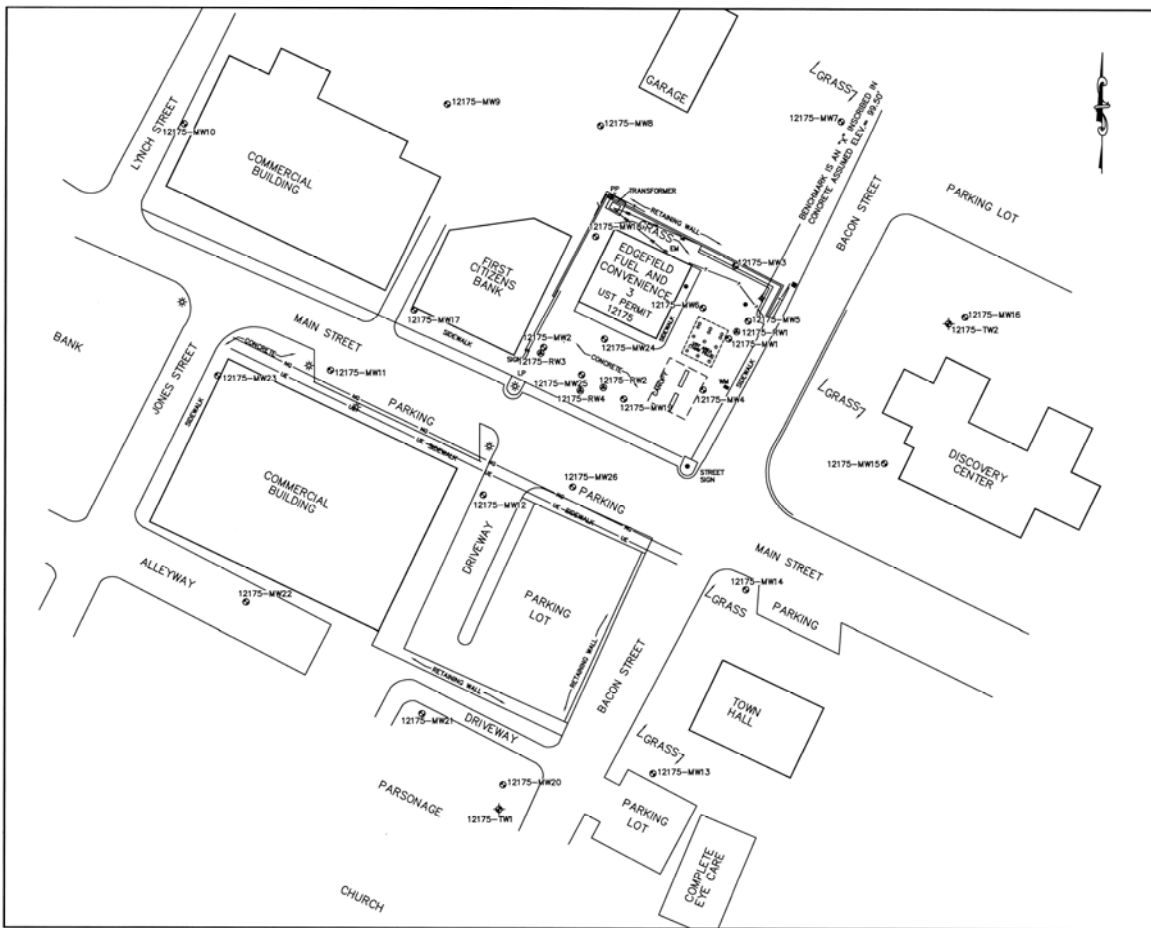
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Edgefield, SC

Lat/Lon: 33° 47' 22" NORTH, 81° 55' 43" WEST - UTM Coordinates: 17 414033 EAST / 3739192 NORTH

Generated By: Kevin Collins



- Legend**
- UE— Underground Electric Line
  - X— Wood Fence Line
  - T— Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊞ Grate Top Drop Inlet
  - ⊙ Light Pole
  - ⊛ Light Pole
  - 12175-MW1 ⊙ Shallow (Water Table) Monitoring Well
  - 12175-RW1 ⊙ Recovery Well
  - 12175-TW1 ⊙ Telescoping Well
- General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATC**  
 7000 Whitehall Executive Center Drive, Suite 800  
 Columbia, SC 29201  
 Phone: (704)240-0711 Fax: (704)240-0714

**PROJECT:**  
 Edgfield Fuel & Convenience 3  
 311 Main Street  
 Edgfield, South Carolina

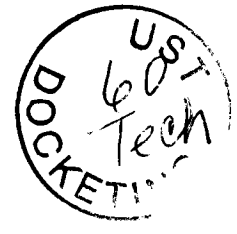
**TYPE:**  
 Site Plan

**CLIENT:**  
 Edgfield Fuel & Convenience, LLC

**SCALE:**  
 1" = 50'

DATE	BY	DESIGNED BY	CHECKED BY	APPROVED BY
KD	KD	NF	NF	NF
SCALE	DATE	JOB NO.	FIGURE NO.	
1"=50'	6/10/19	EFCR3	2	





MAY 19 2021

EDGEFIELD FUEL & CONVENIENCE LLC  
107 1/2 COURTHOUSE SQ  
EDGEFIELD SC 29824

Re: **Site Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**  
Split Stop 311, 311 Main St, Edgefield, SC  
UST Permit #12175; CA #63761  
Release #1 reported December 31, 2008  
Site Specific Work Plan received May 12, 2021  
Edgefield County

To Whom It May Concern:

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

The groundwater sampling event should begin immediately upon receipt of this letter. The Cost Agreement number shown above has been approved for the amount shown on the enclosed cost agreement form.

Please note the following changes to the cost agreement and SSWP:

- K.7 was changed from 27 to 37.

**The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.**

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the UST Division within sixty (60) days of the date of this correspondence.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that the SUPERB Account cannot compensate any costs that are not pre-approved. If for any reason additional tasks will be completed, these additional tasks, and the associated cost, must be pre-approved by the UST Division for the cost to be paid. The UST Division reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the UST Division reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

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

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

On all correspondence regarding this site, please reference the UST Permit number above. Should you have any questions regarding this correspondence, please feel free to contact me by phone at (803) 898-0586, by fax at (803) 898-0673, or by e-mail at hippsc@dhec.sc.gov.

Sincerely,



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

enc: Approved Cost Agreement

cc: ATC Group Services LLC, 7606 Whitehall Executive Center Drive Suite 800, Charlotte, NC 28273 (w/ enc)  
Technical file (w/ enc)

**Approved Cost Agreement****63761**

Facility: 12175 SPLIT STOP 311

HIPSC

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
A	PLAN PREPARATION	1 SITE SPECIFIC WORK PLAN	1.0000	\$160.050	160.05
D	MOB/DEMOB	2 PERSONNEL	2.0000	\$451.340	902.68
J	SAMPLE COLLECTION	1 GROUND WATER PURGE	32.0000	\$64.020	2,048.64
		4 GROUNDWATER NO-PURGE/DUPL/GRAB	2.0000	\$29.880	59.76
		8 FIELD BLANK	3.0000	\$26.250	78.75
K	ANALYSES				
	GW GROUNDWATER	1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	39.0000	\$130.170	5,076.63
		7 EDB BY EPA 8011	37.0000	\$48.230	1,784.51
Q	DISPOSAL	1 WASTEWATER	100.0000	\$0.600	60.00
S	REPORT PROJECT MANAGEMENT	S REPORT PREP & PROJ. MANAGEMENT	0.1200	\$10,171.020	1,220.52
			<b>Total Amount</b>		<b>11,391.54</b>



# Document Receipt Information



Hard Copy



CD



Email

Date Received 6-30-21

Permit Number 12175

Project Manager Lawyer Hepp

Name of Contractor ATC

Docket Number 614204

Document Title GWS report

Scanned \_\_\_\_\_



**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

**GROUNDWATER SAMPLING REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**

**UST PERMIT NO. 12175  
ATC PROJECT NO. EFC3004**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

ATC Group Services, LLC  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

July 29, 2021

Noelle France  
Project Manager



Michael D. Shaw, P.G.  
SC Licensed Professional Geologist #2052

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- Table 2: Groundwater Elevation Data
- Table 3: Groundwater Analytical Data

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- Figure 2: Site Plan
- Figure 3: Soil Quality Map (Not Required)
- Figure 4: Groundwater Quality Map
- Figure 5: Groundwater Elevation Map

### **APPENDICES**

- Appendix A: Site Survey (Not Required)
- Appendix B: Sampling Logs, Laboratory Reports, COC Forms, QA/QC Evaluation
- Appendix C: Tax Map Information (Not Required)
- Appendix D: Boring Logs (Not Required)
- Appendix E: Well Construction Records (Not Required)
- Appendix F: Aquifer Evaluation Data (Not required)
- Appendix G: Disposal Manifests
- Appendix H: Local Zoning Regulations (Not Required)
- Appendix I: Fate & Transport Modeling Data (Not Required)
- Appendix J: Access Agreements (Not required)
- Appendix K: Data Verification Checklist

## 1.0 INTRODUCTION

This report, prepared by ATC Group Services LLC (ATC), presents the results of the Additional Assessment, Aggressive Fluid Vapor Recovery Events, and groundwater sampling at Edgefield Fuel & Convenience No. 3 site between June 14 and 15, 2021. The activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1, and Cost Agreement Number 63761 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated May 19, 2021.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (706) 755-8445

### 1.2 UST OWNER/OPERATOR

**Name:** Mr. Joel Jolly  
Edgefield Fuel & Convenience, LLC  
**Address:** 943 US Highway 25 North  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 275-8445

### 1.3 PROPERTY OWNER INFORMATION

**Name:** BRAHMBHATT LLC  
**Address:** 1200 Interstate Parkway  
Augusta, Georgia 30909  
**Telephone Number:** Unknown

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** ATC Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina, 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 CERTIFIED LABORATORY INFORMATION

**Company Name:** Pace Analytical Services, Inc.  
**Address:** 9800 Kinsey Avenue, Suite 100  
Huntersville, North Carolina 28078  
**SC Certification:** 99006001

## 1.6 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** 2BA

### UST Permit 12175

UST	Size	Product	Date Installed	Currently in Use	Date Closed
1	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
2	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
3	3,000	Premium Unleaded Gasoline	10/11/1989	Not In Use	Not applicable

The site operates as Edgefield Fuel & Convenience 3, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed at the site and the premium unleaded gasoline UST was not in use during these activities.

## 1.7 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.

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## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The Edgefield Fuel & Convenience 3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. The site is bordered to the north by an access road and parking lot for the west abutting Carolina First Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street. A site vicinity map with topographic features is included as **Figure 1**.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority utilize potable water from portions of the Savannah River located within the Savannah-Salkehatchie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One wet weather drainage feature was previously identified as being located approximately 1,000 feet southeast of the site. This wet weather drainage feature flows in a general east to west direction before a turn and then flows toward the southwest. The wet weather drainage feature drains into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and a tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general northwest to southeast direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general northeast to southwest direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located at an elevation of approximately 525 feet above mean sea level (MSL) with an approximate total site topographic relief of three feet. The surface at the site is generally covered by asphalt, and some smaller areas of concrete and grass. The site USTs were overlain with a concrete surface finish. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC) stone and clayey to silty sand to depths of approximately 2 feet below ground surface (bgs). Native soils (residuum), below the fill material, are characterized as tan to brown to red silty sand and silty clay to depths of 6 feet bgs. Soils encountered in



the boreholes 6 feet bgs are characterized as yellow to orange and tan to gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt and clay in a soil sample collected from SB-2 (12175-MW1) at a depth of 20 feet during Tier I assessment activities (March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (April 2010) from on-site monitoring well 12175-MW6 at a depth of 20 feet were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well 12175-MW6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses, the site was underlain at shallow depths by clayey silty sand.

Historical depths to groundwater measured in shallow monitoring wells at the site ranged from 18.09 feet bgs (12175-MW5 in May 2010) to 25.61 feet bgs (12175-MW2 in October 2010 with 3.65 feet of free product), and averaged 22.24 feet bgs in on-site monitoring wells over time. Historical groundwater elevation data is presented in **Table 2**. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells 12175-MW2 and 12175-MW3 in March 2009 during Tier I activities and shallow monitoring wells 12175-MW6 and 12175-MW11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, ranged between 0.11 feet per day (ft/day) and 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

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## 3.0 ASSESSMENT INFORMATION

### 3.1 GROUNDWATER ASSESSMENT

#### 3.1.1 Product/Water Level Measurements

Thirty two wells (12175-MW1, 12175-MW2, 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, 12175-TW1, 12175-TW2 12175-RW1, 12175-RW2 and 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on June 14, 2021. Free phase product was detected in wells 12175-MW1 (thickness of 4.31 feet), 12175-MW2 (1.71 feet), 12175-MW5 (1.35 feet), 12175-MW19 (0.02 feet), 12175-MW25 (3.22 feet), 12175-RW1 (2.44 feet), 12175-RW2 (3.18 feet), 12175-RW3 (1.22 feet) and 12175-RW4 (3.30 feet).

On May 20, 2019, the groundwater elevations measured in the shallow monitoring wells, relative to a temporary benchmark with an assumed datum of 99.50 feet, ranged from 82.19 feet (12175-MW19) to 74.96 feet (12175-MW21). Based on these data, the groundwater flow direction is interpreted to trend primarily to the south in the southern site vicinity and to the north-northwest to the north of the site.

The horizontal hydraulic gradient is estimated based on the change in hydraulic head per unit distance, calculated by using the formula  $i = (h_2 - h_1)/d$ , referenced from the “EPA On-line Tools for Site Assessment Calculation” website. In this calculation,  $i$  is the gradient,  $h$  is the hydraulic head at the up gradient monitoring well ( $h_1$ ) and down gradient monitoring well ( $h_2$ ), and  $d$  is the distance between the down gradient monitoring well and the up gradient monitoring well. The horizontal hydraulic gradient was calculated to be approximately 0.0248 ft/ft between monitoring wells 12175-MW19 and 12175-MW8. and approximately 0.0245 ft/ft between monitoring wells 12175-MW19 and 12175-MW13.

The groundwater elevations in adjacent (paired) shallow monitoring wells were used to calculate the vertical gradient. The vertical gradient was calculated using the formula  $dh/dl = (h_2 - h_1) / (z_2 - z_1)$ , referenced from the “EPA On-line Tools for Site Assessment Calculation” site <<http://www.epa.gov/athens/learn2model/part-two/onsite/vgradient02.html>>. In this calculation, the vertical hydraulic gradient is the difference in head divided by the vertical distance of mid-points of the screened intervals between wells.

The vertical hydraulic gradient between monitoring well pair 12175-MW20 and 12175-TW1 was calculated to be 0.3598 ft/ft in the downward direction.

The vertical hydraulic gradient between monitoring well pair 12175-MW16 and 12175-TW2 was calculated to be 0.1033 ft/ft in the upward direction.

Historical groundwater elevation data is presented in **Table 2**. A groundwater elevation map for site monitoring wells is included as **Figure 5**.

### 3.1.2 Water Sampling and Analyses

Twenty-three monitoring wells (12175-MW3, 12175-MW4, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW18, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW26, 12175-TW1 and 12175-TW2) were purged and sampled between May 20 and 22, 2019. Groundwater samples were not collected from monitoring wells 12175-MW1, 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW1, 12175-RW2, 12175-RW3 and 12175-RW4 due to the presence of free phase product.

Monitoring wells were purged using a combination of new, disposable polyethylene bailers and/or a stainless steel Proactive Mega-Monsoon® (centrifugal pump) with new, disposable polyethylene tubing and/or a Waterra Hydrolift2® pump with decontaminated foot valves and new, disposable polyethylene tubing while wearing new, disposable nitrile gloves.

Purging was accomplished by removing three to five well volumes while observing in-field groundwater quality parameters for stabilization criteria or until the well was bailed dry and allowed to recharge. Measurements of hydrogen ion concentration (pH), conductivity, temperature, oxidation reduction potential (ORP), and dissolved oxygen (DO) were recorded utilizing a Horiba U52® multi-parameter water quality meter. The visual clarity (turbidity) was also noted.

Groundwater samples collected were containerized in laboratory-prepared glass bottles, packed on ice, and transported to Pace Analytical Services, Inc. located in Huntersville, North Carolina, a South Carolina certified laboratory. Standard chain-of-custody procedures were maintained, as documented in **Appendix B**.

The duplicate samples were assigned a unique identification name with no time listed on the chain of custody to avoid potential laboratory analytical bias and identified in the field book. Two field blank samples were collected (per quality assurance/quality control [QAQC], one field blank sample is to be obtained for each 24 hour sampling period), during water sampling activities for quality assurance and quality control. Two sets of trip blank samples, (per QAQC protocol, one set of trip blank samples per each cooler submitted) were included for quality assurance and quality control.

A duplicate sample identified as 12175-DUP1 was collected from 12175-MW16 within 5 minutes of 12175-MW16 groundwater sample collection. A second duplicate sample, identified as 12175-DUP2, was collected from 12175-MW24 within 5 minutes of 12175-MW24 groundwater sample collection.

Twenty nine water samples (23 monitoring wells, two duplicates, two field blanks, and two trip blanks) were analyzed for benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX compounds), naphthalene, 1,2-dichloroethane (1,2-DCA), methyl tertiary butyl ether (MTBE), tertiary amyl alcohol (TAA), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), tertiary butyl formate (TBF), diisopropyl ether (DIPE), ethanol, ethyl tertiary butyl ether (ETBE), and 3,3-dimethyl-1-butanol by Environmental Protection Agency (EPA) Method 8260. Twenty-eight water samples (24 monitoring wells, two duplicates, and two field blanks) were analyzed for ethylene dibromide (EDB) by EPA Method 8011.

### 3.1.3 Groundwater Analytical Data

Analytical results were compared to the Risk Based Screening Levels (RBSLs), as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D1: RBSLs for Groundwater* and the Action Levels (ALs) as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D2: Action Levels for Groundwater (Oxygenates)*.

ATC requested that the laboratory report include values flagged with a “J”, representing an estimated value between the laboratory reporting limit and the method detection limit. Where the “J” values are reported in excess of the RBSL or AL, they are included as exceeding the RBSL or AL for that constituent.

Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells 12175-MW6, 12175-MW11, 12175-MW17, 12175-MW18, 12175-MW23 and 12175-MW24.

Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW11, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW6, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW17, and 12175-MW24.

Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW6, 12175-MW11, 12175-MW23, and 12175-MW26.

Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW6 (as a “J” value) 12175-MW11, 12175-MW17 (as a “J” value), 12175-MW18 (as a “J” value) and 12175-MW24.

Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from well, 12175-MW17.

Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater collected from well 12175-MW26.

Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW4, 12175-MW6, 12175-MW11, 12175-MW23, 12175-MW24 and 12175-MW26.

Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128  $\mu\text{g/L}$  in the groundwater samples collected from monitoring wells 12175-MW11 (with a “J” value) and 12175-MW23.

Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400 µg/L was reported in the groundwater sample collected from monitoring well and 12175-MW6.

Chemicals of Concern (COCs) were not detected in the field blanks or trip blanks from the June 2021 groundwater sampling event. .

Per QAPP requirements, precision is measured utilizing the relative percent difference (RPD) calculation. The average RPD for CoC concentrations exceeding the reporting limits from groundwater sample pair 12175-Dup 1 and 12175-MW16, and groundwater sample pair 12175-Dup2 and 12175-MW24 was calculated to be less than the maximum RPD limits of 20%.

Historical groundwater analytical data are presented in **Table 3**. A groundwater quality map based on the June 2021 data is included as **Figure 4**. Groundwater Sampling Field Data Sheets, the laboratory reports for groundwater samples collected during this assessment, and the QA/QC evaluation are included in **Appendix B**.

### 3.2 INVESTIGATIVE DERIVED WASTE

A total of approximately 41-gallons of purge water generated during monitoring well purging and sampling activities were manifested and transported off-site by ATC for disposal at the Haz-Mat Environmental Services facility located in Charlotte, NC. Copies of the disposal manifests for soil and water generated from well installation and sampling activities are included in **Appendix G**.

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## 4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### 4.1 SUMMARY

- Thirty one wells (12175-MW1, 12175-MW2, 12175-MW3, 12175-MW4, 12175-MW5, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW18, 12175-MW19, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW25, 12175-MW26, 12175-TW1, 12175-TW2 12175-RW1, 12175-RW2 and 12175-RW3) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on June 14, 2021.
- Based on the June 2021 gauging data, the groundwater flow direction was interpreted to trend toward the south to the south of the site and towards the north-northwest on the northern site vicinity.
- Free phase product was detected in wells 12175-MW1 (thickness of 4.31 feet), 12175-MW2 (1.71 feet), 12175-MW5 (1.35 feet), 12175-MW19 (0.02 feet), 12175-MW25 (3.22 feet), 12175-RW1 (2.44 feet), 12175-RW2 (3.18 feet), 12175-RW3 (1.22 feet) and 12175-RW4 (3.30 feet).

Twenty-three monitoring wells (12175-MW3, 12175-MW4, 12175-MW6, 12175-MW7, 12175-MW8, 12175-MW9, 12175-MW10, 12175-MW11, 12175-MW12, 12175-MW13, 12175-MW14, 12175-MW15, 12175-MW16, 12175-MW17, 12175-MW18, 12175-MW20, 12175-MW22, 12175-MW23, 12175-MW24, 12175-MW26, 12175-TW1 and 12175-TW2) were purged and sampled between May 20 and 22, 2019. Groundwater samples were not collected from monitoring wells 12175-MW1, 12175-MW2, 12175-MW19, 12175-MW25, 12175-RW1, 12175-RW2, 12175-RW3 and 12175-RW4 due to the presence of free phase product.

Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells 12175-MW6, 12175-MW11, 12175-MW17, 12175-MW18, 12175-MW23 and 12175-MW24.

Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW11, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW6, 12175-MW17, 12175-MW18, and 12175-MW24.

Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW17, and 12175-MW24.

Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells 12175-MW6, 12175-MW11, 12175-MW23, and 12175-MW26.

Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW6 (as a "J" value) 12175-MW11, 12175-MW17 (as a "J" value), 12175-MW18 (as a "J" value) and 12175-MW24.

Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05 µg/L in groundwater samples collected from well, 12175-MW17.

Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0 µg/L in groundwater collected from well 12175-MW26.

Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240 µg/L in groundwater samples collected from wells 12175-MW4, 12175-MW6, 12175-MW11, 12175-MW23, 12175-MW24 and 12175-MW26.

Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128 µg/L in the groundwater samples collected from monitoring wells 12175-MW11 (with a "J" value) and 12175-MW23.

Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400 µg/L was reported in the groundwater sample collected from monitoring well and 12175-MW6.

## 4.2 CONCLUSIONS

- Free phase product continues to be detected at the site in wells located at and to the west of the UST system, and has generally increased in thickness since the previous sampling event.
- The horizontal and vertical extent of dissolved phase petroleum in the groundwater has not been defined.

## 4.3 RECOMMENDATIONS

- ATC recommends delineating the extent of free phase petroleum at the site with the use of Laser Induced Fluorescence (LIF) technology, to establish optimal locations to target remedial options.
- Subsequent to the LIF event, it is recommended that recovery wells be installed in the areas determined to have the greatest thickness of free phase petroleum product.
- ATC recommends performing two 96-hour aggressive fluid vapor recovery (AFVR) events in order to aid in mitigation of onsite free phase product. The first event will target monitoring wells 12175-MW1, and 12175-RW1, and a second event will target monitoring wells 12175-MW2, 12175-MW25, and recovery well 12175-RW2. Groundwater gauging events will be conducted prior to and at the conclusion of each AFVR event.
- Additional monitoring wells appear appropriate to delineate CoC above RBSLs in groundwater. It is recommended that these wells be installed subsequent to the removal of free phase petroleum product at the site.



## 5.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of ATC. Although the accuracy of these data cannot be verified, for the purposes of this report, ATC assumes that they are correct.

### 5.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.

## **TABLES**

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**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW1	35	20-35	98.51	12/17/04	22.13	23.68	1.55	75.99	NM
				05/10/10	17.83	21.00	3.17	79.89	NM
				10/20/10	19.38	25.07	5.69	77.71	NM
				09/12/11	20.59	26.35	5.76	76.48	NM
				08/16/13	19.33	22.72	3.39	78.33	NM
				01/09/14	19.37	22.77	3.40	78.29	NM
				01/23/15	18.70	20.10	1.40	79.46	33.30
				09/15/15	19.15	22.67	3.52	78.48	NM
				10/11/16	18.62	21.77	3.15	79.10	NM
				05/20/19	17.80	18.81	1.01	80.46	NM
06/14/21	15.92	20.23	4.31	81.51	NM				
12175-MW2	34	19-34	100.42	12/17/04	---	24.55	---	75.87	34.05
				05/10/10	20.27	22.73	2.46	79.54	33.98
				10/20/10	21.96	25.61	3.65	77.55	NM
				09/12/11	23.01	27.06	4.05	76.40	NM
				08/16/13	22.35	22.67	0.32	77.99	NM
				01/09/14	22.08	22.91	0.83	78.13	NM
				01/23/15	21.10	21.90	0.80	79.12	34.00
				09/15/15	21.80	22.63	0.83	78.41	NM
				10/11/16	21.46	21.72	0.26	78.90	NM
				05/20/19	19.66	21.88	2.22	80.21	NM
06/14/21	18.81	20.52	1.71	81.18	NM				
12175-MW3	34	19-34	100.44	12/17/04	---	24.38	---	76.06	34.00
				05/10/10	---	20.54	---	79.90	33.91
				10/20/10	---	22.71	---	77.73	33.90
				09/12/11	---	23.90	---	76.54	33.89
				08/16/13	---	22.32	---	78.12	---
				01/09/14	---	22.11	---	78.33	---
				12/22/14	---	21.90	---	78.54	33.90
				09/15/15	---	21.77	---	78.67	33.90
				10/11/16	---	21.38	---	79.06	27.89
				05/20/19	---	19.72	---	80.72	33.95
06/14/21	---	20.62	---	79.82	33.84				
12175-MW4	29	19-29	98.61	05/10/10	---	18.92	---	79.69	28.91
				10/20/10	---	21.04	---	77.57	28.95
				09/12/11	---	22.22	---	76.39	28.96
				08/16/13	20.49	21.49	1.00	77.87	---
				01/09/14	20.27	21.15	0.88	78.12	---
				01/23/15	19.30	19.85	0.55	79.17	29.00
				09/15/15	19.93	20.90	0.97	78.44	NM
				10/11/16	---	19.65	---	78.96	28.89
				05/20/19	---	18.17	---	80.44	29.03
				06/14/21	---	17.20	---	81.41	28.92
12175-MW5	29	19-29	98.05	05/10/10	---	18.09	---	79.96	29.04
				10/20/10	20.22	20.57	0.35	77.74	NM
				09/12/11	20.66	24.05	3.39	76.54	NM
				08/16/13	19.39	21.83	2.44	78.05	NM
				01/09/14	19.24	20.96	1.72	78.38	NM
				01/23/15	18.55	18.90	0.35	79.41	29.00
				09/15/15	19.35	19.72	0.37	78.61	NM
				10/11/16	---	18.80	---	79.25	28.99
				05/20/19	---	17.18	---	80.87	29.14
				06/14/21	16.10	17.45	1.35	81.61	NM
12175-MW6	29	19-29	99.82	05/10/10	---	19.94	---	79.88	28.99
				10/20/10	---	22.09	---	77.73	29.02
				09/12/11	---	23.27	---	76.55	28.99
				08/16/13	---	21.75	---	78.07	---
				01/09/14	---	21.51	---	78.31	---
				12/22/14	---	21.24	---	78.58	29.01
				09/15/15	---	21.12	---	78.70	28.99
				10/11/16	---	20.70	---	79.12	28.93
				05/20/19	---	19.10	---	80.72	29.80
06/14/21	---	18.38	---	81.44	29.01				

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW7	20	10-20	93.32	05/10/10	---	13.51	---	79.81	20.33
				10/20/10	---	15.91	---	77.41	20.25
				09/12/11	---	17.00	---	76.32	20.36
				08/16/13	---	15.18	---	78.14	---
				01/09/14	---	14.95	---	78.37	---
				12/22/14	---	15.10	---	78.22	20.40
				09/15/15	---	15.03	---	78.29	20.40
				10/11/16	---	14.65	---	78.67	20.28
				05/20/19	---	12.77	---	80.55	20.38
12175-MW8	27	17-27	100.59	06/14/21	---	15.25	---	78.07	20.37
				05/10/10	---	21.61	---	78.98	26.85
				10/20/10	---	23.83	---	76.76	26.89
				09/12/11	---	24.89	---	75.70	26.89
				08/16/13	---	22.87	---	77.72	---
				01/09/14	---	22.73	---	77.86	---
				12/22/14	---	23.07	---	77.52	26.90
				09/15/15	---	23.01	---	77.58	26.90
				10/11/16	---	22.57	---	78.02	26.80
12175-MW9	27	17-27	97.55	05/20/19	---	21.00	---	79.59	26.90
				06/14/21	---	22.12	---	78.47	26.90
				05/10/10	---	18.81	---	78.74	27.03
				10/20/10	---	21.12	---	76.43	27.07
				09/12/11	---	22.16	---	75.39	26.93
				08/16/13	---	20.03	---	77.52	---
				01/09/14	---	19.75	---	77.80	---
				12/22/14	---	20.30	---	77.25	26.89
				09/15/15	---	20.36	---	77.19	26.89
12175-MW10	30	20-30	101.31	10/11/16	---	19.85	---	77.70	26.97
				05/20/19	---	18.33	---	79.22	27.07
				06/14/21	---	17.80	---	79.75	27.03
				05/10/10	---	22.88	---	78.43	30.31
				10/20/10	---	24.90	---	76.41	30.40
				09/12/11	---	25.87	---	75.44	30.39
				08/16/13	---	23.86	---	77.45	---
				01/09/14	---	23.74	---	77.57	---
				12/22/14	---	24.10	---	77.21	30.30
12175-MW11	31	21-31	101.65	09/15/15	---	23.89	---	77.42	30.30
				10/11/16	---	23.66	---	77.65	30.25
				05/20/19	---	22.30	---	79.01	30.34
				06/14/21	---	24.14	---	77.17	30.31
				05/10/10	---	22.16	---	79.49	31.04
				10/20/10	---	24.10	---	77.55	31.07
				09/12/11	---	25.25	---	76.40	30.91
				08/16/13	---	23.69	---	77.96	---
				01/09/14	---	23.61	---	78.04	---
12175-MW12	30	20-30	100.55	12/22/14	---	23.41	---	78.24	30.85
				09/15/15	---	23.09	---	78.56	30.85
				10/11/16	---	22.79	---	78.86	30.85
				05/20/19	---	21.36	---	80.29	30.84
				06/14/21	---	20.72	---	80.93	30.82
				05/10/10	---	21.78	---	78.77	30.15
				10/20/10	---	23.75	---	76.80	30.10
				09/12/11	---	25.00	---	75.55	30.04
				08/16/13	---	23.35	---	77.20	---

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW13	25	15-25	93.20	05/10/10	---	17.82	---	75.38	25.20
				10/20/10	---	20.26	---	72.94	25.24
				09/12/11	---	21.60	---	71.60	25.24
				08/16/13	---	19.20	---	74.00	---
				01/09/14	---	18.87	---	74.33	---
				12/22/14	---	19.44	---	73.76	25.25
				09/15/15	---	18.86	---	74.34	25.25
				10/11/16	---	18.55	---	74.65	25.15
				05/20/19	---	16.84	---	76.36	25.23
				06/14/21	---	16.10	---	77.10	25.26
12175-MW14	30	20-30	100.05	05/10/10	---	22.47	---	77.58	29.54
				10/20/10	---	24.77	---	75.28	29.59
				09/12/11	---	25.97	---	74.08	29.57
				08/16/13	---	24.06	---	75.99	---
				01/09/14	---	23.70	---	76.35	---
				12/22/14	---	23.90	---	76.15	29.60
				09/15/15	---	23.40	---	76.65	29.60
				10/11/16	---	23.05	---	77.00	29.46
				05/20/19	---	21.29	---	78.76	29.59
				06/14/21	---	22.15	---	77.90	29.60
12175-MW15	27	17-27	98.47	05/10/10	---	18.81	---	79.66	26.93
				10/20/10	---	21.16	---	77.31	26.97
				09/12/11	---	22.10	---	76.37	26.96
				08/16/13	---	20.66	---	77.81	---
				01/09/14	---	20.24	---	78.23	---
				12/22/14	---	20.09	---	78.38	26.93
				09/15/15	---	19.70	---	78.77	26.93
				10/11/16	---	19.69	---	78.78	26.89
				05/20/19	---	17.68	---	80.79	27.00
				06/14/21	---	18.56	---	79.91	26.98
12175-MW16	20	10-20	93.01	05/10/10	---	12.34	---	80.67	19.92
				10/20/10	---	14.97	---	78.04	19.89
				09/12/11	---	16.15	---	76.86	19.66
				08/16/13	---	14.68	---	78.33	---
				01/09/14	---	14.28	---	78.73	---
				12/22/14	---	13.61	---	79.40	19.25
				09/15/15	---	13.93	---	79.08	19.25
				10/11/16	---	13.51	---	79.50	19.29
				05/20/19	---	11.36	---	81.65	19.34
				06/14/21	---	12.31	---	80.70	19.28
12175-MW17	28	18-28	101.09	10/20/10	---	23.52	---	77.57	28.70
				09/12/11	---	24.67	---	76.42	28.68
				08/16/13	22.62	24.66	2.04	77.96	---
				01/09/14	---	23.00	---	78.09	---
				12/22/14	---	22.82	---	78.27	28.66
				09/15/15	---	22.72	---	78.37	28.66
				10/11/16	---	22.21	---	78.88	28.61
				05/20/19	---	20.69	---	80.40	28.71
								06/14/21	---
12175-MW18	28	18-28	101.51	10/20/10	---	24.01	---	77.50	28.66
				09/12/11	---	25.14	---	76.37	28.58
				08/16/13	---	23.45	---	78.06	---
				01/09/14	---	23.33	---	78.18	---
				12/22/14	---	23.31	---	78.20	28.60
				09/15/15	---	23.12	---	78.39	28.60
				10/11/16	---	22.73	---	78.78	28.39
				05/20/19	---	21.19	---	80.32	28.58
				06/14/21	---	24.05	---	77.46	28.55

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW19	28	18-28	100.01	10/20/10	22.35	23.19	0.84	77.45	NM
				09/12/11	22.57	27.18	4.61	76.29	NM
				08/16/13	20.73	23.35	2.62	78.63	NM
				01/09/14	21.58	23.25	1.67	78.01	NM
				01/23/15	20.05	20.80	0.75	79.77	28.30
				09/15/15	21.53	22.05	0.52	78.35	NM
				10/11/16	---	21.18	---	78.83	28.16
				05/20/19	19.36	20.41	1.05	80.39	NM
12175-MW20	27	17-27	91.80	10/20/10	---	20.28	---	71.52	26.24
				09/12/11	---	21.66	---	70.14	26.24
				08/16/13	---	18.98	---	72.82	---
				01/09/14	---	18.42	---	73.38	---
				12/22/14	---	19.21	---	72.59	26.25
				09/15/15	---	19.13	---	72.67	26.25
				10/11/16	---	18.59	---	73.21	26.15
				05/20/19	---	16.69	---	75.11	26.25
12175-MW21	29	19-29	94.30	10/20/10	---	21.70	---	72.60	29.37
				09/12/11	---	22.94	---	71.36	29.35
				08/16/13	---	20.70	---	73.60	---
				01/09/14	---	20.33	---	73.97	---
				12/22/14	---	20.81	---	73.49	29.37
				09/15/15	---	20.58	---	73.72	29.37
				10/11/16	---	20.01	---	74.29	29.25
				05/20/19	Not Accessible				
06/14/21	---	19.34	---	74.96	29.36				
12175-MW22	30	20-30	99.82	10/20/10	---	25.99	---	73.83	29.89
				09/12/11	---	26.94	---	72.88	29.89
				08/16/13	---	24.04	---	75.78	---
				01/09/14	---	23.98	---	75.84	---
				12/22/14	---	25.15	---	74.67	29.90
				09/15/15	---	24.79	---	75.03	29.90
				10/11/16	---	23.73	---	76.09	29.80
				05/20/19	---	23.00	---	76.82	29.91
06/14/21	---	21.33	---	78.49	29.89				
12175-MW23	31	21-31	102.29	10/20/10	---	24.86	---	77.43	31.37
				09/12/11	---	25.99	---	76.30	31.34
				08/16/13	20.87	24.35	3.48	80.55	NM
				01/09/14	---	24.32	---	77.97	---
				12/22/14	---	24.21	---	78.08	31.35
				09/15/15	---	23.90	---	78.39	31.35
				10/11/16	---	23.61	---	78.68	31.23
				05/20/19	---	22.19	---	80.10	31.27
06/14/21	---	21.61	---	80.68	31.15				
12175-MW24	30	20-30	100.23	08/16/13	---	22.07	---	78.16	---
				01/09/14	---	22.08	---	78.15	---
				12/22/14	---	21.85	---	78.38	30.15
				09/15/15	---	21.76	---	78.47	30.15
				10/11/16	---	21.21	---	79.02	30.05
				05/20/19	---	20.00	---	80.23	30.25
06/14/21	---	19.00	---	81.23	30.15				
12175-MW25	30	20-30	99.95	08/16/13	21.40	23.87	2.47	77.93	NM
				01/09/14	21.22	23.75	2.53	78.10	NM
				01/23/15	19.90	21.90	2.00	79.55	30.15
				09/15/15	20.48	24.45	3.97	78.48	NM
				10/11/16	20.16	23.77	3.61	78.89	NM
				05/20/19	19.64	19.68	0.04	80.30	NM
06/14/21	17.94	21.16	3.22	81.21	NM				

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW26	30	20-30	99.89	08/16/13	---	22.81	---	77.08	---
				01/09/14	---	22.68	---	77.21	---
				12/22/14	---	22.45	---	77.44	30.09
				09/15/15	---	22.13	---	77.76	30.09
				10/11/16	---	21.66	---	78.23	29.97
				05/20/19	---	20.17	---	79.72	30.08
				06/14/21	---	19.68	---	80.21	30.05
12175-RW1	30	20-30	98.05	08/16/13	---	19.80	---	78.25	---
				08/16/13	19.64	19.67	0.03	78.40	NM
				04/03/14	18.31	18.35	0.04	79.73	NM
				12/22/14	---	19.38	---	78.67	29.18
				09/15/15	---	19.42	---	78.63	NM
				10/11/16	18.75	18.80	0.05	79.29	NM
				05/20/19	17.25	17.26	0.01	80.80	NM
12175-RW2	30	20-30	100.05	06/14/21	15.84	18.28	2.44	81.60	NM
				08/16/13	20.75	20.87	0.12	79.27	NM
				08/16/13	21.16	24.18	3.02	78.14	NM
				04/03/14	19.79	22.38	2.59	79.61	NM
				01/23/15	20.00	22.50	2.50	79.43	30.10
				09/15/15	20.45	24.40	3.95	78.61	NM
				10/11/16	20.20	24.09	3.89	78.88	NM
12175-RW3	30	20-30	100.16	05/20/19	19.67	20.03	0.36	80.29	NM
				06/14/21	17.96	21.14	3.18	81.30	NM
				08/16/13	---	22.16	---	78.00	---
				01/09/14	---	22.00	---	78.16	---
				12/22/14	---	21.78	---	78.38	30.00
				09/15/15	---	21.68	---	78.48	NM
				10/11/16	---	21.28	---	78.88	30.08
12175-RW4	35	15-35	100.25	05/20/19	19.80	19.81	0.01	80.44	NM
				06/14/21	18.20	21.50	3.30	81.03	NM
12175-TW1	38	33-38	91.52	05/20/19	---	16.82	---	74.70	38.79
				06/14/21	---	17.60	---	73.92	38.78
12175-TW2	38	25-30	93.29	05/20/19	---	11.66	---	81.63	29.50
				06/14/21	---	11.07	---	82.22	29.50

**Notes:**

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free phase product with an assumed density of 0.75g/cm<sup>3</sup>, where present.

Well depths and screen lengths based on well construction records referencing ground surface.

Measured depths to fluids reference top of casing as measuring point.



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW1	03/04/09	FREE PHASE PRODUCT																	
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
	05/20/19	FREE PHASE PRODUCT																	
06/14/21	FREE PHASE PRODUCT																		
12175-MW2	03/04/09	4,970	7,470	1,020	4,400	183	142	0.46	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
	05/20/19	FREE PHASE PRODUCT																	
06/14/21	FREE PHASE PRODUCT																		
12175-MW3	03/04/09	7.9	33.9	<5.0	12.8	<5.0	<5.0	<0.019	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	<5.0	4.5J	<5.0	5.7J	<5.0	<5.0	<0.020	<5.0	<5.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	7.5	<5.0	<5.0	4.7J	<5.0	3.6J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	21.4	<1	<0.5	3.5	<1	<5	<0.0189	<0.5	NR	<20	<1	2.6I	<160	<1	<800	<1	<40	
	12/23/14	43.1	1.7J	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	3.1 J	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	8.5	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	3.0J	<1.8	<5.0	<3.1	3.0J	0.13	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	12175-MW4	05/10/10	411	29.8	8.3	31.9J	256	<5.0	<0.020	<5.0	17.6	3,120	11.8	322	<50.0	<5.0	<200	<10.0	<100
10/21/10		1,360	87.5	108	121.6	630	15.2	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11		626	10.6	9.5	19.2	862	<25	<0.019	<2.5	NR	7,600	30	350	<800	4.4I	<4,000	<5	<200	
12/22/14		FREE PHASE PRODUCT																	
09/15/15		FREE PHASE PRODUCT																	
10/12/2016		415	3210	1630	7070	464	526	<0.019	<45.0	NR	20000	<85.0	2750	<182	<42.5	<3280	<90.0	<802	
05/22/2019		<74.8	1030	1550	7140	101 J	722	<0.011	<70.5	NR	6760	<139	1510 J	<585	<65.0	<3200	<134	<1640	
06/15/2021		<8.7	268	564	2210	27.2	251	<0.010	<10.3	NR	2640	<15.2	<455	<120	<17.4	<720	<42.3	<270	
12175-MW5	05/10/10	20,900	30,900	1,090	12,100	11,400	316	0.93	<5.0	21.7	25,300	1,620	<100	<50.0	131	<200	47.1	<100	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/12/2016	26000	41800	3100	17000	660 J	819 J	2.1	<450	NR	<19200	1370 J	<14400	<1820	<425	<32800	<900	<8020	
	05/22/2019	22600	37700	3260	16700	<524	723 J	1.4	<564	NR	<12400	<1110	<5880	<4680	<520	<25600	<1070	<13100	
	06/14/21	FREE PHASE PRODUCT																	
12175-MW6	05/10/10	270	200	20.1	213.3	59.4	<5.0	<0.019	<5.0	9.4	757	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	1,830	1,140	110	677	186	9.1J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	1,500	351	19.5	353	155	<50	<0.0187	<5	NR	<200	6.7 I	<200	<1.600	<10	<8,000	<10	<400	
	12/23/14	2,350	183	483	263	459	26.6	<0.019	<25.0	NR	13,600	<50.0	1,050	<250	<25.0	<1,000	<50.0	<500	
	09/15/15	1,890	<100	708	<200	905	<100	<0.020	<100	NR	28300	<200	2020	<1000	<100	<4000	<200	<2000	
	10/12/2016	1,660	593	497	842	770	43.5 J	<0.020	<36.0	NR	34800	<68.0	2870	<146	<34.0	<2620	<72.0	<642	
	05/22/2019	3,480	562	932	2120	1190	115 J	<0.011	<113	NR	62100	<223	4340	<936	<104	<5120	<215	<2620	
	06/15/2021	3510	564	965	1540	1530	111 J	<0.0099	<51.5	NR	68500	<76.0	5040	<602	<87.2	<3600	<212	<1350	



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW14	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	7.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.044	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW15	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	128	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.031	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW16	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	146	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175-MW17	10/21/10	15,900	31,400	2,820	12,970	564	623	0.69	<5.0	NR	13,600	533J	<100	<50.0	24.5	<200	8.5J	<100
	09/12/11	9,220	19,590	1,530	7,480	<100	272 I	0.13	<50	NR	9,580	260	<2,000	<16,000	<100	<80,000	<100	<4,000
	12/23/14	15,600	40,400	3,430	18,500	545 J	843	0.23	<625	NR	18,000	490 J	<12,500	<6,250	<625	<25,000	<1,250	<12,500
	09/16/15	15,000	33,000	2,820	17,000	<1000	1880	0.70	<1000	NR	15,700 J	<2000	<20,000	<10,000	<1000	<40,000	<2,000	<20,000
	10/12/2016	19,100	38,100	3,180	16,200	<340	613 J	0.64	<360	NR	29,100	<680	<11,500	<1,460	<340	<26,200	<720	<6,420
	05/21/2019	13,600	30,900	3,120	15,900	<1050	<1070	0.74	<1130	NR	<24,800	<2,230	<11,800	<9360	<1040	<51,200	<2,150	<26,200
	06/15/2021	11,000	39,100	3,300	16,200	<775	586 J	0.33	<515	NR	<16,400	<760	<22,800	<6,020	<872	<36,000	<2,120	<13,500
12175-MW18	10/21/10	26.8	101	9.3	42.7	2.8J	3.1J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/23/14	7,030	17,400	1,430	8,170	18.7	228	<0.019	<10.0	NR	1,540	94.3	<200	<100	<100	<400	<20.0	<200
	09/16/15	3,350	9,620	898	6,070	<25.0	208	0.056	<25.0	NR	740	31.8 J	<500	<250	<25.0	<1,000	<50.0	<500
	10/12/2016	5,070	13,300	1,630	5,810	<170	276 J	0.11	<180	NR	<7,680	<340	<5,770	<730	<170	<13,100	<360	<3,210
	05/22/2019	2,450	13,300	1,690	7,050	<328	388 J	0.096	<352	NR	<7,740	<696	<3,680	<2,920	<325	<16,000	<671	<8,200
	06/15/2021	1,510	14,000	1,780	7,260	<388	375 J	<0.0097	<258	NR	<8,200	<380	<11,400	<3,010	<436	<18,000	<1,060	<6,740
12175-MW19	10/20/10	FREE PHASE PRODUCT																
	09/12/11	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/12/2016	910	6950	1460	9810	<85.0	360	<0.020	<90.0	NR	7780	<170	<2880	<365	<85.0	<6550	<180	<1600
	5/20/2019	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
12175-MW20	10/21/10	5.6	7.0	1.1J	9.1J	9.5	2.9J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	0.17 I	<0.5	<2	5	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/20/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	0.096	<2.8	NR	<61.9	<5.6	<29.4	<23.4	<2.6	<128	<5.4	<65.6
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW21	10/21/10	2.5J	10.5	1.8J	8.2J	<5.0	5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/23/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	3.2J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	9.9	<0.019	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/20/2019	No Access																	
12175-MW22	06/14/2021	<1.7	<2.0	<1.8	8.0	<3.1	24.2	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	10/21/10	<5.0	4.5J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0191	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
12175-MW23	05/21/2019	<1.7	2.9J	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	2.2J	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	10/21/10	<5.0	4.5J	<5.0	<15.0	3.8J	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	0.66J	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	18.9	<5.0	<5.0	<10.0	6.4	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	18.7	<5.0	<5.0	<10.0	10.1	3.6J	<0.020	<5.0	NR	<100	3.5J	<100	<50.0	<5.0	<200	<10.0	<100	
12175-MW24	10/12/2016	1110	<16.0	<16.0	51.6J	117	22.1J	<0.020	<18.0	NR	<76.8	65.4J	<57.7	<73.0	<17.0	<1310	<36.0	<321	
	05/21/2019	998	<28.7	<29.0	<50.0	262	<26.7	<0.011	<28.2	NR	2260	115	447J	<234	<26.0	<1280	<53.7	<656	
	06/15/2021	167	<5.0	<4.6	43.5	373	11.2J	<0.010	<5.2	NR	4990	171	237J	<60.2	9.3J	<360	<21.2	<135	
	12/23/14	12,100	32,800	1,780	21,100	75.5	469	<0.020	<50.0	NR	17,400	119	644J	<500	<50.0	<2,000	<100	<1,000	
	09/16/15	4720	17000	2600	14600	<625	1320	<0.020	<625	NR	15600	<1250	<12500	<6250	<625	<25000	<1250	<12500	
	10/12/2016	4320	13600	2170	11300	<170	493J	0.35	<180	NR	18700	<340	<5770	<730	<170	<13100	<360	<3210	
12175-MW25	05/22/2019	5290	15300	2470	12000	<262	584	<0.011	<282	NR	18700	<557	<2940	<2340	<260	<12800	<537	<6560	
	06/15/2021	5600	18100	2650	12700	<310	567	<0.0098	<206	NR	23800	<304	<9100	<2410	<349	<14400	<846	<5390	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
	05/20/19	FREE PHASE PRODUCT																	
06/14/21	FREE PHASE PRODUCT																		
12175-MW26	12/22/14	967	41.8	<25.0	<30.0	84.6	25.6	<0.019	13.9J	NR	1,310	44.7J	306J	<250	16.0J	<1,000	<50.0	161J	
	09/15/15	563	<25.0	<25.0	<50.0	54.4	47.5	<0.020	12.1J	NR	1200	27.4J	<500	<250	18.6J	<1000	<50.0	<500	
	10/12/2016	238	<4.0	<4.0	<6.8	37.2	<5.0	<0.019	7.6J	NR	1100	30.6	249J	<18.2	10.0J	<328	<9.0	<80.2	
	05/22/2019	52.1	<2.0	<1.8	<5.0	29.7	<2.1	<0.011	5.9	NR	1920	57.4	194	<24.1	10.2	<144	<8.5	<53.9	
	06/15/2021	3.1J	<2.0	<1.8	<5.0	53.8	<2.1	<0.0096	5.2	NR	3330	94.8	282	<24.1	14.7	<144	<8.5	<53.9	
	05/20/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175 - TW1	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	05/22/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
12175 - TW2	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-RW1	12/23/14	27,900	44,800	2,900	17,000	4,540	525	1.2	<100	NR	18,100	2,010	1,550 J	<1,000	145	<4,000	<200	<2,000
	09/16/15	26800	51700	2630	21600	2330	3120	0.39	<2000	NR	41800	1570 J	<40000	<20000	<2000	<80000	<4000	<40000
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
12175-RW2	06/14/21	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/11/16	FREE PHASE PRODUCT																
12175-RW3	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
	12/23/14	13,300	36,200	3,140	15,700	<2,500	<2,500	0.028	<2,500	NR	<50,000	<5,000	<50,000	<25,000	<2,500	<100,000	<5,000	<50,000
	09/16/15	8210	29800	2410	16000	<125	705	<0.019	<125	NR	19600	<250	<2500	<1250	<125	<5000	<250	<2500
12175-RW4	10/12/2016	11200	34900	3280	17100	<425	602 J	0.21	<450	NR	39000	<850	<14400	<1820	<425	<32800	<900	<8020
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																

Risk Based Screening Level (RBSL) as defined in Appendix B of SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001, South Carolina Risk-Based Corrective Action for Petroleum Releases  
Action Level (AL) as defined in SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, October 22, 2008, Certification of the Oxygenate

Concentrations in bold face type exceeded the RBSL / Action Level  
< = less than the reporting limit specified in the laboratory report  
NR = analysis not requested  
NS = not sampled

EDB = 1,2-Dibromoethane  
TBF = *tert*-Butyl Formate  
TAA = *tert*-Amyl Alcohol  
1,2-DCA = 1,2-Dichloroethane  
TBA = *tert*-Butyl Alcohol  
MTBE = Methyl-*tert*-butyl ether  
TAME = *tert*-Amyl methyl ether  
DIPE = Diisopropyl ether  
ETBE = Ethyl-*tert*-butyl ether

J value = an estimated value between the laboratory reporting limit and the method detection limit  
I value = an estimated value between the laboratory method detection limit and the laboratory practical quantitation limit  
NE = not established  
NF = well not found

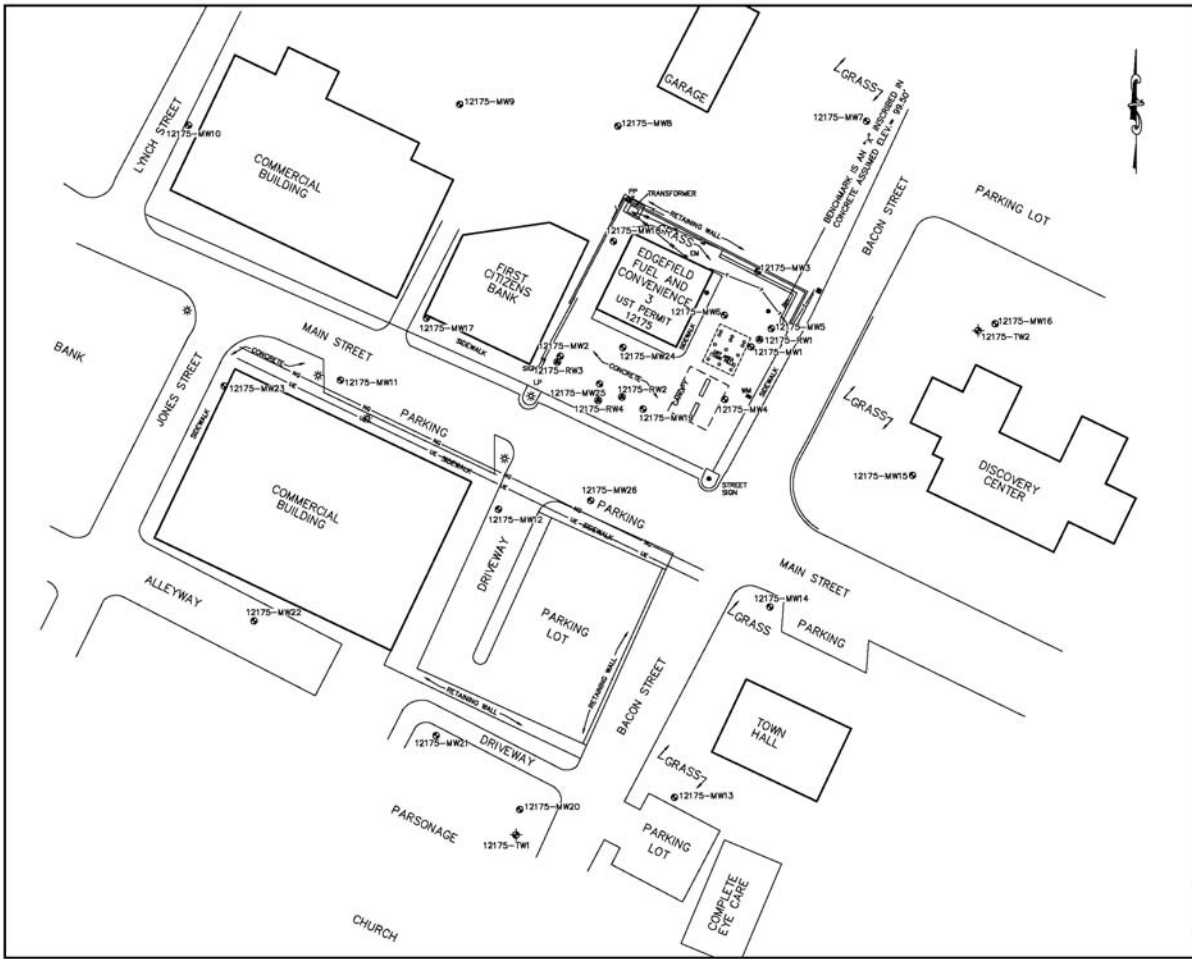
## **FIGURES**

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- Legend**
- UE— Underground Electric Line
  - X— Wood Fence Line
  - T— Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊕ Grate Top Drop Inlet
  - ⊕ Light Pole
  - ⊕ Light Pole
  - 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
  - 12175-RW1 ⊕ Recovery Well
  - 12175-TW1 ⊕ Telescoping Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATC**  
 7808 Whitehall Executive Center Drive, Suite 800  
 Charlotte, NC 28215  
 Phone: (704)343-8711 Fax: (704)343-8744

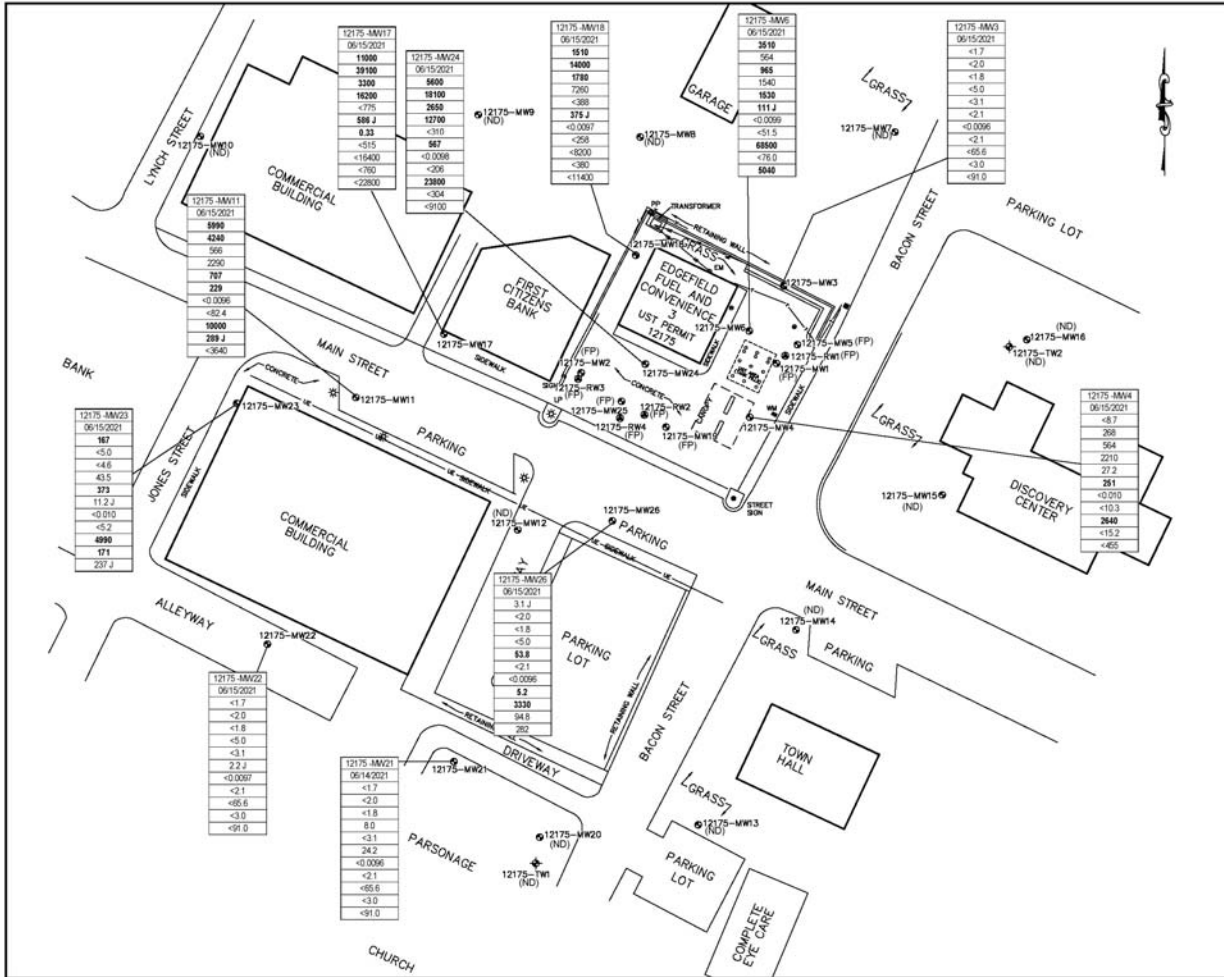
**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
 Site Plan

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

**SCALE:**  
 1"=50'

DESIGNED BY:	DESIGNED BY:	DESIGNED BY:	DESIGNED BY:
DESIGNED BY:	DESIGNED BY:	DESIGNED BY:	DESIGNED BY:
DATE:	DATE:	DATE:	DATE:
DATE:	DATE:	DATE:	DATE:
DATE:	DATE:	DATE:	DATE:
DATE:	DATE:	DATE:	DATE:



**Legend**

- UE— Underground Electric Line
- X— Wood Fence Line
- T— Underground Telephone Line
- 12175-MW1 (Symbol) Shallow (Water Table) Monitoring Well
- 12175-RW1 (Symbol) Recovery Well
- 12175-TW1 (Symbol) Telescoping Well

Sample ID	RBSLs/AIs
Date	
Benzene	5
Toluene	1000
Ethylbenzene	700
Xylene (Total)	10000
Methyl-tert-butyl ether	40
Naphthalene	25
1,2-Dibromothane (EDB)	0.05
1,2-Dichloroethane	5
tert-Amyl Alcohol	240
tert-Amylmethyl ether	128
tert-Butyl Alcohol	1400

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.  
 All concentrations are measured in micrograms per liter (µg/L).  
 Above Concentration Represent RBSLs as defined in Programmatic GAPP, Revision 3.1, August 2016, Table D1 RBSLs for Groundwater and the Action Levels (ALs) as defined in Appendix D of RCDEHC, Bureau of Land and Waste Management, US1 Management Division, Programmatic GAPP, Revision 3.1, August 2016, Table D2: Action Levels for Groundwater (Organics).  
 <1.0 - Less than the laboratory specified reporting limit.  
 ND - CoC not detected.  
 NF - Not Found  
 FP - Free Phase Petroleum Product present  
 Samples collected 6/14/21-6/15/21

**ATC**  
 7606 Whitehall Executive Center Drive, Suite 600  
 Charlotte, NC 28217  
 Phone: (704)382-8711 Fax: (704)382-8744

**PROJECT:** Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:** Groundwater Quality Map

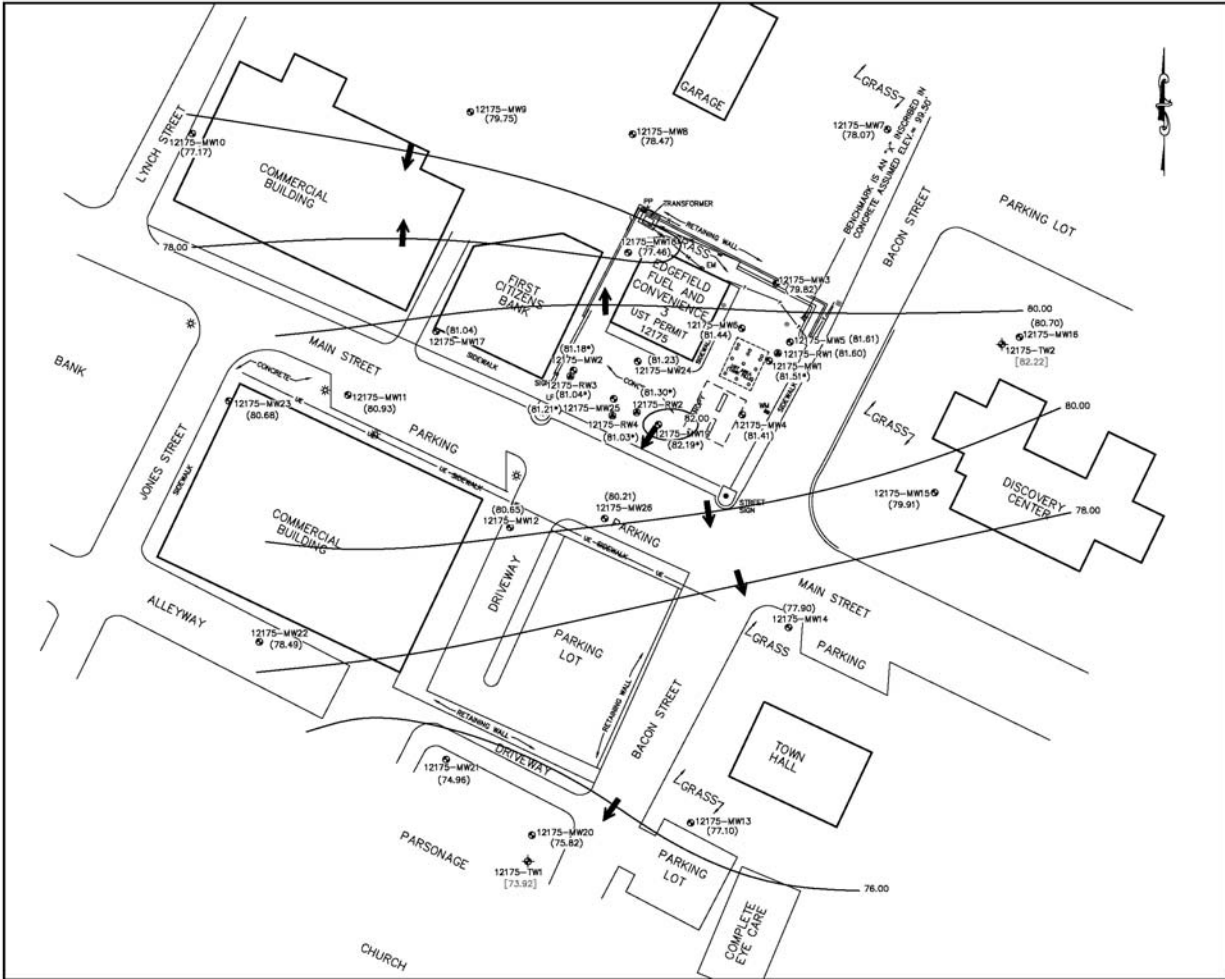
**CLIENT:** Edgefield Fuel & Convenience, LLC

**GRAPHIC SCALE:** 0 25 50 Feet

**COMPUTER GRAPHIC SCALE:** 0 25 50 Feet

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
KD	KD	NF	NF

SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	06/24/21	EF083	4



**Legend**

- LE— Underground Electric Line
- X— Wood Fence Line
- T— Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- PP Light Pole
- LP Light Pole
- 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
- 12175-RW1 ⊕ Recovery Well
- 12175-TW1 ⊕ Telescoping Well
- (80.46) Groundwater Elevation (ft)
- 80.00 Water Table Contour (Dashed where inferred)
- Flow Direction Indicator
- [74.75] Groundwater Elevation not used to determine groundwater flow
- \* Groundwater elevation adjusted in the presence of Free Product

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes. Horizontal, and vertical locations of wells, and selected site features determined through measurements made by representatives of ATC.

Groundwater elevations are relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevations are based on measurements made on 6/14/21.



7808 Whitehall Renaissance Center Drive, Suite 800  
 Charlotte, NC 28203  
 Phone: (704)888-2711 Fax: (704)888-2744

NO. 10  
**Edgefield Fuel & Convenience 3**  
 311 Main Street  
 Edgefield, South Carolina

TITLE:  
**Groundwater Elevation Map**

CLIENT:  
**Edgefield Fuel & Convenience, LLC**

GRAPHIC SCALE: 0 10 20 30 40 50  
 FEET

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
KD	KD	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	6/24/21	EFC83	5

**APPENDIX B**

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Sampling Logs, Laboratory Reports, COC Forms, QA/QC Evaluation





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TNOE4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <input checked="" type="radio"/> Y or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or N
Comments:	Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> Y or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or N	

### Well Information

Sample ID: 12175- MW-1	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection ___ Bailer ___ Pump ___ PDB
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ ___ Private WSW ___ Public WSW	Well Diameter (inches): 2"	Conversion Factor (C):				Depth to Free Product (DTP) (ft.): 15.92
Depth to Groundwater (DTW) (ft.): 20.23	Total Well Depth (TWD) (ft.):	Screened Interval (ft.): 20 - 35				Free Product Thickness (ft.): 4.31
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):	3 casing volumes (3 x CV) (gals.):				—

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

### Sampling Data

Sampled By: AR, RC	Sampling Time:	Duplicate: <input checked="" type="radio"/> Y or <input checked="" type="radio"/> N	If yes, Duplicate Time:
Notes: Free product, unable to sample well			
Signature: ATR			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- <u>MU-2</u>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection ___Bailer ___Pump ___PDB
<input checked="" type="checkbox"/> MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): <u>19 - 34</u>	Depth to Free Product (DTP) (ft.): <u>18.81</u>					
Depth to Groundwater (DTW) (ft.): <u>20.52</u>	Total Well Depth (TWD) (ft.): <u>—</u>	Free Product Thickness (ft.): <u>1.71</u>					
Length of water column (LWC = TWD – DGW) (ft.): <u>—</u>	1 casing volume (CV = LWC x C) (gals.): <u>—</u>	3 casing volumes (3 x CV) (gals.): <u>—</u>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: <u>AR, RC</u>	Sampling Time:	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: <u>—</u>
Notes: <u>Free product, unable to sample well</u>			
Signature: <u>AR</u>			





Underground Storage Tank Management Division  
Field Data Information Sheet - Sampling

Site Information

Date: 6/5/2021 Site ID #: 12175 Site Name: EFC #4 Field Personnel: Austen R., Rachel C.  
County: Edgefield Project Manager: Noelle France General Weather Conditions: Sunny Ambient Air Temp (°F): 85

Quality Assurance

Meter Name: Serial #: RHM512LU9/TM0E4N87  
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity) 7MV1T389/XV6XD10N  
pH 4.00 ± 0.05:  Y or  N at 21 °C Turbidity 0.0 NTU ± 5%:  Y or  N  
Specific Conductivity 4.49 mS/cm ± 5%:  Y or  N DO 8.78 mg/L ± 5%:  Y or  N  
Comments:

Well Information

Sample ID: 12175-MW-3 Well Diameter (inches): 2"  
Conversion Factor (C): 1" Well 0.047 2" Well 0.163 4" Well 0.652 6" Well 1.469 Method of Purging/Sample Collection  
 MW  IW  RW  Surface Water  Other  Bailer  Pump  PDB  
Private WSW Public WSW  
Screened Interval (ft): 19 - 34 Depth to Free Product (DTP) (ft.):  
Depth to Groundwater (DTW) (ft.): 20.62 Total Well Depth (TWD) (ft.): 33.84 Free Product Thickness (ft.):  
Length of water column (LWC = TWD - DGW) (ft.): 13.22 1 casing volume (CV = LWC x C) (gals.): 2.15 3 casing volumes (3 x CV) (gals.): 6.46

Purging Data

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.5	5.0	7.5	10.0	12.5			0
Time (military)	1245	1250	1255	1300	1305	1310			
PH (s.u.)	6.03	5.95	5.88	5.92	5.94	6.08			
Specific Conductivity (µS/cm)	302	299	293	291	284	289			
Water Temperature (°C)	26.37	24.49	23.53	23.10	23.19	21.12			
Turbidity (NTU)	756	65.4	71.5	51.0	53.8	51.0			
Dissolved Oxygen (mg/L)	1.63	1.05	1.41	1.65	2.33	1.74			

Sampling Data

Sampled By: AR, RC Sampling Time: 1315 Duplicate: Y or N If yes, Duplicate Time:

Notes: Ripped GW was disposed of onsite / 3 Bearings with 10% from Sample

Signature:





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/17/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C. <span style="float: right; border: 1px solid black; border-radius: 50%; padding: 2px;">Ned</span>
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Y</span> or N at 20 °C Turbidity 0.0 NTU ± 5% <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Y</span> or N
Comments:		DO 8.78 mg/L ± 5% <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Y</span> or N

## Well Information

Sample ID: 12175- <u>nw4</u>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">0.163</span>	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump <input type="checkbox"/> PDB		
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft):	19 - 29					Depth to Free Product (DTP) (ft.):	0
		Total Well Depth (TWD) (ft):	28-92					Free Product Thickness (ft):	0
		Length of water column (LWC = TWD - DGW) (ft):	11.72					3 casing volumes (3 x CV) (gals.):	5.7

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.0	11.0	—	6.0	—	—	—	0
Time (military)	1105	1110	1115	—	1117	—	—	—	—
PH (s.u.)	6.04	5.90	5.88	—	5.90	—	—	—	—
Specific Conductivity (µS/cm)	0.400	0.399	0.398	—	0.409	—	—	—	—
Water Temperature (°C)	23.02	22.99	23.37	—	23.32	—	—	—	—
Turbidity (NTU)	470	678	680	—	687	—	—	—	—
Dissolved Oxygen (mg/L)	14.19	11.00	10.98	—	10.96	—	—	—	—

## Sampling Data

Sampled By: AR, RC <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">NR</span>	Sampling Time: 1170	Duplicate: <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Y</span> or <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">N</span>	If yes, Duplicate Time: —
Notes: <i>purge water contained</i>			

Signature:



**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

**Site Information**

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

**Quality Assurance**

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

**Well Information**

Sample ID: 12175- MW-S	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection Bailer ___ Pump ___ PDB ___
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Screened Interval (ft): 19 - 29	Depth to Free Product (DTP) (ft): 16.10	Free Product Thickness (ft): 1.35				
Depth to Groundwater (DTW) (ft.): 17.45	Total Well Depth (TWD) (ft):	3 casing volumes (3 x CV) (gals.):					
Length of water column (LWC = TWD - DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):						

**Purging Data**

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

**Sampling Data**

Sampled By: AR, RC	Sampling Time:	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time:
Notes: Free product, unable to sample well			
Signature: ATR			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <u>Y</u> or N at _____ °C Turbidity 0.0 NTU ± 5%: <u>Y</u> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or N DO 8.78 mg/L ± 5%: <u>Y</u> or N
Comments:		

### Well Information

Sample ID: 12175-MW-6	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 19 - 29					Depth to Free Product (DTP) (ft): _____
Depth to Groundwater (DTW) (ft.): 18.58		Total Well Depth (TWD) (ft): 29.01				Free Product Thickness (ft): _____
Length of water column (LWC = TWD - DGW) (ft.): 10.63		1 casing volume (CV = LWC x C) (gals.): 1.73				3 casing volumes (3 x CV) (gals.): 5.19

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.73	3.46	/	5.19	/	6.92	8.65	0
Time (military)	1045	1050	1055	/	1100	/	/	/	1110
PH (s.u.)	5.76	6.06	5.98	/	6.08	/	/	/	6.06
Specific Conductivity (µS/cm)	0.618	0.615	0.609	/	0.607	/	/	/	0.608
Water Temperature (°C)	25.49	24.35	24.27	/	23.49	/	/	/	23.74
Turbidity (NTU)	7100	776	7100	/	7100	/	/	/	7100
Dissolved Oxygen (mg/L)	14.08	13.13	16.90	/	15.81	/	/	/	16.09

### Sampling Data

Sampled By: AR, RC	Sampling Time: 1110	Duplicate: Y or <u>N</u>	If yes, Duplicate Time: _____
Notes: <u>Purge water continued</u> <u>Three readings with in 10 min, then sampled</u>			
Signature: <u>AR</u>			





# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
Ambient Air Temp (°F): 85			

## Quality Assurance

Meter Name:	Serial #:	Calibration:	pH 4.00 ± 0.05: <input checked="" type="checkbox"/> or N at 21 °C
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N		Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N
			Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="checkbox"/> or N
Comments:			

## Well Information

Sample ID: 12175-MW-7	Well Diameter (inches): 2"	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft): 10 - 20		Depth to Free Product (DTP) (ft.):		
Depth to Groundwater (DTW) (ft.): 15.25		Total Well Depth (TWD) (ft): 20.37		Free Product Thickness (ft):		
Length of water column (LWC = TWD - DGW) (ft.): 5.12		1 casing volume (CV = LWC x C) (gals.): 0.83		3 casing volumes (3 x CV) (gals.): 2.50		

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.00	2.06	4.00	5.00			0
Time (military)	1120	1125	1130	1140	1145			
PH (s.u.)	7.72	6.20	5.43	4.88	4.82			
Specific Conductivity (µS/cm)	118	102	099	104	104			
Water Temperature (°C)	25.08	23.60	22.45	22.28	22.34			
Turbidity (NTU)	167	0.0	0.0	0.0	0.0			
Dissolved Oxygen (mg/L)	5.61	4.68	6.468	5.02	5.12			

## Sampling Data

Sampled By: AR, RC	Sampling Time: 1150	Duplicate: Y or N	If yes, Duplicate Time:
Notes: <i>Purge H<sub>2</sub>O <del>sample</del> disposed on site, three leadings within 10%. Two sample</i>			
Signature: <i>[Signature]</i>			





# Underground Storage Tank Management Division Field Data Information Sheet - Sampling

## Site Information

Date: 6/17/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
Ambient Air Temp (°F): 85			

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <u>7MVT389/XV6XD16N</u>	pH 4.00 ± 0.05: <u>8</u> or N at <u>21</u> °C Turbidity 0.0 NTU ± 5%: <u>9</u> or N Specific Conductivity 4.49 mS/cm ± 5%: <u>8</u> or N DO 8.78 mg/L ± 5%: <u>8</u> or N
Comments:		

## Well Information

Sample ID: 12175- <u>MW-8</u>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <u>17 - 27</u>	Depth to Free Product (DTP) (ft.): <u>—</u>		Free Product Thickness (ft): <u>—</u>		Length of water column (LWC = TWD - DGW) (ft.): <u>4.78</u> <u>26.96</u>	
Total Well Depth (TWD) (ft): <u>26.90</u>		1 casing volume (CV = LWC x C) (gals.): <u>0.77</u>		3 casing volumes (3 x CV) (gals.): <u>2.33</u>			

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.00	2.00	3.00				0
Time (military)	1740	1745	1750	1753				
PH (s.u.)	6.26	6.31	6.35	6.38				
Specific Conductivity (µS/cm)	409	306	315	320				
Water Temperature (°C)	25.64	25.94	25.55	24.83				
Turbidity (NTU)	16.0	13.3	8.4	4.5				
Dissolved Oxygen (mg/L)	2.14	2.93	7.04	4.89				

## Sampling Data

Sampled By: AR, RC	Sampling Time: <u>1800</u>	Duplicate: Y or N	If yes, Duplicate Time:
Notes: <u>Purge H<sub>2</sub>O disposed of on-site. 3 Readings within 60" from samples.</u>			
Signature:			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/10/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 : <input checked="" type="radio"/> or N at 21 °C Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Sample ID: 12175-MW-9	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection Bailer ___ Pump ___ PDB ___	
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Screened Interval (ft): 17 - 27	Depth to Free Product (DTP) (ft): ___					Free Product Thickness (ft): ___	
Depth to Groundwater (DTW) (ft.): 17.80	Total Well Depth (TWD) (ft): 27.03	Length of water column (LWC = TWD - DGW) (ft.): 9.23						
1 casing volume (CV = LWC x C) (gals.): 1.50								

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0	4.5	6.0				0
Time (military)	0955	1000	1005	1010	1015				
PH (s.u.)	5.49	5.62	5.54	5.59	5.63				
Specific Conductivity (µS/cm)	120	124	128	128	128				
Water Temperature (°C)	21.30	20.34	19.96	19.90	19.96				
Turbidity (NTU)	184	0.0	0.0	0.0	0.0				
Dissolved Oxygen (mg/L)	2.29	2.88	3.31	3.29	3.35				

## Sampling Data

Sampled By: AR, RC	Sampling Time: 1000	Duplicate: Y or N	If yes, Duplicate Time:
Notes: <u>Water H<sub>2</sub>O disposed of on site</u> <u>3 Readings within 10% of each other</u>			
Signature:			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <input checked="" type="radio"/> Y or <input type="radio"/> N at 21 °C Specific Conductivity 4.49 mS/cm ± 5% <input checked="" type="radio"/> Y or <input type="radio"/> N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or <input type="radio"/> N Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or <input type="radio"/> N
Comments:		

## Well Information

Sample ID: 12175- <del>MW-10</del>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft.): 20 - 30						
Depth to Groundwater (DTW) (ft.): 24.15							
Length of water column (LWC = TWD - DGW) (ft.): 6.10							
1 casing volume (CV = LWC x C) (gals.): 1.00							
3 casing volumes (3 x CV) (gals.): 3.00							

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.00	2.00	3.01				0
Time (military)	0920	0925	0930	0935				
PH (s.u.)	5.15	5.13	5.00	5.02				
Specific Conductivity (µS/cm)	088	088	089	084				
Water Temperature (°C)	21.87	21.45	21.53	21.55				
Turbidity (NTU)	46.0	0.0	0.0	0.0				
Dissolved Oxygen (mg/L)	7.10	5.73	7.00	7.51				

## Sampling Data

Sampled By: AR, RC	Sampling Time: 0920	Duplicate <input checked="" type="checkbox"/> or <input type="checkbox"/> N	If yes, Duplicate Time: —
Notes: <u>Purified disposed of on site</u> <u>Three readings when 100% the sampled</u>			
			Signature:





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C. <i>ARC</i>
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <u>7MV1T389/XV6XD10N</u>	pH 4.00 ± 0.05 <u>Y</u> or N at <u>21</u> °C Turbidity 0.0 NTU ± 5%: <u>Y</u> or N
		Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or N DO 8.78 mg/L ± 5%: <u>Y</u> or N
Comments:		

### Well Information

Sample ID: 12175- <u>1411</u>	Well Diameter (Inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well <u>0.163</u>	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer ___ Pump ___ PDB
___ MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW	Screened Interval (ft): <u>21 - 31</u>	Depth to Free Product (DTP) (ft.): <u>0.0</u>					
Depth to Groundwater (DTW) (ft.): <u>20.72</u>	Total Well Depth (TWD) (ft): <u>30.82</u>	Free Product Thickness (ft): <u>0.0</u>					
Length of water column (LWC = TWD - DGW) (ft.): <u>10.10</u>	1 casing volume (CV = LWC x C) (gals.): <u>1.6</u>	3 casing volumes (3 x CV) (gals.): <u>4.8</u>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0	—	5.0	—	—	—	0
Time (military)	832	835	838	—	840	—	—	—	—
PH (s.u.)	5.61	6.15	6.10	—	6.09	—	—	—	—
Specific Conductivity (µS/cm)	0.831	0.692	0.693	—	0.695	—	—	—	—
Water Temperature (°C)	23.46	22.50	22.49	—	22.48	—	—	—	—
Turbidity (NTU)	20.2	32.9	37.4	—	39.8	—	—	—	—
Dissolved Oxygen (mg/L)	7.63	5.04	4.99	—	4.97	—	—	—	—

### Sampling Data

Sampled By: AR, RC, <u>ARC</u>	Sampling Time: <u>845</u>	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: <u>—</u>
Notes: <u>Purge water contained</u>			
Signature:			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <u>7MV1T389/XV6XD10N</u>	pH 4.00 ± 0.05: <u>Y</u> or <u>N</u> at <u>21</u> °C Turbidity 0.0 NTU ± 5%: <u>Y</u> or <u>N</u> Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or <u>N</u> DO 8.78 mg/L ± 5%: <u>Y</u> or <u>N</u>
Comments:		

### Well Information

Sample ID: 12175- MW - 2	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB	
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): —						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 19.90	Free Product Thickness (ft): —						
Length of water column (LWC = TWD - DGW) (ft.): 10.04		1 casing volume (CV = LWC x C) (gals.): 1.63					3 casing volumes (3 x CV) (gals.): 4.89	

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.63	3.26	/	4.89	/	6.52	8.16	0
Time (military)	1335	1340	1345	/	1350	/	/	/	1355
PH (s.u.)	5.76	5.90	5.93	/	5.91	/	/	/	5.92
Specific Conductivity (µS/cm)	1.39	1.55	1.50	/	1.52	/	/	/	1.50
Water Temperature (°C)	25.26	24.88	24.83	/	24.95	/	/	/	24.72
Turbidity (NTU)	265	182	1000	/	1000	/	/	/	1000
Dissolved Oxygen (mg/L)	1.19	1.57	1.07	/	1.55	/	/	/	1.60

### Sampling Data

Sampled By: AR, RC	Sampling Time: 1355	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: —
Notes: <u>Prep water disposed of on site. Purge dry prior to 4th well volume</u>			
Signature: <u>ATR</u>			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/14/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
Ambient Air Temp (°F): 85			

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 ZMV1I389/XV6XD10N	pH 4.00 ± 0.05: <u>Y</u> or N at <u>21</u> °C Turbidity 0.0 NTU ± 5%: <u>Y</u> or N Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or N DO 8.78 mg/L ± 5%: <u>Y</u> or N
Comments:		

## Well Information

Sample ID: 12175- <u>NW-13</u>	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection Bailer ___ Pump ___ PDB ___
<u>f</u> MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW ___	Screened Interval (ft): <u>15 - 25</u>	Depth to Free Product (DTP) (ft): <u>—</u>				Free Product Thickness (ft): <u>—</u>
Depth to Groundwater (DTW) (ft.): <u>16.10</u>		Total Well Depth (TWD) (ft.): <u>25.26</u>				
Length of water column (LWC = TWD - DGW) (ft.): <u>25.26</u>		1 casing volume (CV = LWC x C) (gals.): <u>1.49</u> 3 casing volumes (3 x CV) (gals.): <u>4.47</u>				

## Purging Data

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0	5.0	7.0	9.0	11.00		0
Time (military)	1400	1405	1410	1415	1420	1425	1430		
PH (s.u.)	4.99	4.99	4.98	5.00	5.01	5.08	5.11		
Specific Conductivity (µS/cm)	220	263	250	257	267	263	265		
Water Temperature (°C)	24.24	23.55	22.61	22.68	22.49	22.61	22.74		
Turbidity (NTU)	32.3	31.8	475	778	499	746	727		
Dissolved Oxygen (mg/L)	2.41	2.46	2.86	2.73	3.31	6.08	5.87		

## Sampling Data

Sampled By: AR, RC	Sampling Time: 1435	Duplicate: Y or <u>N</u>
Notes: <u>Porte 420 closed at on site, three readings with then sample</u>		

Signature:	If yes, Duplicate Time: <u>—</u>
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# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/14/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
			Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <u>B</u> or N at <u>21</u> °C Specific Conductivity 4.49 mS/cm ± 5% <u>D</u> or N DO 8.78 mg/L ± 5% <u>D</u> or N
Comments:		

## Well Information

Sample ID: 12175- <u>W-14</u>	Well Diameter (inches): 2"	1" Well 0.047	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<u>MW</u> <input type="checkbox"/> <u>IW</u> <input type="checkbox"/> <u>RW</u> <input type="checkbox"/> Surface Water <input type="checkbox"/> Other <input type="checkbox"/> <u>Private WSW</u> <input type="checkbox"/> <u>Public WSW</u> <input type="checkbox"/>	Screened Interval (ft): <u>20 - 30</u>	Depth to Free Product (DTP) (ft): <u>        </u>			
Depth to Groundwater (DTW) (ft.): <u>22.15</u>		Free Product Thickness (ft): <u>        </u>			
Length of water column (LWC = TWD - DGW) (ft.): <u>17.45</u> <u>39.60</u>		3 casing volumes (3 x CV) (gals.): <u>8.53</u>			

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	3.00	6.00	9.00				0
Time (military)	1445	1450	1457	1500				
PH (s.u.)	5.33	5.18	5.27	5.24				
Specific Conductivity (µS/cm)	149	128	129	127				
Water Temperature (°C)	28.99	27.30	25.25	25.31				
Turbidity (NTU)	24.1	123	890	802				
Dissolved Oxygen (mg/L)	2.39	1.38	2.60	1.93				

## Sampling Data

Sampled By: AR, RC	Sampling Time: <u>1505</u>	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time:
Notes: <u>Purged the disposed of on site. 3 Readings within 10'. Then Sampled</u>			
Signature:			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:	pH 4.00 ± 0.05 <u>Y</u> or <u>N</u> at <u>21</u> °C
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/IN0E4N87 7MV1T389/XV6XD10N		Turbidity 0.0 NTU ± 5%: <u>Y</u> or <u>N</u>
			Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or <u>N</u>
Comments:			

## Well Information

Sample ID: 12175- <u>MW-15</u>	Well Diameter (Inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft): <u>17 - 27</u>				Depth to Free Product (DTP) (ft.): <u>    </u>
Depth to Groundwater (DTW) (ft.): <u>18.56</u>		Total Well Depth (TWD) (ft): <u>26.98</u>				Free Product Thickness (ft): <u>    </u>
Length of water column (LWC = TWD - DGW) (ft.): <u>28.95</u>		1 casing volume (CV = LWC x C) (gals.): <u>1.37</u>				3 casing volumes (3 x CV) (gals.): <u>4.11</u>

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0	5.0				0
Time (military)	1625	1630	1635	1640				
PH (s.u.)	6.95	6.85	6.83	6.91				
Specific Conductivity (µS/cm)	905	906	939	929				
Water Temperature (°C)	24.94	23.47	22.64	22.58				
Turbidity (NTU)	12.1	8.2	9.7	9.4				
Dissolved Oxygen (mg/L)	1.62	0.99	1.56	1.96				

## Sampling Data

Sampled By: AR, RC	Sampling Time: 1645	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time:
Notes: <u>For the H<sub>2</sub>O disposed of on-site, these readings below were then sampled.</u>			
Signature:			



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/1/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
Ambient Air Temp (°F): 85			

## Quality Assurance

Meter Name:	Serial #:	Calibration:	Turbidity 0.0 NTU ± 5% <u>Y</u> or <u>N</u>
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <u>Y</u> or <u>N</u> at 21 °C	DO 8.78 mg/L ± 5% <u>Y</u> or <u>N</u>
Comments:			

## Well Information

Sample ID: 12175- MW-16	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 10 - 20	Depth to Free Product (DTP) (ft): —				
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): 19.28	Free Product Thickness (ft): —				
Depth to Groundwater (DTW) (ft.): 12.31		3 casing volumes (3 x CV) (gals.): 3,410				
Length of water column (LWC = TWD - DGW) (ft.): 6.97		1 casing volume (CV = LWC x C) (gals.): 1.13				

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.00	4.00	6.00				0
Time (military)	1705	1710	1715	1720				
PH (s.u.)	5.90	6.19	6.17	6.11				
Specific Conductivity (µS/cm)	175	176	177	179				
Water Temperature (°C)	22.44	21.98	22.02	22.13				
Turbidity (NTU)	25.2	24.4	24.9	24.1				
Dissolved Oxygen (mg/L)	1.08	0.80	0.76	0.74				

## Sampling Data

Sampled By: AR(RC)	Sampling Time: 1775	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: 1730
Notes: <i>Purge thro desced of onsite, three readings with 10% run samples</i>			
12175 Dup-1 taken @ 1730			
Signature: <i>[Signature]</i>			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C. <span style="float: right; border: 1px solid black; border-radius: 50%; padding: 2px;">NR 22</span>
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:	pH 4.00 ± 0.05: <input checked="" type="checkbox"/> or N at 21 °C
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N		Turbidity 0.0 NTU ± 5%: <input checked="" type="checkbox"/> or N
Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="checkbox"/> or N			
Comments:			

### Well Information

Sample ID: 12175- 1417	Well Diameter (inches): 2"	1" Well 0.047	2" Well 0.168	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection Bailer ___ Pump ___ PDB <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ ___ Private WSW ___ Public WSW	Screened Interval (ft): 18 - 28	Depth to Free Product (DTP) (ft.): 0.0				
Depth to Groundwater (DTW) (ft.): 20.05	Total Well Depth (TWD) (ft): 28.68	Free Product Thickness (ft): 0.0				
Length of water column (LWC = TWD - DGW) (ft.): 8.63	1 casing volume (CV = LWC x C) (gals.): 1.4	3 casing volumes (3 x CV) (gals.): 4.2				

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.5	3.0	—	4.5	—	—	—	0
Time (military)	9:50	9:53	9:56	—	9:58	—	—	—	—
PH (s.u.)	6.02	5.81	5.88	—	5.89	—	—	—	—
Specific Conductivity (µS/cm)	0.337	0.297	0.296	—	0.299	—	—	—	—
Water Temperature (°C)	23.18	22.42	22.47	—	22.50	—	—	—	—
Turbidity (NTU)	7.79	5.84	5.85	—	5.90	—	—	—	—
Dissolved Oxygen (mg/L)	5.95	7.41	7.40	—	7.43	—	—	—	—

### Sampling Data

Sampled By: AR, RC <span style="float: right; border: 1px solid black; border-radius: 50%; padding: 2px;">NR</span>	Sampling Time: 1000	Duplicate: Y or <input checked="" type="checkbox"/> N	If yes, Duplicate Time: _____
Notes: Purge water contained			
Signature: <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">NR</span>			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	
			Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 (Y or N at 2) °C Turbidity 0.0 NTU ± 5% (Y or N)
		Specific Conductivity 4.49 mS/cm ± 5% (Y or N) DO 8.78 mg/L ± 5% (Y or N)
Comments:		

### Well Information

Sample ID: 12175-MW-18	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): 18 - 28						Depth to Free Product (DTP) (ft.): —
Depth to Groundwater (DTW) (ft.): 24.05		Total Well Depth (TWD) (ft): 28.55		Free Product Thickness (ft): —			
Length of water column (LWC = TWD - DGW) (ft.): 4.50		1 casing volume (CV = LWC x C) (gals.): 0.73		3 casing volumes (3 x CV) (gals.): 2.19			

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling	
Volume Purged (gallons)	0	0.73	1.46	/						0
Time (military)	1700	1303	1306	/						1320
PH (s.u.)	6.06	6.16	5.90	/						6.09
Specific Conductivity (µS/cm)	0.313	0.175	0.204	/						0.238
Water Temperature (°C)	27.64	22.03	22.61	/						23.82
Turbidity (NTU)	9.9	14.1	33.1	/						1000
Dissolved Oxygen (mg/L)	1.33	1.70	0.74	/						1.20

### Sampling Data

Sampled By: AR, RC	Sampling Time: 1320	Duplicate: Y or (N)	If yes, Duplicate Time: —
Notes: Purge water disposed of on site, Petrol Odor Three readings with in 10% fresh sampled			
Signature: AR			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N
Calibration:	
pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C	Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N
Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N	DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:	

### Well Information

Sample ID: 12175- MW-19	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection ___Bailer ___Pump ___PDB
<input checked="" type="checkbox"/> MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): 18 - 28	Depth to Free Product (DTP) (ft.): 17.77	Free Product Thickness (ft): 0.20				
Depth to Groundwater (DTW) (ft.): 17.97	Total Well Depth (TWD) (ft):	Free Product Thickness (ft): 0.20					
Length of water column (LWC = TWD – DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):	3 casing volumes (3 x CV) (gals.):					

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: AR, RC	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:
Notes: Free product, unable to sample well			
Signature: ATR			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/14/2021 Site ID #: 12175 Site Name: EFC #4 Field Personnel: Austen R., Rachel C.

County: Edgefield Project Manager: Noelle France General Weather Conditions: Sunny Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name: Serial #: RH512LJ9/TN0E4N87 Calibration: pH 4.00 ± 0.05:  or N at 21 °C Turbidity 0.0 NTU ± 5%:  or N

Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity) 7MV1T389/XV6XDION Specific Conductivity 4.49 mS/cm ± 5%:  or N DO 8.78 mg/L ± 5%:  or N

Comments:

## Well Information

Sample ID: 12175- MW-20 Well Diameter (inches): 2" Conversion Factor (C): 1" Well 0.047 2" Well 0.163 4" Well 0.652 6" Well 1.469 Method of Purging/Sample Collection:  Bailer  Pump  PDB

MW  IW  RW  Surface Water  Other Screened Interval (ft): 17 - 27 Depth to Free Product (DTP) (ft): —

Private WSW  Public WSW Total Well Depth (TWD) (ft): 26.25 Free Product Thickness (ft): —

Depth to Groundwater (DTW) (ft.): 15.98 1 casing volume (CV = LWC x C) (gals.): 1.67 3 casing volumes (3 x CV) (gals.): 5.02

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.0	4.0	8.0	16.0	12.0	0
Time (military)	1810	1815	1820	1830	1835	1840	
PH (s.u.)	8.04	4.93	4.94	5.04	5.05	5.08	
Specific Conductivity (µS/cm)	436	335	264	232	236	239	
Water Temperature (°C)	23.38	22.36	22.12	22.83	21.89	21.92	
Turbidity (NTU)	61.3	497	610	712	706	693	
Dissolved Oxygen (mg/L)	0.88	1.19	1.50	2.02	2.75	2.12	

## Sampling Data

Sampled By: AR, RC Sampling Time: 1845 Duplicate: Y or N If yes, Duplicate Time: —

Notes: Large H<sub>2</sub>O spilled at site Three readings with 10% then sampled Signature:





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/17/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <u>7MV1T389/XV6XD10N</u>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 26.10 °C Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Sample ID: 12175- 21	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft):	19 - 29	Depth to Free Product (DTP) (ft.):		
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW		Total Well Depth (TWD) (ft):	29.36	Free Product Thickness (ft):		
Length of water column (LWC = TWD - DGW) (ft.): 10.02 <del>29.56 - 19.54</del>		1 casing volume (CV = LWC x C) (gals.): 1.63 <del>10.02 x 1.63</del>	3 casing volumes (3 x CV) (gals.): 4.89			

## Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.00	4.00	5.00				0
Time (military)	1155	1205	1210	1213				
PH (s.u.)	5.39	5.33	5.31	5.28				
Specific Conductivity (µS/cm)	462	358	364	363				
Water Temperature (°C)	13.53	22.39	21.93	22.14				
Turbidity (NTU)	28.1	18.6	65.2	59.3				
Dissolved Oxygen (mg/L)	1.00	1.00	1.61	1.18				

## Sampling Data

Sampled By: AR, RC	Duplicate: Y or N	If yes, Duplicate Time:
Notes: <del>FB-1 taken @ 1140</del> (12175) FB-1 taken @ 1140	Sampling Time: 1215	
Purge H2O disposed of onsite, 3 well vol / 3 readings using 10x then sampled		
Signature: <i>[Signature]</i>		





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

15 RC

### Site Information

Date: 6/12/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N8Z 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <u>Y</u> or N at <u>21</u> °C Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or N DO 8.78 mg/L ± 5%: <u>Y</u> or N
Comments:		

### Well Information

Sample ID: 12175- <u>MW-22</u>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <u>20 - 30</u>	Depth to Free Product (DTP) (ft.): <u>—</u>					
Depth to Groundwater (DTW) (ft.): <u>15.94</u>		Total Well Depth (TWD) (ft): <u>26.25</u>	Free Product Thickness (ft): <u>—</u>				
Length of water column (LWC = TWD - DGW) (ft.): <u>10.21</u>		1 casing volume (CV = LWC x C) (gals.): <u>1.67</u>	3 casing volumes (3 x CV) (gals.): <u>5.02</u>				

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	7.00	4.00	8.00				0
Time (military)	23.0840	0850	0855	0905				
PH (s.u.)	4.99	5.41	5.35	5.39				
Specific Conductivity (µS/cm)	158	081	075	077				
Water Temperature (°C)	23.24	21.25	21.27	20.81				
Turbidity (NTU)	0.0	073	0.0	0.0				
Dissolved Oxygen (mg/L)	4.87	4.14	4.26	4.65				

### Sampling Data

Sampled By: AR, RC	Sampling Time: 0910	Duplicate: Y or N
Notes: <u>Purge H<sub>2</sub>O displaced of on-site</u>		
3 Readings w/in 10% then sampled		
Signature:		If yes, Duplicate Time:



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/19/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C. <i>(initials)</i>
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <i>7MV1T389/XV6XD10N</i>	pH 4.00 ± 0.05: <i>(Y)</i> or N at <i>21</i> °C Turbidity 0.0 NTU ± 5% <i>(Y)</i> or N Specific Conductivity 4.49 mS/cm ± 5% <i>(Y)</i> or N DO 8.78 mg/L ± 5% <i>(Y)</i> or N
Comments:		

### Well Information

Sample ID: 12175- <i>MW 23</i>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well <i>(circled)</i> 0.168	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer ___ Pump ___ PDB
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ Private WSW ___ Public WSW	Screened Interval (ft): <i>21 - 31</i>	Depth to Free Product (DTP) (ft.): <i>0.0</i>					
Depth to Groundwater (DTW) (ft.): <i>21.61</i>	Total Well Depth (TWD) (ft): <i>31.15</i>	Free Product Thickness (ft): <i>0.0</i>					
Length of water column (LWC = TWD - DGW) (ft.): <i>9.54</i>	1 casing volume (CV = LWC x C) (gals.): <i>1.6</i>	3 casing volumes (3 x CV) (gals.): <i>4.8</i>					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	<i>1.5</i>	<i>3.0</i>	—	<i>5.0</i>	—	—	—	0
Time (military)	<i>905</i>	<i>908</i>	<i>910</i>	—	<i>913</i>	—	—	—	—
PH (s.u.)	<i>5.90</i>	<i>5.69</i>	<i>5.60</i>	—	<i>5.63</i>	—	—	—	—
Specific Conductivity (µS/cm)	<i>0.477</i>	<i>0.470</i>	<i>0.475</i>	—	<i>0.478</i>	—	—	—	—
Water Temperature (°C)	<i>23.75</i>	<i>22.56</i>	<i>22.54</i>	—	<i>22.56</i>	—	—	—	—
Turbidity (NTU)	<i>28.5</i>	<i>41.8</i>	<i>42.0</i>	—	<i>41.6</i>	—	—	—	—
Dissolved Oxygen (mg/L)	<i>3.63</i>	<i>4.11</i>	<i>4.14</i>	—	<i>4.23</i>	—	—	—	—

### Sampling Data

Sampled By: AR, RC <i>(initials)</i>	Sampling Time: <i>915</i>	Duplicate: Y or <i>(N)</i>	If yes, Duplicate Time: _____
Notes: <i>Purge water contained</i>			
Signature: _____ <i>(initials)</i>			





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/15/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MVT389/XV6XD10N	pH 4.00 ± 0.05: <u>Y</u> or N at _____ °C Turbidity 0.0 NTU ± 5%: <u>Y</u> or N Specific Conductivity 4.49 mS/cm ± 5%: <u>Y</u> or N DO 8.78 mg/L ± 5%: <u>Y</u> or N
Comments:		

## Well Information

Sample ID: 12175- <u>rw-24</u>	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB	
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other	Screened Interval (ft): <u>20 - 30</u>							
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Total Well Depth (TWD) (ft): <u>30.15</u>							
Depth to Groundwater (DTW) (ft.): <u>19.00</u>		Length of water column (LWC = TWD - DGW) (ft.): <u>11.15</u>					Free Product Thickness (ft): <u>—</u>	
		1 casing volume (CV = LWC x C) (gals.): <u>1.81</u>					3 casing volumes (3 x CV) (gals.): <u>5.43</u>	

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1.81	3.62	5.43	10.08	14.91	19.74	24.57	0
Time (military)	956	1000	1004	1008	1008	1008	1015	1015	1015
PH (s.u.)	5.15	4.99	4.98	4.99	4.99	4.99	4.99	4.99	5.01
Specific Conductivity (µS/cm)	0.320	0.320	0.321	0.322	0.322	0.322	0.322	0.322	0.322
Water Temperature (°C)	22.60	22.80	23.04	23.03	23.03	23.03	23.03	23.03	23.03
Turbidity (NTU)	120	6.51	71000	71000	71000	71000	71000	71000	71000
Dissolved Oxygen (mg/L)	7.29	6.68	6.34	5.67	5.67	5.67	5.67	5.67	5.81

## Sampling Data

Sampled By: <u>AR, RC</u>	Sampling Time: <u>1015</u>	Duplicate: <u>Y</u> or N	If yes, Duplicate Time: <u>1015</u>
Notes: <u>purge water contained three readings with in 1092, then sampled</u>			
<u>12175 Dup-2 taken @ 1015</u>			
<u>12175 FB-2 taken @ 1200</u>			
Signature: <u>ATR</u>			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

<b>Site Information</b>	
Date: 6/5/2021	Site Name: EFC #4
County: Edgefield	Field Personnel: Austen R., Rachel C.
Project Manager: Noelle France	General Weather Conditions: Sunny
	Ambient Air Temp (°F): 85

<b>Quality Assurance</b>	
Meter Name: Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	Serial #: RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N
Calibration:	
pH 4.00 ± 0.05	Y or N at 21 °C
Specific Conductivity 4.49 mS/cm ± 5%	Y or N
Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or N	
DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or N	
Comments:	

<b>Well Information</b>	
Sample ID: 12175- MW-25 <input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other <input type="checkbox"/> Public WSW	Well Diameter (inches): 2"
Conversion Factor (C):	1" Well 0.047    2" Well 0.163    4" Well 0.652    6" Well 1.469
Screened Interval (ft):	20 - 30
Total Well Depth (TWD) (ft):	21.16
Length of water column (LWC = TWD - DGW) (ft.):	—
Depth to Free Product (DTP) (ft.):	17.94
Free Product Thickness (ft):	3.22
Length of water column (LWC = TWD - DGW) (ft.):	3 casing volumes (3 x CV) (gals.): —

<b>Purging Data</b>							
Volume Purged (gallons)	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Sampling
Time (military)	0						0
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							

<b>Sampling Data</b>	
Sampled By: AR, RC	Sampling Time:
Notes: Free product, unable to sample well	Duplicate: Y or <input checked="" type="radio"/> N
	If yes, Duplicate Time:
Signature: <u>AR</u>	



# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/20/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

## Well Information

Sample ID: 12175-MW-26	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump <input type="checkbox"/> PDB
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Surface Water <input type="checkbox"/> Other		Screened Interval (ft.):	20 - 30			Depth to Free Product (DTP) (ft.):	—
Depth to Groundwater (DTW) (ft.): 19.68		Total Well Depth (TWD) (ft.):	36.05			Free Product Thickness (ft.):	—
Length of water column (LWC = TWD - DGW) (ft.): 10.37		1 casing volume (CV = LWC x C) (gals.):	1.69			3 casing volumes (3 x CV) (gals.):	5.07

## Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	2.00	4.00	6.00	8.00				0
Time (military)	1035	1040	1045	1050	1055				
PH (s.u.)	6.27	6.33	6.38	6.37	6.40				
Specific Conductivity (µS/cm)	913	913	921	930	939				
Water Temperature (°C)	25.85	25.89	25.07	25.07	25.03				
Turbidity (NTU)	67.3	73.1	64.2	50.0	48.2				
Dissolved Oxygen (mg/L)	1.17	1.24	0.95	0.88	0.94				

## Sampling Data

Sampled By: AR, RC	Sampling Time: 1100	Duplicate: Y or N	If yes, Duplicate Time:
Notes: Purge the disposed of in contaminated drum 3 readings w/in 101. then samples			
Signature:			





**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

**Site Information**

Date: 6/18/2021      Site ID #: 12175      Site Name: EFC #4      Field Personnel: Austen R., Rachel C.  
 County: Edgefield      Project Manager: Noelle France      General Weather Conditions: Sunny      Ambient Air Temp (°F): 85

**Quality Assurance**

Meter Name:      Serial #:      Calibration:      Turbidity 0.0 NTU ± 5%: 0 or N  
 Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)      RH512LJ9/TN0E4N87      pH 4.00 ± 0.05: Y or N at 21 °C  
 7MV1T389/XV6XD10N      Specific Conductivity 4.49 mS/cm ± 5%: Y or N      DO 8.78 mg/L ± 5%: Y or N  
 Comments:

**Well Information**

Sample ID: 12175-TW-1      Well Diameter (inches): 2"      Conversion Factor (C):      1" Well 0.047      2" Well 0.163      4" Well 0.652      6" Well 1.469      Method of Purging/Sample Collection:    Bailer    Pump    PDB  
 MW    IW    RW    Surface Water    Other     
 Private WSW    Public WSW  
 Depth to Groundwater (DTW) (ft.): 17.60      Screened Interval (ft.): 33 - 38      Depth to Free Product (DTP) (ft.):     
 Total Well Depth (TWD) (ft.): 38.78      Free Product Thickness (ft.):     
 Length of water column (LWC = TWD - DGW) (ft.): 2.14      1 casing volume (CV = LWC x C) (gals.): 3.45      3 casing volumes (3 x CV) (gals.): 10.35

**Purging Data**

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	1200.35	7.00	11.00				0
Time (military)	1215	1230	1237	1245				
PH (s.u.)	5.19	5.22	5.23	5.17				
Specific Conductivity (µS/cm)	185	177	176	181				
Water Temperature (°C)	22.69	22.04	22.08	21.98				
Turbidity (NTU)	45.4	52.4	61.0	54.6				
Dissolved Oxygen (mg/L)	2.09	2.54	3.22	2.73				

**Sampling Data**

Sampled By: AR, RC      Sampling Time: 1250      Duplicate: Y or N      If yes, Duplicate Time:          
 Notes: Three 4yo disposed at onsite, three readings when D's then samples  
 Signature: [Signature]  
 SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL  
 DHEC 0423 (10/2012)





# Underground Storage Tank Management Division Field Data Information Sheet – Sampling

## Site Information

Date: 6/10/2021 Site ID #: 12175 Site Name: EFC #4 Field Personnel: Austen R., Rachel C.

County: Edgefield Project Manager: Noelle France General Weather Conditions: Sunny Ambient Air Temp (°F): 85

## Quality Assurance

Meter Name: Serial #: RH512LJ9/TN0E4N87 Calibration: pH 4.00 ± 0.05  or N at 21 °C Turbidity 0.0 NTU ± 5%:  or N

Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity) 7MVT389/XV6XD40N Specific Conductivity 4.49 mS/cm ± 5%:  or N DO 8.78 mg/L ± 5%:  or N

Comments:

## Well Information

Sample ID: 12175- TW-2 Well Diameter (inches): 2" Conversion Factor (C): 1" Well 0.047 2" Well 0.163 4" Well 0.652 6" Well 1.469 Method of Purging/Sample Collection:  Bailer  Pump  PDB

MW  IW  RW  Surface Water  Other Screened Interval (ft): 33 - 38 Depth to Free Product (DTP) (ft.): —

Private WSW  Public WSW Total Well Depth (TWD) (ft): 29.50 Free Product Thickness (ft): —

Length of water column (LWC = TWD – DGW) (ft.): 18.43 1 casing volume (CV = LWC x C) (gals.): 3.00 3 casing volumes (3 x CV) (gals.): 9.00

## Purging Data

	Initial	1st Vol.	2nd Vol.	2 1/2 Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0	3.00	6.00	9.00					0
Time (military)	1635	1640	1645	1650					
PH (s.u.)	7.21	6.67	6.49	6.47					
Specific Conductivity (µS/cm)	143	134	131	132					
Water Temperature (°C)	23.78	22.46	21.80	21.72					
Turbidity (NTU)	219	103	65.9	75.9					
Dissolved Oxygen (mg/L)	3.53	3.90	3.84	3.85					

## Sampling Data

Sampled By: AR, RC Sampling Time: 1655 Duplicate: Y or N If yes, Duplicate Time:

Notes: *Toped H<sub>2</sub>O disposed of on-site 3 Readings taken 10% fresh Sampled*

Signature:



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <u>Y</u> or N at <u>2</u> °C Turbidity 0.0 NTU ± 5% <u>Y</u> or N
Specific Conductivity 4.49 mS/cm ± 5% <u>Y</u> or N		DO 8.78 mg/L ± 5% <u>Y</u> or N
Comments:		

### Well Information

Sample ID: 12175- RW - (	Well Diameter (inches): <u>2" 4"</u>	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection ___ Bailer ___ Pump ___ PDB
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ ___ Private WSW ___ Public WSW	Screened Interval (ft): <u>20 - 30</u>	Depth to Free Product (DTP) (ft.): <u>15.84</u>		Free Product Thickness (ft): <u>2.44</u>		3 casing volumes (3 x CV) (gals.): <u>---</u>	
Depth to Groundwater (DTW) (ft.): <u>18.28</u>		Total Well Depth (TWD) (ft): <u>---</u>		Length of water column (LWC = TWD - DGW) (ft.): <u>---</u>		1 casing volume (CV = LWC x C) (gals.): <u>---</u>	

### Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	3 1/2 Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0							0
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: <u>AR, RC</u>	Sampling Time:	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time: <u>---</u>
Notes: <u>Free product, unable to sample well</u>			
Signature: <u>ATR</u>			





**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

**Site Information**

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

**Quality Assurance**

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MV1T389/XV6XD10N	pH 4.00 ± 0.05 <u>Y</u> or N at <u>21</u> °C Specific Conductivity 4.49 mS/cm ± 5% <u>Y</u> or N DO 8.78 mg/L ± 5% <u>Y</u> or N
Comments:		

**Well Information**

Sample ID: 12175- <u>RW-2</u>	Well Diameter (inches): <u>2" 4"</u>	Conversion Factor (C):	1" Well 0.047	2" Well 0.163	4" Well 0.652	6" Well 1.469	Method of Purging/Sample Collection ___Bailer ___Pump ___PDB	
<input checked="" type="checkbox"/> MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): <u>20 - 30</u>	Depth to Free Product (DTP) (ft.): <u>17.96</u>	Free Product Thickness (ft): <u>3.18</u>					3 casing volumes (3 x CV) (gals.): <u>---</u>
Depth to Groundwater (DTW) (ft.): <u>21.14</u>	Total Well Depth (TWD) (ft): <u>---</u>	Length of water column (LWC = TWD - DGW) (ft.): <u>---</u>						1 casing volume (CV = LWC x C) (gals.): <u>---</u>

**Purging Data**

Initial	1st Vol.	2nd Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
0							0

**Sampling Data**

Sampled By: <u>AR, RC</u>	Sampling Time:	Duplicate: <u>Y</u> or <u>N</u>	If yes, Duplicate Time:
Notes: <u>Free product, unable to sample well</u>			
Signature: <u>ATR</u>			



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 <u>7MVT389/XV6XD10N</u>	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> or N Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> or N
Comments:		

### Well Information

Sample ID: 12175- RW-3	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection ___Bailer ___Pump ___PDB	
<input checked="" type="checkbox"/> MW ___IW ___RW ___Surface Water ___Other ___Private WSW ___Public WSW	Screened Interval (ft): 20 - 30	Depth to Free Product (DTP) (ft.): 18.71					Free Product Thickness (ft): 1.22	
Depth to Groundwater (DTW) (ft.): 19.93		Total Well Depth (TWD) (ft):					Free Product Thickness (ft):	
Length of water column (LWC = TWD - DGW) (ft.):		1 casing volume (CV = LWC x C) (gals.):					3 casing volumes (3 x CV) (gals.):	

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

### Sampling Data

Sampled By: AR, RC	Sampling Time:	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time:
Notes: Free product, unable to sample well			
Signature: <u>ATR</u>			





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 6/5/2021	Site ID #: 12175	Site Name: EFC #4	Field Personnel: Austen R., Rachel C.
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Sunny	Ambient Air Temp (°F): 85

### Quality Assurance

Meter Name:	Serial #:	Calibration:
Horiba U-52 (pH, temperature, specific conductivity, dissolved oxygen, turbidity)	RH512LJ9/TN0E4N87 7MVT389/XV6XD10N	pH 4.00 ± 0.05: <input checked="" type="radio"/> or N at 21 °C Turbidity 0.0 NTU ± 5%: <input checked="" type="radio"/> Y or N
		Specific Conductivity 4.49 mS/cm ± 5%: <input checked="" type="radio"/> Y or N DO 8.78 mg/L ± 5%: <input checked="" type="radio"/> Y or N
Comments:		

### Well Information

Sample ID: 12175- RW-4	Well Diameter (inches): 2"	Conversion Factor (C):	1" Well: 0.047	2" Well: 0.163	4" Well: 0.652	6" Well: 1.469	Method of Purging/Sample Collection ___ Bailer ___ Pump ___ PDB
<input checked="" type="checkbox"/> MW ___ IW ___ RW ___ Surface Water ___ Other ___ ___ Private WSW ___ Public WSW							
Depth to Groundwater (DTW) (ft.): 21.50	Screened Interval (ft): 15 - 35	Depth to Free Product (DTP) (ft.): 18.20					
Length of water column (LWC = TWD - DGW) (ft.):	Total Well Depth (TWD) (ft):	Free Product Thickness (ft): 3.30					
	1 casing volume (CV = LWC x C) (gals.):	3 casing volumes (3 x CV) (gals.):					

### Purging Data

	Initial	1st Vol.	2nd Vol.	2½ Vol.	3rd Vol.	3½ Vol.	4th Vol.	5th Vol.	Sampling
Volume Purged (gallons)	0								0
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									

### Sampling Data

Sampled By: AR, RC	Sampling Time:	Duplicate: Y or <input checked="" type="radio"/> N	If yes, Duplicate Time:
Notes: Face product, unable to sample well			
Signature: ATR			

June 22, 2021

Noelle France  
ATC Group Services LLC- South Charlotte  
7606 Whitehall Exe Center Dr  
Suite 800  
Charlotte, NC 28273

RE: Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Dear Noelle France:

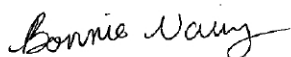
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,



Bonnie Vang  
bonnie.vang@pacelabs.com  
(704)875-9092  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92544566001	12175 MW-3	Water	06/15/21 13:15	06/16/21 07:30
92544566002	12175 MW-4	Water	06/15/21 11:20	06/16/21 07:30
92544566003	12175 MW-6	Water	06/15/21 11:10	06/16/21 07:30
92544566004	12175 MW-7	Water	06/15/21 11:50	06/16/21 07:30
92544566005	12175 MW-8	Water	06/14/21 18:00	06/16/21 07:30
92544566006	12175 MW-9	Water	06/15/21 10:20	06/16/21 07:30
92544566007	12175 MW-10	Water	06/15/21 09:40	06/16/21 07:30
92544566008	12175 MW-11	Water	06/15/21 08:45	06/16/21 07:30
92544566009	12175 MW-12	Water	06/15/21 13:55	06/16/21 07:30
92544566010	12175 MW-13	Water	06/14/21 14:35	06/16/21 07:30
92544566011	12175 MW-14	Water	06/14/21 15:05	06/16/21 07:30
92544566012	12175 MW-15	Water	06/14/21 15:45	06/16/21 07:30
92544566013	12175 MW-16	Water	06/14/21 17:25	06/16/21 07:30
92544566014	12175 MW-17	Water	06/15/21 10:00	06/16/21 07:30
92544566015	12175 MW-18	Water	06/15/21 13:20	06/16/21 07:30
92544566016	12175 MW-20	Water	06/14/21 13:45	06/16/21 07:30
92544566017	12175 MW-21	Water	06/14/21 12:15	06/16/21 07:30
92544566018	12175 MW-22	Water	06/15/21 09:10	06/16/21 07:30
92544566019	12175 MW-23	Water	06/15/21 09:15	06/16/21 07:30
92544566020	12175 MW-24	Water	06/15/21 10:15	06/16/21 07:30
92544566021	12175 MW-26	Water	06/15/21 11:00	06/16/21 07:30
92544566022	12175 TW-1	Water	06/14/21 12:50	06/16/21 07:30
92544566023	12175 TW-2	Water	06/14/21 16:55	06/16/21 07:30
92544566024	12175 DUP-1	Water	06/14/21 00:00	06/16/21 07:30
92544566025	12175 DUP-2	Water	06/14/21 00:00	06/16/21 07:30
92544566026	12175 FB-1	Water	06/14/21 11:40	06/16/21 07:30
92544566027	12175 FB-2	Water	06/15/21 12:00	06/16/21 07:30
92544566028	12175 TRIP BLANK 1	Water	06/14/21 00:00	06/16/21 07:30
92544566029	12175 TRIP BLANK 2	Water	06/15/21 00:00	06/16/21 07:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92544566001	12175 MW-3	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566002	12175 MW-4	EPA 8011	HH	2	PASI-C
		EPA 8260D	BSH	18	PASI-C
92544566003	12175 MW-6	EPA 8011	HH	2	PASI-C
		EPA 8260D	PM1	18	PASI-C
92544566004	12175 MW-7	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566005	12175 MW-8	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566006	12175 MW-9	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566007	12175 MW-10	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566008	12175 MW-11	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566009	12175 MW-12	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566010	12175 MW-13	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566011	12175 MW-14	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566012	12175 MW-15	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566013	12175 MW-16	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566014	12175 MW-17	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92544566015	12175 MW-18	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566016	12175 MW-20	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566017	12175 MW-21	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566018	12175 MW-22	EPA 8011	HH	2	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566019	12175 MW-23	EPA 8011	HH	2	PASI-C

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92544566020	12175 MW-24	EPA 8260D	BSH	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566021	12175 MW-26	EPA 8260D	SAS	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566022	12175 TW-1	EPA 8260D	BSH	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566023	12175 TW-2	EPA 8260D	SAS	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566024	12175 DUP-1	EPA 8260D	SAS	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566025	12175 DUP-2	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566026	12175 FB-1	EPA 8260D	PM1	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566027	12175 FB-2	EPA 8260D	SAS	18	PASI-C
		EPA 8011	HH	2	PASI-C
92544566028	12175 TRIP BLANK 1	EPA 8260D	SAS	18	PASI-C
		EPA 8260D	SAS	18	PASI-C
92544566029	12175 TRIP BLANK 2	EPA 8260D	SAS	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-3      Lab ID: 92544566001      Collected: 06/15/21 13:15      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 16:35	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	06/17/21 11:53	06/17/21 16:35	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 00:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 00:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 00:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 00:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 00:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 00:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 00:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 00:33	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 00:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 00:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 00:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 00:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 00:33	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 00:33	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 00:33	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		06/17/21 00:33	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		06/17/21 00:33	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 00:33	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-4      Lab ID: 92544566002      Collected: 06/15/21 11:20      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.010	1	06/17/21 11:53	06/17/21 16:51	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	06/17/21 11:53	06/17/21 16:51	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	2640	ug/L	500	328	5		06/18/21 19:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	15.2	5		06/18/21 19:52	994-05-8	
Benzene	ND	ug/L	25.0	8.7	5		06/18/21 19:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	270	5		06/18/21 19:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	455	5		06/18/21 19:52	75-65-0	
tert-Butyl Formate	ND	ug/L	250	120	5		06/18/21 19:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	10.3	5		06/18/21 19:52	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	17.4	5		06/18/21 19:52	108-20-3	
Ethanol	ND	ug/L	1000	720	5		06/18/21 19:52	64-17-5	
Ethylbenzene	564	ug/L	25.0	9.2	5		06/18/21 19:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	42.3	5		06/18/21 19:52	637-92-3	
Methyl-tert-butyl ether	27.2	ug/L	25.0	15.5	5		06/18/21 19:52	1634-04-4	
Naphthalene	251	ug/L	25.0	10.4	5		06/18/21 19:52	91-20-3	
Toluene	268	ug/L	25.0	10.0	5		06/18/21 19:52	108-88-3	
Xylene (Total)	2210	ug/L	25.0	25.0	5		06/18/21 19:52	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98	%	70-130		5		06/18/21 19:52	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		5		06/18/21 19:52	17060-07-0	
Toluene-d8 (S)	102	%	70-130		5		06/18/21 19:52	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-6      Lab ID: 92544566003      Collected: 06/15/21 11:10      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/17/21 17:06	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	06/17/21 11:53	06/17/21 17:06	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<b>68500</b>	ug/L	2500	1640	25		06/17/21 18:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	76.0	25		06/17/21 18:48	994-05-8	
Benzene	<b>3510</b>	ug/L	125	43.5	25		06/17/21 18:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	1350	25		06/17/21 18:48	624-95-3	
tert-Butyl Alcohol	<b>5040</b>	ug/L	2500	2280	25		06/17/21 18:48	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	602	25		06/17/21 18:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	51.5	25		06/17/21 18:48	107-06-2	
Diisopropyl ether	ND	ug/L	125	87.2	25		06/17/21 18:48	108-20-3	
Ethanol	ND	ug/L	5000	3600	25		06/17/21 18:48	64-17-5	
Ethylbenzene	<b>965</b>	ug/L	125	46.0	25		06/17/21 18:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	212	25		06/17/21 18:48	637-92-3	
Methyl-tert-butyl ether	<b>1530</b>	ug/L	125	77.5	25		06/17/21 18:48	1634-04-4	
Naphthalene	<b>111J</b>	ug/L	125	52.2	25		06/17/21 18:48	91-20-3	
Toluene	<b>564</b>	ug/L	125	50.2	25		06/17/21 18:48	108-88-3	
Xylene (Total)	<b>1540</b>	ug/L	125	125	25		06/17/21 18:48	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		25		06/17/21 18:48	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		25		06/17/21 18:48	17060-07-0	
Toluene-d8 (S)	100	%	70-130		25		06/17/21 18:48	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-7      Lab ID: 92544566004      Collected: 06/15/21 11:50      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 17:22	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	06/17/21 11:53	06/17/21 17:22	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 00:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 00:51	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 00:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 00:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 00:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 00:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 00:51	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 00:51	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 00:51	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 00:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 00:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 00:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 00:51	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 00:51	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 00:51	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/17/21 00:51	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		06/17/21 00:51	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		06/17/21 00:51	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-8      Lab ID: 92544566005      Collected: 06/14/21 18:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 17:37	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	06/17/21 11:53	06/17/21 17:37	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 01:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 01:09	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 01:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 01:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 01:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 01:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 01:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 01:09	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 01:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 01:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 01:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 01:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 01:09	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 01:09	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 01:09	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		06/17/21 01:09	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 01:09	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 01:09	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-9      Lab ID: 92544566006      Collected: 06/15/21 10:20      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/17/21 17:52	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	06/17/21 11:53	06/17/21 17:52	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 01:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 01:27	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 01:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 01:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 01:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 01:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 01:27	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 01:27	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 01:27	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 01:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 01:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 01:27	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 01:27	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 01:27	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 01:27	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/17/21 01:27	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 01:27	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 01:27	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-10      Lab ID: 92544566007      Collected: 06/15/21 09:40      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0098	1	06/17/21 11:53	06/17/21 18:08	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	06/17/21 11:53	06/17/21 18:08	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 01:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 01:45	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 01:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 01:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 01:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 01:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 01:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 01:45	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 01:45	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 01:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 01:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 01:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 01:45	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 01:45	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 01:45	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/17/21 01:45	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		06/17/21 01:45	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 01:45	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-11      Lab ID: 92544566008      Collected: 06/15/21 08:45      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 18:23	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	06/17/21 11:53	06/17/21 18:23	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<b>10000</b>	ug/L	4000	2620	40		06/17/21 07:10	75-85-4	
tert-Amylmethyl ether	<b>289J</b>	ug/L	400	122	40		06/17/21 07:10	994-05-8	
Benzene	<b>5990</b>	ug/L	200	69.6	40		06/17/21 07:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	4000	2160	40		06/17/21 07:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	4000	3640	40		06/17/21 07:10	75-65-0	
tert-Butyl Formate	ND	ug/L	2000	964	40		06/17/21 07:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	200	82.4	40		06/17/21 07:10	107-06-2	
Diisopropyl ether	ND	ug/L	200	140	40		06/17/21 07:10	108-20-3	
Ethanol	ND	ug/L	8000	5760	40		06/17/21 07:10	64-17-5	
Ethylbenzene	<b>566</b>	ug/L	200	73.6	40		06/17/21 07:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	400	338	40		06/17/21 07:10	637-92-3	
Methyl-tert-butyl ether	<b>707</b>	ug/L	200	124	40		06/17/21 07:10	1634-04-4	
Naphthalene	<b>229</b>	ug/L	200	83.6	40		06/17/21 07:10	91-20-3	
Toluene	<b>4240</b>	ug/L	200	80.4	40		06/17/21 07:10	108-88-3	
Xylene (Total)	<b>2290</b>	ug/L	200	200	40		06/17/21 07:10	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		40		06/17/21 07:10	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		40		06/17/21 07:10	17060-07-0	
Toluene-d8 (S)	102	%	70-130		40		06/17/21 07:10	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-12      Lab ID: 92544566009      Collected: 06/15/21 13:55      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 18:39	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	06/17/21 11:53	06/17/21 18:39	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 02:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 02:03	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 02:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 02:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 02:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 02:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 02:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 02:03	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 02:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 02:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 02:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 02:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 02:03	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 02:03	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 02:03	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 02:03	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 02:03	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 02:03	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-13      Lab ID: 92544566010      Collected: 06/14/21 14:35      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 18:54	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	06/17/21 11:53	06/17/21 18:54	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 02:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 02:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 02:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 02:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 02:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 02:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 02:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 02:21	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 02:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 02:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 02:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 02:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 02:21	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 02:21	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 02:21	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/17/21 02:21	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		06/17/21 02:21	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		06/17/21 02:21	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-14      Lab ID: 92544566011      Collected: 06/14/21 15:05      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0098	1	06/17/21 11:53	06/17/21 19:10	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	06/17/21 11:53	06/17/21 19:10	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 02:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 02:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 02:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 02:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 02:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 02:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 02:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 02:39	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 02:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 02:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 02:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 02:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 02:39	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 02:39	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 02:39	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		06/17/21 02:39	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 02:39	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		06/17/21 02:39	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-15      Lab ID: 92544566012      Collected: 06/14/21 15:45      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/17/21 19:25	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	84	%	60-140		1	06/17/21 11:53	06/17/21 19:25	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 02:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 02:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 02:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 02:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 02:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 02:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 02:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 02:57	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 02:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 02:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 02:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 02:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 02:57	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 02:57	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 02:57	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 02:57	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		06/17/21 02:57	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		06/17/21 02:57	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-16      Lab ID: 92544566013      Collected: 06/14/21 17:25      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/17/21 19:40	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	06/17/21 11:53	06/17/21 19:40	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 03:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 03:15	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 03:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 03:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 03:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 03:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 03:15	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 03:15	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 03:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 03:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 03:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 03:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 03:15	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 03:15	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 03:15	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 03:15	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 03:15	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		06/17/21 03:15	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-17      Lab ID: 92544566014      Collected: 06/15/21 10:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	0.33	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 19:55	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	06/17/21 11:53	06/17/21 19:55	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	25000	16400	250		06/16/21 22:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	760	250		06/16/21 22:34	994-05-8	
Benzene	11000	ug/L	1250	435	250		06/16/21 22:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	13500	250		06/16/21 22:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	22800	250		06/16/21 22:34	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	6020	250		06/16/21 22:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	515	250		06/16/21 22:34	107-06-2	
Diisopropyl ether	ND	ug/L	1250	872	250		06/16/21 22:34	108-20-3	
Ethanol	ND	ug/L	50000	36000	250		06/16/21 22:34	64-17-5	
Ethylbenzene	3300	ug/L	1250	460	250		06/16/21 22:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	2120	250		06/16/21 22:34	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1250	775	250		06/16/21 22:34	1634-04-4	
Naphthalene	586J	ug/L	1250	522	250		06/16/21 22:34	91-20-3	
Toluene	39100	ug/L	1250	502	250		06/16/21 22:34	108-88-3	
Xylene (Total)	16200	ug/L	1250	1250	250		06/16/21 22:34	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	92	%	70-130		250		06/16/21 22:34	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		250		06/16/21 22:34	17060-07-0	
Toluene-d8 (S)	101	%	70-130		250		06/16/21 22:34	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-18      Lab ID: 92544566015      Collected: 06/15/21 13:20      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 21:12	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	06/17/21 11:53	06/17/21 21:12	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	12500	8200	125		06/17/21 07:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	380	125		06/17/21 07:46	994-05-8	
Benzene	1510	ug/L	625	218	125		06/17/21 07:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	6740	125		06/17/21 07:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	11400	125		06/17/21 07:46	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	3010	125		06/17/21 07:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	258	125		06/17/21 07:46	107-06-2	
Diisopropyl ether	ND	ug/L	625	436	125		06/17/21 07:46	108-20-3	
Ethanol	ND	ug/L	25000	18000	125		06/17/21 07:46	64-17-5	
Ethylbenzene	1780	ug/L	625	230	125		06/17/21 07:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	1060	125		06/17/21 07:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	388	125		06/17/21 07:46	1634-04-4	
Naphthalene	375J	ug/L	625	261	125		06/17/21 07:46	91-20-3	
Toluene	14000	ug/L	625	251	125		06/17/21 07:46	108-88-3	
Xylene (Total)	7260	ug/L	625	625	125		06/17/21 07:46	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		125		06/17/21 07:46	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		125		06/17/21 07:46	17060-07-0	
Toluene-d8 (S)	102	%	70-130		125		06/17/21 07:46	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-20      Lab ID: 92544566016      Collected: 06/14/21 13:45      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0098	1	06/17/21 11:53	06/17/21 21:43	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	06/17/21 11:53	06/17/21 21:43	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 03:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 03:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 03:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 03:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 03:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 03:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 03:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 03:33	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 03:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 03:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 03:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 03:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 03:33	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 03:33	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 03:33	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 03:33	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 03:33	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 03:33	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-21      Lab ID: 92544566017      Collected: 06/14/21 12:15      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 22:29	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	06/17/21 11:53	06/17/21 22:29	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 03:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 03:51	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 03:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 03:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 03:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 03:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 03:51	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 03:51	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 03:51	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 03:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 03:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 03:51	1634-04-4	
Naphthalene	24.2	ug/L	5.0	2.1	1		06/17/21 03:51	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 03:51	108-88-3	
Xylene (Total)	8.0	ug/L	5.0	5.0	1		06/17/21 03:51	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 03:51	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 03:51	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 03:51	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-22      Lab ID: 92544566018      Collected: 06/15/21 09:10      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0097	1	06/17/21 11:53	06/17/21 22:44	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	06/17/21 11:53	06/17/21 22:44	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 04:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 04:09	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 04:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 04:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 04:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 04:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 04:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 04:09	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 04:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 04:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 04:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 04:09	1634-04-4	
Naphthalene	2.2J	ug/L	5.0	2.1	1		06/17/21 04:09	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 04:09	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 04:09	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/17/21 04:09	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 04:09	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		06/17/21 04:09	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-23      Lab ID: 92544566019      Collected: 06/15/21 09:15      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.010	1	06/17/21 11:53	06/17/21 22:59	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	82	%	60-140		1	06/17/21 11:53	06/17/21 22:59	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<b>4990</b>	ug/L	250	164	2.5		06/18/21 19:16	75-85-4	
tert-Amylmethyl ether	<b>171</b>	ug/L	25.0	7.6	2.5		06/18/21 19:16	994-05-8	
Benzene	<b>167</b>	ug/L	12.5	4.4	2.5		06/18/21 19:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	135	2.5		06/18/21 19:16	624-95-3	
tert-Butyl Alcohol	<b>237J</b>	ug/L	250	228	2.5		06/18/21 19:16	75-65-0	
tert-Butyl Formate	ND	ug/L	125	60.2	2.5		06/18/21 19:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	12.5	5.2	2.5		06/18/21 19:16	107-06-2	
Diisopropyl ether	<b>9.3J</b>	ug/L	12.5	8.7	2.5		06/18/21 19:16	108-20-3	
Ethanol	ND	ug/L	500	360	2.5		06/18/21 19:16	64-17-5	
Ethylbenzene	ND	ug/L	12.5	4.6	2.5		06/18/21 19:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	21.2	2.5		06/18/21 19:16	637-92-3	
Methyl-tert-butyl ether	<b>373</b>	ug/L	12.5	7.8	2.5		06/18/21 19:16	1634-04-4	
Naphthalene	<b>11.2J</b>	ug/L	12.5	5.2	2.5		06/18/21 19:16	91-20-3	
Toluene	ND	ug/L	12.5	5.0	2.5		06/18/21 19:16	108-88-3	
Xylene (Total)	<b>43.5</b>	ug/L	12.5	12.5	2.5		06/18/21 19:16	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		2.5		06/18/21 19:16	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		2.5		06/18/21 19:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		2.5		06/18/21 19:16	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-24      Lab ID: 92544566020      Collected: 06/15/21 10:15      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0098	1	06/17/21 11:53	06/17/21 23:15	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	75	%	60-140		1	06/17/21 11:53	06/17/21 23:15	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<b>23800</b>	ug/L	10000	6560	100		06/17/21 07:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	304	100		06/17/21 07:28	994-05-8	
Benzene	<b>5600</b>	ug/L	500	174	100		06/17/21 07:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	5390	100		06/17/21 07:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	9100	100		06/17/21 07:28	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	2410	100		06/17/21 07:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	206	100		06/17/21 07:28	107-06-2	
Diisopropyl ether	ND	ug/L	500	349	100		06/17/21 07:28	108-20-3	
Ethanol	ND	ug/L	20000	14400	100		06/17/21 07:28	64-17-5	
Ethylbenzene	<b>2650</b>	ug/L	500	184	100		06/17/21 07:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	846	100		06/17/21 07:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	310	100		06/17/21 07:28	1634-04-4	
Naphthalene	<b>567</b>	ug/L	500	209	100		06/17/21 07:28	91-20-3	
Toluene	<b>18100</b>	ug/L	500	201	100		06/17/21 07:28	108-88-3	
Xylene (Total)	<b>12700</b>	ug/L	500	500	100		06/17/21 07:28	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		100		06/17/21 07:28	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		100		06/17/21 07:28	17060-07-0	
Toluene-d8 (S)	103	%	70-130		100		06/17/21 07:28	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 MW-26      Lab ID: 92544566021      Collected: 06/15/21 11:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 23:30	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	77	%	60-140		1	06/17/21 11:53	06/17/21 23:30	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	3330	ug/L	100	65.6	1		06/18/21 17:09	75-85-4	M1
tert-Amylmethyl ether	94.8	ug/L	10.0	3.0	1		06/18/21 17:09	994-05-8	
Benzene	3.1J	ug/L	5.0	1.7	1		06/18/21 17:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/18/21 17:09	624-95-3	
tert-Butyl Alcohol	282	ug/L	100	91.0	1		06/18/21 17:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/18/21 17:09	762-75-4	R1
1,2-Dichloroethane	5.2	ug/L	5.0	2.1	1		06/18/21 17:09	107-06-2	
Diisopropyl ether	14.7	ug/L	5.0	3.5	1		06/18/21 17:09	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/18/21 17:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/18/21 17:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/18/21 17:09	637-92-3	
Methyl-tert-butyl ether	53.8	ug/L	5.0	3.1	1		06/18/21 17:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/18/21 17:09	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/18/21 17:09	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/18/21 17:09	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		06/18/21 17:09	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/18/21 17:09	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		06/18/21 17:09	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 TW-1      Lab ID: 92544566022      Collected: 06/14/21 12:50      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/17/21 23:46	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	80	%	60-140		1	06/17/21 11:53	06/17/21 23:46	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 04:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 04:27	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 04:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 04:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 04:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 04:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 04:27	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 04:27	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 04:27	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 04:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 04:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 04:27	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 04:27	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 04:27	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 04:27	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/17/21 04:27	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		06/17/21 04:27	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 04:27	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 TW-2      Lab ID: 92544566023      Collected: 06/14/21 16:55      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/18/21 00:01	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	06/17/21 11:53	06/18/21 00:01	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 04:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 04:45	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 04:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 04:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 04:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 04:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 04:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 04:45	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 04:45	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 04:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 04:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 04:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 04:45	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 04:45	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 04:45	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/17/21 04:45	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		06/17/21 04:45	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		06/17/21 04:45	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 DUP-1      Lab ID: 92544566024      Collected: 06/14/21 00:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0096	1	06/17/21 11:53	06/18/21 00:16	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	06/17/21 11:53	06/18/21 00:16	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/16/21 20:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/16/21 20:58	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/16/21 20:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/16/21 20:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/16/21 20:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/16/21 20:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/16/21 20:58	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/16/21 20:58	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/16/21 20:58	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/16/21 20:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/16/21 20:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/16/21 20:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/16/21 20:58	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/16/21 20:58	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/16/21 20:58	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/16/21 20:58	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		06/16/21 20:58	17060-07-0	
Toluene-d8 (S)	115	%	70-130		1		06/16/21 20:58	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 DUP-2      Lab ID: 92544566025      Collected: 06/14/21 00:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/18/21 00:31	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	06/17/21 11:53	06/18/21 00:31	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<b>18900</b>	ug/L	12500	8200	125		06/17/21 19:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	380	125		06/17/21 19:23	994-05-8	
Benzene	<b>4390</b>	ug/L	625	218	125		06/17/21 19:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	6740	125		06/17/21 19:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	11400	125		06/17/21 19:23	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	3010	125		06/17/21 19:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	258	125		06/17/21 19:23	107-06-2	
Diisopropyl ether	ND	ug/L	625	436	125		06/17/21 19:23	108-20-3	
Ethanol	ND	ug/L	25000	18000	125		06/17/21 19:23	64-17-5	
Ethylbenzene	<b>2200</b>	ug/L	625	230	125		06/17/21 19:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	1060	125		06/17/21 19:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	388	125		06/17/21 19:23	1634-04-4	
Naphthalene	<b>414J</b>	ug/L	625	261	125		06/17/21 19:23	91-20-3	
Toluene	<b>15100</b>	ug/L	625	251	125		06/17/21 19:23	108-88-3	M1
Xylene (Total)	<b>11200</b>	ug/L	625	625	125		06/17/21 19:23	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		125		06/17/21 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		125		06/17/21 19:23	17060-07-0	
Toluene-d8 (S)	100	%	70-130		125		06/17/21 19:23	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 FB-1      Lab ID: 92544566026      Collected: 06/14/21 11:40      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0099	1	06/17/21 11:53	06/18/21 00:47	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	81	%	60-140		1	06/17/21 11:53	06/18/21 00:47	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/16/21 23:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/16/21 23:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/16/21 23:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/16/21 23:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/16/21 23:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/16/21 23:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/16/21 23:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/16/21 23:21	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/16/21 23:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/16/21 23:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/16/21 23:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/16/21 23:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/16/21 23:21	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/16/21 23:21	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/16/21 23:21	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		06/16/21 23:21	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/16/21 23:21	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		06/16/21 23:21	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 FB-2      Lab ID: 92544566027      Collected: 06/15/21 12:00      Received: 06/16/21 07:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011      Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.0098	1	06/17/21 11:53	06/18/21 01:02	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	84	%	60-140		1	06/17/21 11:53	06/18/21 01:02	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/16/21 23:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/16/21 23:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/16/21 23:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/16/21 23:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/16/21 23:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/16/21 23:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/16/21 23:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/16/21 23:39	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/16/21 23:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/16/21 23:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/16/21 23:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/16/21 23:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/16/21 23:39	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/16/21 23:39	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/16/21 23:39	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/16/21 23:39	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		06/16/21 23:39	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		06/16/21 23:39	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 TRIP BLANK 1      Lab ID: 92544566028      Collected: 06/14/21 00:00      Received: 06/16/21 07:30      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/16/21 23:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/16/21 23:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/16/21 23:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/16/21 23:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/16/21 23:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/16/21 23:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/16/21 23:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/16/21 23:57	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/16/21 23:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/16/21 23:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/16/21 23:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/16/21 23:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/16/21 23:57	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/16/21 23:57	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/16/21 23:57	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/16/21 23:57	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		06/16/21 23:57	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		06/16/21 23:57	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Sample: 12175 TRIP BLANK 2      Lab ID: 92544566029      Collected: 06/15/21 00:00      Received: 06/16/21 07:30      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	ND	ug/L	100	65.6	1		06/17/21 00:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.0	1		06/17/21 00:15	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/17/21 00:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	53.9	1		06/17/21 00:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	91.0	1		06/17/21 00:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	24.1	1		06/17/21 00:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	2.1	1		06/17/21 00:15	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	3.5	1		06/17/21 00:15	108-20-3	
Ethanol	ND	ug/L	200	144	1		06/17/21 00:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.8	1		06/17/21 00:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	8.5	1		06/17/21 00:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	3.1	1		06/17/21 00:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.1	1		06/17/21 00:15	91-20-3	
Toluene	ND	ug/L	5.0	2.0	1		06/17/21 00:15	108-88-3	
Xylene (Total)	ND	ug/L	5.0	5.0	1		06/17/21 00:15	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		06/17/21 00:15	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/17/21 00:15	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		06/17/21 00:15	2037-26-5	

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch:	627570	Analysis Method:	EPA 8260D
QC Batch Method:	EPA 8260D	Analysis Description:	8260 MSV SC
		Laboratory:	Pace Analytical Services - Charlotte

Associated Lab Samples: 92544566001, 92544566004, 92544566005, 92544566006, 92544566007, 92544566009, 92544566010, 92544566011, 92544566012, 92544566013, 92544566016, 92544566017, 92544566018, 92544566022, 92544566023, 92544566026, 92544566027, 92544566028, 92544566029

METHOD BLANK: 3299238 Matrix: Water  
Associated Lab Samples: 92544566001, 92544566004, 92544566005, 92544566006, 92544566007, 92544566009, 92544566010, 92544566011, 92544566012, 92544566013, 92544566016, 92544566017, 92544566018, 92544566022, 92544566023, 92544566026, 92544566027, 92544566028, 92544566029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/16/21 22:45	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/16/21 22:45	
Benzene	ug/L	ND	5.0	1.7	06/16/21 22:45	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/16/21 22:45	
Ethanol	ug/L	ND	200	144	06/16/21 22:45	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/16/21 22:45	
Ethylbenzene	ug/L	ND	5.0	1.8	06/16/21 22:45	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/16/21 22:45	
Naphthalene	ug/L	ND	5.0	2.1	06/16/21 22:45	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/16/21 22:45	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/16/21 22:45	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/16/21 22:45	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/16/21 22:45	
Toluene	ug/L	ND	5.0	2.0	06/16/21 22:45	
Xylene (Total)	ug/L	ND	5.0	5.0	06/16/21 22:45	
1,2-Dichloroethane-d4 (S)	%	101	70-130		06/16/21 22:45	
4-Bromofluorobenzene (S)	%	100	70-130		06/16/21 22:45	
Toluene-d8 (S)	%	102	70-130		06/16/21 22:45	

LABORATORY CONTROL SAMPLE: 3299239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.1	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1030	103	70-130	
Benzene	ug/L	50	50.2	100	70-130	
Diisopropyl ether	ug/L	50	50.7	101	70-130	
Ethanol	ug/L	2000	1940	97	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	50.7	101	70-130	
Methyl-tert-butyl ether	ug/L	50	51.2	102	70-130	
Naphthalene	ug/L	50	53.6	107	70-130	
tert-Amyl Alcohol	ug/L	1000	950	95	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	482	96	70-130	
tert-Butyl Formate	ug/L	400	413	103	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3299239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	49.6	99	70-130	
Xylene (Total)	ug/L	150	153	102	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3299240 3299241

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92544566023 Result	Spike Conc.	Spike Conc.	MS Result						
1,2-Dichloroethane	ug/L	ND	20	20	17.9	20.1	90	100	70-137	11	30
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	379	451	95	113	39-157	17	30
Benzene	ug/L	ND	20	20	18.8	20.3	94	102	70-151	8	30
Diisopropyl ether	ug/L	ND	20	20	18.1	20.1	91	100	63-144	10	30
Ethanol	ug/L	ND	800	800	728	856	91	107	39-176	16	30
Ethyl-tert-butyl ether	ug/L	ND	40	40	37.5	41.7	94	104	66-137	11	30
Ethylbenzene	ug/L	ND	20	20	19.6	21.5	98	107	66-153	9	30
Methyl-tert-butyl ether	ug/L	ND	20	20	17.8	19.6	89	98	54-156	9	30
Naphthalene	ug/L	ND	20	20	20.1	21.6	99	106	61-148	7	30
tert-Amyl Alcohol	ug/L	ND	400	400	370	428	92	107	54-153	14	30
tert-Amylmethyl ether	ug/L	ND	40	40	36.3	40.6	91	102	69-139	11	30
tert-Butyl Alcohol	ug/L	ND	200	200	240	259	120	130	43-188	8	30
tert-Butyl Formate	ug/L	ND	160	160	49.0J	85.6	31	54	10-170		30
Toluene	ug/L	ND	20	20	18.8	20.9	94	104	59-148	10	30
Xylene (Total)	ug/L	ND	60	60	58.8	64.6	98	108	63-158	9	30
1,2-Dichloroethane-d4 (S)	%						105	108	70-130		
4-Bromofluorobenzene (S)	%						104	105	70-130		
Toluene-d8 (S)	%						103	102	70-130		

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627573 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92544566008, 92544566015, 92544566020

METHOD BLANK: 3299251 Matrix: Water  
Associated Lab Samples: 92544566008, 92544566015, 92544566020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/16/21 23:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/16/21 23:03	
Benzene	ug/L	ND	5.0	1.7	06/16/21 23:03	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/16/21 23:03	
Ethanol	ug/L	ND	200	144	06/16/21 23:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/16/21 23:03	
Ethylbenzene	ug/L	ND	5.0	1.8	06/16/21 23:03	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/16/21 23:03	
Naphthalene	ug/L	ND	5.0	2.1	06/16/21 23:03	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/16/21 23:03	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/16/21 23:03	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/16/21 23:03	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/16/21 23:03	
Toluene	ug/L	ND	5.0	2.0	06/16/21 23:03	
Xylene (Total)	ug/L	ND	5.0	5.0	06/16/21 23:03	
1,2-Dichloroethane-d4 (S)	%	104	70-130		06/16/21 23:03	
4-Bromofluorobenzene (S)	%	101	70-130		06/16/21 23:03	
Toluene-d8 (S)	%	104	70-130		06/16/21 23:03	

LABORATORY CONTROL SAMPLE: 3299252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.6	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1070	107	70-130	
Benzene	ug/L	50	51.4	103	70-130	
Diisopropyl ether	ug/L	50	51.0	102	70-130	
Ethanol	ug/L	2000	1980	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	108	108	70-130	
Ethylbenzene	ug/L	50	51.6	103	70-130	
Methyl-tert-butyl ether	ug/L	50	51.1	102	70-130	
Naphthalene	ug/L	50	55.5	111	70-130	
tert-Amyl Alcohol	ug/L	1000	1000	100	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	500	100	70-130	
tert-Butyl Formate	ug/L	400	422	105	70-130	
Toluene	ug/L	50	50.9	102	70-130	
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			106	70-130	

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3299252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3299253 3299254

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92544566015 Result	Spike Conc.	Spike Conc.	Result						
1,2-Dichloroethane	ug/L	ND	2500	2500	2650	2350	106	94	70-137	12	30
3,3-Dimethyl-1-Butanol	ug/L	ND	50000	50000	58400	49400	117	99	39-157	17	30
Benzene	ug/L	1510	2500	2500	4170	3880	106	95	70-151	7	30
Diisopropyl ether	ug/L	ND	2500	2500	2640	2340	105	94	63-144	12	30
Ethanol	ug/L	ND	100000	100000	110000	94100	110	94	39-176	15	30
Ethyl-tert-butyl ether	ug/L	ND	5000	5000	5530	4890	111	98	66-137	12	30
Ethylbenzene	ug/L	1780	2500	2500	4750	4300	119	101	66-153	10	30
Methyl-tert-butyl ether	ug/L	ND	2500	2500	2620	2310	105	93	54-156	12	30
Naphthalene	ug/L	375J	2500	2500	3330	2990	118	105	61-148	11	30
tert-Amyl Alcohol	ug/L	ND	50000	50000	55200	47900	110	96	54-153	14	30
tert-Amylmethyl ether	ug/L	ND	5000	5000	5340	4770	107	95	69-139	11	30
tert-Butyl Alcohol	ug/L	ND	25000	25000	28400	24600	114	98	43-188	15	30
tert-Butyl Formate	ug/L	ND	20000	20000	20600	18000	103	90	10-170	13	30
Toluene	ug/L	14000	2500	2500	17100	16800	126	114	59-148	2	30
Xylene (Total)	ug/L	7260	7500	7500	16300	15000	121	103	63-158	8	30
1,2-Dichloroethane-d4 (S)	%						107	107	70-130		
4-Bromofluorobenzene (S)	%						105	105	70-130		
Toluene-d8 (S)	%						102	102	70-130		

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627576 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92544566014

METHOD BLANK: 3299276 Matrix: Water  
Associated Lab Samples: 92544566014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/16/21 16:28	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/16/21 16:28	
Benzene	ug/L	ND	5.0	1.7	06/16/21 16:28	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/16/21 16:28	
Ethanol	ug/L	ND	200	144	06/16/21 16:28	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/16/21 16:28	
Ethylbenzene	ug/L	ND	5.0	1.8	06/16/21 16:28	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/16/21 16:28	
Naphthalene	ug/L	ND	5.0	2.1	06/16/21 16:28	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/16/21 16:28	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/16/21 16:28	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/16/21 16:28	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/16/21 16:28	
Toluene	ug/L	ND	5.0	2.0	06/16/21 16:28	
Xylene (Total)	ug/L	ND	5.0	5.0	06/16/21 16:28	
1,2-Dichloroethane-d4 (S)	%	103	70-130		06/16/21 16:28	
4-Bromofluorobenzene (S)	%	93	70-130		06/16/21 16:28	
Toluene-d8 (S)	%	101	70-130		06/16/21 16:28	

LABORATORY CONTROL SAMPLE: 3299277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.8	88	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	954	95	70-130	
Benzene	ug/L	50	48.2	96	70-130	
Diisopropyl ether	ug/L	50	45.5	91	70-130	
Ethanol	ug/L	2000	2120	106	70-130	
Ethyl-tert-butyl ether	ug/L	100	93.4	93	70-130	
Ethylbenzene	ug/L	50	54.5	109	70-130	
Methyl-tert-butyl ether	ug/L	50	42.9	86	70-130	
Naphthalene	ug/L	50	50.5	101	70-130	
tert-Amyl Alcohol	ug/L	1000	998	100	70-130	
tert-Amylmethyl ether	ug/L	100	94.2	94	70-130	
tert-Butyl Alcohol	ug/L	500	476	95	70-130	
tert-Butyl Formate	ug/L	400	340	85	70-130	
Toluene	ug/L	50	47.2	94	70-130	
Xylene (Total)	ug/L	150	163	109	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			93	70-130	

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3299277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3299278 3299279

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92544566014 Result	Spike Conc.	Spike Conc.	Result						
1,2-Dichloroethane	ug/L	ND	5000	5000	4660	4820	93	96	70-137	3	30
3,3-Dimethyl-1-Butanol	ug/L	ND	100000	100000	83800	87600	84	88	39-157	4	30
Benzene	ug/L	11000	5000	5000	16300	16300	107	107	70-151	0	30
Diisopropyl ether	ug/L	ND	5000	5000	4810	4770	96	95	63-144	1	30
Ethanol	ug/L	ND	200000	200000	274000	282000	137	141	39-176	3	30
Ethyl-tert-butyl ether	ug/L	ND	10000	10000	9540	9720	95	97	66-137	2	30
Ethylbenzene	ug/L	3300	5000	5000	9090	8970	116	113	66-153	1	30
Methyl-tert-butyl ether	ug/L	ND	5000	5000	4410	4560	88	91	54-156	3	30
Naphthalene	ug/L	586J	5000	5000	5610	5910	100	107	61-148	5	30
tert-Amyl Alcohol	ug/L	ND	100000	100000	104000	109000	97	103	54-153	5	30
tert-Amylmethyl ether	ug/L	ND	10000	10000	9590	9630	96	96	69-139	1	30
tert-Butyl Alcohol	ug/L	ND	50000	50000	46700	50200	93	100	43-188	7	30
tert-Butyl Formate	ug/L	ND	40000	40000	33400	34300	84	86	10-170	2	30
Toluene	ug/L	39100	5000	5000	43700	44000	92	97	59-148	1	30
Xylene (Total)	ug/L	16200	15000	15000	34000	33200	119	113	63-158	3	30
1,2-Dichloroethane-d4 (S)	%						104	103	70-130		
4-Bromofluorobenzene (S)	%						94	91	70-130		
Toluene-d8 (S)	%						99	99	70-130		

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627580 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92544566024

METHOD BLANK: 3299322 Matrix: Water  
Associated Lab Samples: 92544566024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/16/21 13:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/16/21 13:26	
Benzene	ug/L	ND	5.0	1.7	06/16/21 13:26	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/16/21 13:26	
Ethanol	ug/L	ND	200	144	06/16/21 13:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/16/21 13:26	
Ethylbenzene	ug/L	ND	5.0	1.8	06/16/21 13:26	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/16/21 13:26	
Naphthalene	ug/L	ND	5.0	2.1	06/16/21 13:26	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/16/21 13:26	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/16/21 13:26	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/16/21 13:26	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/16/21 13:26	
Toluene	ug/L	ND	5.0	2.0	06/16/21 13:26	
Xylene (Total)	ug/L	ND	5.0	5.0	06/16/21 13:26	
1,2-Dichloroethane-d4 (S)	%	89	70-130		06/16/21 13:26	
4-Bromofluorobenzene (S)	%	104	70-130		06/16/21 13:26	
Toluene-d8 (S)	%	112	70-130		06/16/21 13:26	

LABORATORY CONTROL SAMPLE: 3299323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.9	84	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	941	94	70-130	
Benzene	ug/L	50	48.0	96	70-130	
Diisopropyl ether	ug/L	50	44.3	89	70-130	
Ethanol	ug/L	2000	1840	92	70-130	
Ethyl-tert-butyl ether	ug/L	100	95.3	95	70-130	
Ethylbenzene	ug/L	50	49.8	100	70-130	
Methyl-tert-butyl ether	ug/L	50	47.1	94	70-130	
Naphthalene	ug/L	50	42.1	84	70-130	
tert-Amyl Alcohol	ug/L	1000	1050	105	70-130	
tert-Amylmethyl ether	ug/L	100	98.3	98	70-130	
tert-Butyl Alcohol	ug/L	500	423	85	70-130	
tert-Butyl Formate	ug/L	400	399	100	70-130	
Toluene	ug/L	50	45.6	91	70-130	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3299323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3299324 3299325

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92544567023 Result	Spike Conc.	Spike Conc.	Result						
1,2-Dichloroethane	ug/L	ND	20	20	18.9	18.8	94	94	70-137	0	30
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	410	404	102	101	39-157	1	30
Benzene	ug/L	ND	20	20	21.5	22.0	107	110	70-151	2	30
Diisopropyl ether	ug/L	ND	20	20	17.5	17.8	88	89	63-144	2	30
Ethanol	ug/L	ND	800	800	795	810	99	101	39-176	2	30
Ethyl-tert-butyl ether	ug/L	ND	40	40	37.6	37.7	94	94	66-137	0	30
Ethylbenzene	ug/L	ND	20	20	21.9	22.2	109	111	66-153	1	30
Methyl-tert-butyl ether	ug/L	ND	20	20	19.0	19.1	95	95	54-156	0	30
Naphthalene	ug/L	ND	20	20	17.4	17.2	87	86	61-148	1	30
tert-Amyl Alcohol	ug/L	ND	400	400	429	446	107	112	54-153	4	30
tert-Amylmethyl ether	ug/L	ND	40	40	39.3	40.2	98	100	69-139	2	30
tert-Butyl Alcohol	ug/L	ND	200	200	220	234	110	117	43-188	6	30
tert-Butyl Formate	ug/L	ND	160	160	87.5	65.9	55	41	10-170	28	30
Toluene	ug/L	ND	20	20	21.3	22.0	106	110	59-148	3	30
Xylene (Total)	ug/L	ND	60	60	64.8	64.8	108	108	63-158	0	30
1,2-Dichloroethane-d4 (S)	%						95	91	70-130		
4-Bromofluorobenzene (S)	%						100	99	70-130		
Toluene-d8 (S)	%						101	103	70-130		

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627815	Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D	Analysis Description: 8260 MSV SC
	Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92544566003, 92544566025

METHOD BLANK: 3300282 Matrix: Water

Associated Lab Samples: 92544566003, 92544566025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/17/21 14:54	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/17/21 14:54	
Benzene	ug/L	ND	5.0	1.7	06/17/21 14:54	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/17/21 14:54	
Ethanol	ug/L	ND	200	144	06/17/21 14:54	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/17/21 14:54	
Ethylbenzene	ug/L	ND	5.0	1.8	06/17/21 14:54	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/17/21 14:54	
Naphthalene	ug/L	ND	5.0	2.1	06/17/21 14:54	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/17/21 14:54	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/17/21 14:54	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/17/21 14:54	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/17/21 14:54	
Toluene	ug/L	ND	5.0	2.0	06/17/21 14:54	
Xylene (Total)	ug/L	ND	5.0	5.0	06/17/21 14:54	
1,2-Dichloroethane-d4 (S)	%	108	70-130		06/17/21 14:54	
4-Bromofluorobenzene (S)	%	99	70-130		06/17/21 14:54	
Toluene-d8 (S)	%	100	70-130		06/17/21 14:54	

LABORATORY CONTROL SAMPLE: 3300283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.1	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	995	100	70-130	
Benzene	ug/L	50	49.2	98	70-130	
Diisopropyl ether	ug/L	50	48.5	97	70-130	
Ethanol	ug/L	2000	1920	96	70-130	
Ethyl-tert-butyl ether	ug/L	100	106	106	70-130	
Ethylbenzene	ug/L	50	54.9	110	70-130	
Methyl-tert-butyl ether	ug/L	50	50.5	101	70-130	
Naphthalene	ug/L	50	49.8	100	70-130	
tert-Amyl Alcohol	ug/L	1000	926	93	70-130	
tert-Amylmethyl ether	ug/L	100	104	104	70-130	
tert-Butyl Alcohol	ug/L	500	481	96	70-130	
tert-Butyl Formate	ug/L	400	444	111	70-130	
Toluene	ug/L	50	48.2	96	70-130	
Xylene (Total)	ug/L	150	170	113	70-130	
1,2-Dichloroethane-d4 (S)	%			110	70-130	
4-Bromofluorobenzene (S)	%			107	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3300283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3300284 3300285

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92544566025 Result	Spike Conc.	Spike Conc.	Result						
1,2-Dichloroethane	ug/L	ND	2500	2500	2320	2550	93	102	70-137	9	30
3,3-Dimethyl-1-Butanol	ug/L	ND	50000	50000	39100	46700	78	93	39-157	18	30
Benzene	ug/L	4390	2500	2500	6850	7510	99	125	70-151	9	30
Diisopropyl ether	ug/L	ND	2500	2500	2270	2450	91	98	63-144	8	30
Ethanol	ug/L	ND	100000	100000	81000	94200	81	94	39-176	15	30
Ethyl-tert-butyl ether	ug/L	ND	5000	5000	4850	5340	97	107	66-137	10	30
Ethylbenzene	ug/L	2200	2500	2500	4720	5270	101	123	66-153	11	30
Methyl-tert-butyl ether	ug/L	ND	2500	2500	2420	2700	90	102	54-156	11	30
Naphthalene	ug/L	414J	2500	2500	2630	2970	89	102	61-148	12	30
tert-Amyl Alcohol	ug/L	18900	50000	50000	59000	66000	80	94	54-153	11	30
tert-Amylmethyl ether	ug/L	ND	5000	5000	4810	5330	96	107	69-139	10	30
tert-Butyl Alcohol	ug/L	ND	25000	25000	21900	24900	83	95	43-188	13	30
tert-Butyl Formate	ug/L	ND	20000	20000	18900	21300	94	107	10-170	12	30
Toluene	ug/L	15100	2500	2500	17400	19100	94	159	59-148	9	30 M1
Xylene (Total)	ug/L	11200	7500	7500	18700	20600	100	125	63-158	10	30
1,2-Dichloroethane-d4 (S)	%						97	102	70-130		
4-Bromofluorobenzene (S)	%						100	103	70-130		
Toluene-d8 (S)	%						98	99	70-130		

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 628173      Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D      Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92544566002, 92544566019, 92544566021

METHOD BLANK: 3302227      Matrix: Water

Associated Lab Samples: 92544566002, 92544566019, 92544566021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	2.1	06/18/21 12:19	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	53.9	06/18/21 12:19	
Benzene	ug/L	ND	5.0	1.7	06/18/21 12:19	
Diisopropyl ether	ug/L	ND	5.0	3.5	06/18/21 12:19	
Ethanol	ug/L	ND	200	144	06/18/21 12:19	
Ethyl-tert-butyl ether	ug/L	ND	10.0	8.5	06/18/21 12:19	
Ethylbenzene	ug/L	ND	5.0	1.8	06/18/21 12:19	
Methyl-tert-butyl ether	ug/L	ND	5.0	3.1	06/18/21 12:19	
Naphthalene	ug/L	ND	5.0	2.1	06/18/21 12:19	
tert-Amyl Alcohol	ug/L	ND	100	65.6	06/18/21 12:19	
tert-Amylmethyl ether	ug/L	ND	10.0	3.0	06/18/21 12:19	
tert-Butyl Alcohol	ug/L	ND	100	91.0	06/18/21 12:19	
tert-Butyl Formate	ug/L	ND	50.0	24.1	06/18/21 12:19	
Toluene	ug/L	ND	5.0	2.0	06/18/21 12:19	
Xylene (Total)	ug/L	ND	5.0	5.0	06/18/21 12:19	
1,2-Dichloroethane-d4 (S)	%	97	70-130		06/18/21 12:19	
4-Bromofluorobenzene (S)	%	103	70-130		06/18/21 12:19	
Toluene-d8 (S)	%	104	70-130		06/18/21 12:19	

LABORATORY CONTROL SAMPLE: 3302228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.9	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1080	108	70-130	
Benzene	ug/L	50	51.0	102	70-130	
Diisopropyl ether	ug/L	50	49.2	98	70-130	
Ethanol	ug/L	2000	1930	96	70-130	
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	52.0	104	70-130	
Methyl-tert-butyl ether	ug/L	50	51.4	103	70-130	
Naphthalene	ug/L	50	54.1	108	70-130	
tert-Amyl Alcohol	ug/L	1000	1140	114	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	514	103	70-130	
tert-Butyl Formate	ug/L	400	415	104	70-130	
Toluene	ug/L	50	50.1	100	70-130	
Xylene (Total)	ug/L	150	154	103	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

LABORATORY CONTROL SAMPLE: 3302228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3302230 3302231

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92544566021 Result	Spike Conc.	Spike Conc.	Result							Result
1,2-Dichloroethane	ug/L	5.2	20	20	26.2	27.1	105	110	70-137	3	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	400	405	439	101	110	39-157	8	30	
Benzene	ug/L	3.1J	20	20	25.1	25.0	110	110	70-151	0	30	
Diisopropyl ether	ug/L	14.7	20	20	36.4	36.9	108	111	63-144	2	30	
Ethanol	ug/L	ND	800	800	830	908	104	113	39-176	9	30	
Ethyl-tert-butyl ether	ug/L	ND	40	40	44.3	46.1	108	112	66-137	4	30	
Ethylbenzene	ug/L	ND	20	20	22.5	22.5	112	112	66-153	0	30	
Methyl-tert-butyl ether	ug/L	53.8	20	20	79.9	79.7	130	129	54-156	0	30	
Naphthalene	ug/L	ND	20	20	22.6	22.5	113	113	61-148	0	30	
tert-Amyl Alcohol	ug/L	3330	400	400	3990	4200	164	217	54-153	5	30	E,M1
tert-Amylmethyl ether	ug/L	94.8	40	40	140	139	113	112	69-139	0	30	
tert-Butyl Alcohol	ug/L	282	200	200	556	605	137	161	43-188	8	30	
tert-Butyl Formate	ug/L	ND	160	160	112	80.3	70	50	10-170	33	30	R1
Toluene	ug/L	ND	20	20	21.9	21.5	109	107	59-148	2	30	
Xylene (Total)	ug/L	ND	60	60	66.9	66.3	112	111	63-158	1	30	
1,2-Dichloroethane-d4 (S)	%						101	102	70-130			
4-Bromofluorobenzene (S)	%						98	99	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627776 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92544566001, 92544566002, 92544566003, 92544566004, 92544566005, 92544566006, 92544566007, 92544566008, 92544566009, 92544566010, 92544566011, 92544566012, 92544566013, 92544566014

METHOD BLANK: 3300070 Matrix: Water  
Associated Lab Samples: 92544566001, 92544566002, 92544566003, 92544566004, 92544566005, 92544566006, 92544566007, 92544566008, 92544566009, 92544566010, 92544566011, 92544566012, 92544566013, 92544566014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0098	06/17/21 13:31	
1-Chloro-2-bromopropane (S)	%	87	60-140		06/17/21 13:31	

LABORATORY CONTROL SAMPLE & LCSD: 3300071 3300072

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.20	0.21	80	85	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				91	91	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3300074 3300075

Parameter	Units	92544087005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.18	0.19	74	76	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						79	81	60-140			

SAMPLE DUPLICATE: 3300073

Parameter	Units	92544087004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	87	77			

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

QC Batch: 627777 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92544566015, 92544566016, 92544566017, 92544566018, 92544566019, 92544566020, 92544566021, 92544566022, 92544566023, 92544566024, 92544566025, 92544566026, 92544566027

METHOD BLANK: 3300085 Matrix: Water  
Associated Lab Samples: 92544566015, 92544566016, 92544566017, 92544566018, 92544566019, 92544566020, 92544566021, 92544566022, 92544566023, 92544566024, 92544566025, 92544566026, 92544566027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.0098	06/17/21 20:26	
1-Chloro-2-bromopropane (S)	%	89	60-140		06/17/21 20:26	

LABORATORY CONTROL SAMPLE & LCSD: 3300086 3300087

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.20	0.21	79	85	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				84	90	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3300089 3300090

Parameter	Units	92544566016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	0.25	0.25	0.28	0.28	110	113	60-140	3	20	
1-Chloro-2-bromopropane (S)	%						84	89	60-140			

SAMPLE DUPLICATE: 3300088

Parameter	Units	92544566015 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	79	86			

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## QUALIFIERS

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92544566001	12175 MW-3	EPA 8011	627776	EPA 8011	627872
92544566002	12175 MW-4	EPA 8011	627776	EPA 8011	627872
92544566003	12175 MW-6	EPA 8011	627776	EPA 8011	627872
92544566004	12175 MW-7	EPA 8011	627776	EPA 8011	627872
92544566005	12175 MW-8	EPA 8011	627776	EPA 8011	627872
92544566006	12175 MW-9	EPA 8011	627776	EPA 8011	627872
92544566007	12175 MW-10	EPA 8011	627776	EPA 8011	627872
92544566008	12175 MW-11	EPA 8011	627776	EPA 8011	627872
92544566009	12175 MW-12	EPA 8011	627776	EPA 8011	627872
92544566010	12175 MW-13	EPA 8011	627776	EPA 8011	627872
92544566011	12175 MW-14	EPA 8011	627776	EPA 8011	627872
92544566012	12175 MW-15	EPA 8011	627776	EPA 8011	627872
92544566013	12175 MW-16	EPA 8011	627776	EPA 8011	627872
92544566014	12175 MW-17	EPA 8011	627776	EPA 8011	627872
92544566015	12175 MW-18	EPA 8011	627777	EPA 8011	627874
92544566016	12175 MW-20	EPA 8011	627777	EPA 8011	627874
92544566017	12175 MW-21	EPA 8011	627777	EPA 8011	627874
92544566018	12175 MW-22	EPA 8011	627777	EPA 8011	627874
92544566019	12175 MW-23	EPA 8011	627777	EPA 8011	627874
92544566020	12175 MW-24	EPA 8011	627777	EPA 8011	627874
92544566021	12175 MW-26	EPA 8011	627777	EPA 8011	627874
92544566022	12175 TW-1	EPA 8011	627777	EPA 8011	627874
92544566023	12175 TW-2	EPA 8011	627777	EPA 8011	627874
92544566024	12175 DUP-1	EPA 8011	627777	EPA 8011	627874
92544566025	12175 DUP-2	EPA 8011	627777	EPA 8011	627874
92544566026	12175 FB-1	EPA 8011	627777	EPA 8011	627874
92544566027	12175 FB-2	EPA 8011	627777	EPA 8011	627874
92544566001	12175 MW-3	EPA 8260D	627570		
92544566002	12175 MW-4	EPA 8260D	628173		
92544566003	12175 MW-6	EPA 8260D	627815		
92544566004	12175 MW-7	EPA 8260D	627570		
92544566005	12175 MW-8	EPA 8260D	627570		
92544566006	12175 MW-9	EPA 8260D	627570		
92544566007	12175 MW-10	EPA 8260D	627570		
92544566008	12175 MW-11	EPA 8260D	627573		
92544566009	12175 MW-12	EPA 8260D	627570		
92544566010	12175 MW-13	EPA 8260D	627570		
92544566011	12175 MW-14	EPA 8260D	627570		
92544566012	12175 MW-15	EPA 8260D	627570		
92544566013	12175 MW-16	EPA 8260D	627570		
92544566014	12175 MW-17	EPA 8260D	627576		
92544566015	12175 MW-18	EPA 8260D	627573		
92544566016	12175 MW-20	EPA 8260D	627570		
92544566017	12175 MW-21	EPA 8260D	627570		

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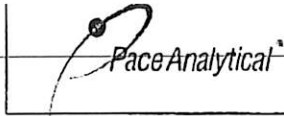
### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC#3 EDGEFIELD SC  
Pace Project No.: 92544566

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92544566018	12175 MW-22	EPA 8260D	627570		
92544566019	12175 MW-23	EPA 8260D	628173		
92544566020	12175 MW-24	EPA 8260D	627573		
92544566021	12175 MW-26	EPA 8260D	628173		
92544566022	12175 TW-1	EPA 8260D	627570		
92544566023	12175 TW-2	EPA 8260D	627570		
92544566024	12175 DUP-1	EPA 8260D	627580		
92544566025	12175 DUP-2	EPA 8260D	627815		
92544566026	12175 FB-1	EPA 8260D	627570		
92544566027	12175 FB-2	EPA 8260D	627570		
92544566028	12175 TRIP BLANK 1	EPA 8260D	627570		
92544566029	12175 TRIP BLANK 2	EPA 8260D	627570		

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Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: October 28, 2020

Page 1 of 2

Document No.: F-CAR-CS-033-Rev.07

Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition Upon Receipt

Client Name:

ATC Group Services

Project #

WO#: 92544566

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other: \_\_\_\_\_



92544566

Custody Seal Present?  Yes  No Seals Intact?  Yes  No

Date/Initials-Person-Examining-Contents: 6/16/21 TH

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Biological Tissue Frozen?

Thermometer:  IR Gun ID: 92T064 Type of Ice:  Wet  Blue  None

Yes  No  N/A

Cooler Temp: 19.0.3 Correction Factor: Add/Subtract (°C) -0.1

Temp should be above freezing to 6°C

Cooler Temp Corrected (°C): 18.0.2

Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?  Yes  No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
Includes Date/Time/ID/Analysis Matrix: WT			
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_

Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_

Date: \_\_\_\_\_



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

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

\*\*Bottom half of box is to list number of bottles

Proj

**WO# : 92544566**

PM: BV

Due Date: 06/23/21

CLIENT: 92-ATC

43

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
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11	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/
12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/

**pH Adjustment Log for Preserved Samples**

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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





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

Project #

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

2/3

\*\*Bottom half of box is to list number of bottles

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit(N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/	/
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12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	/	/	/	/	/	/	/	/	/	/	/	/	/

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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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Project #

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

33

\*\*Bottom half of box is to list number of bottles

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Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2SO3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (3,3-9,7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1																6												
2																6												
3																6												
4																2												
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6																												
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12																												

**pH Adjustment Log for Preserved Samples**

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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# CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 31 Of 31

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>			<b>Invoice Information:</b>		
Company:	ATC Group Services, LLC - Charlotte	Report to:	Noelle France	Attention:	
Address:	7606 Whitehall Exe Center Dr	Copy To:		Company Name:	
Charlottesville, NC 28273		Purchase Order #:		Address:	
Email: <a href="mailto:nfrance@essconslab.com">nfrance@essconslab.com</a>		Project Name:	Penalty 579	Pace Project Manager:	bonnie.vang@pacelabs.com
Phone: (704) 529-3200		Project #:		Pace Profile #:	9215-7
Requested Due Date: 5 days		<b>Regulatory Agency</b>			
		<b>State / Location</b>			
		SC			

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES	ANALYSES TEST Y/N	TRIP BLANK	RESIDUAL CHLORINE (Y/N)	TEMP IN C	RECEIVED ON	CUSTODY	SEALED	COOLER	SAMPLER SAMPLES	INTACT	
			START DATE TIME	END DATE TIME															
1	Drinking Water	DW	6/15/21	11:40	WTG		0	X	XX	025									
2	Water	WT	6/15/21	12:00			2			026									
3	Waste Water	WW								028									
4	Waste Water Product	WP								029									
5	Product	P																	
6	Solid	SL																	
7	Oil	OL																	
8	Wipe	WF																	
9	Air	AR																	
10	Other	OT																	
11	Tissue	TS																	
12																			
	<b>ADDITIONAL COMMENTS</b>																		
	57EXMN, 1,2-DCA, ETH, Oxygens by 8260																		
	Report J - valves																		
	DATE: 6/15/21 ATC 6/15/21 1800																		
	DATE: 6/16 12:00 ADPARE HVC																		

<b>SAMPLER NAME AND SIGNATURE</b>	
PRINT Name of SAMPLER:	Austen Rubenstich
SIGNATURE of SAMPLER:	<i>(Signature)</i>
DATE Signed:	6/15/21



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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**  
**Required Client Information:**  
 Company: ATC Group Services, LLC - Charlotte  
 Address: 7606 Whitehall Exe Center Dr  
 Charlotte, NC 28273  
 Email: [nfrance@atcconsulteam.com](mailto:nfrance@atcconsulteam.com) | Fax: [redacted]  
 Phone: (704)529-3200  
 Requested Due Date: 5 Aug 21

**Section B**  
**Required Project Information:**  
 Report To: Noelle France  
 Copy To: [redacted]  
 Purchase Order #: [redacted]  
 Project Name: EFC#3 Edgefield SC  
 Project #: [redacted]

**Section C**  
**Invoice Information:**  
 Attention: [redacted]  
 Company Name: [redacted]  
 Address: [redacted]  
 Pace Quote: [redacted]  
 Pace Project Manager: bonnie.vang@pacelabs.com  
 Pace Profile #: 9215-3

**Regulatory Agency:** [redacted]  
**State / Location:** SC

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLER TEMP AT COLLECTION		# OF CONTAINERS	PRESERVATIVES		ANALYSES TEST	ACCEPTED BY / AFFILIATION	DATE	TIME	DATE	TIME	SAMPLE CONDITIONS
			START DATE	END TIME			START DATE	END TIME		H2SO4	HNO3							
1	Drinking Water	DM	6/15/21	13:15	G	WTG	6/15/21	13:15	6	X		XX	EDB 8011	6/16	0730	6/16	0730	Sealed (Y/N)
2	Waste Water	WW		11:20														Cooler (Y/N)
3	Waste Water	WW		11:10														Intact Samples (Y/N)
4	Product	P	6/14/21	18:00														Sealed (Y/N)
5	Soil/Solid	SS	6/15/21	10:20														Custody (Y/N)
6	Oil	O		9:40														Ice (Y/N)
7	Wipe	WP		8:45														Received on (Y/N)
8	Air	A		13:35														Temp in C
9	Other	OT	6/14/21	14:35														
10	Tissue	TS		15:05														
11				15:45														
12																		

**ADDITIONAL COMMENTS:**  
 BTEXMN, 1,2, DCS, ethanol, and the oxygenates by 8260  
 Report 5-values

**RELINQUISHED BY / AFFILIATION:** [Signature]  
**DATE:** 6/15/21  
**TIME:** 1800

**ACCEPTED BY / AFFILIATION:** [Signature]  
**DATE:** 6/16  
**TIME:** 1200

**TEMP IN C:** 18.2  
**Received on (Y/N):** Y  
**Sealed (Y/N):** Y  
**Cooler (Y/N):** Y  
**Intact Samples (Y/N):** Y

**SAMPLER NAME AND SIGNATURE:** [Signature]  
**PRINT Name of SAMPLER:** Austen Rubenstein  
**SIGNATURE of SAMPLER:** [Signature]  
**DATE Signed:** 6/15/21





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# CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 24 Of 31

**Section A**  
**Required Client Information:**  
 Company: ATC Group Services, LLC - Charlotte  
 Address: 7606 Whitehall Exe Center Dr  
 Charlotte, NC 28273  
 Email: nfrance@scsconsult.com  
 Phone: (704)529-3200  
 Requested Due Date: 5 Aug 21

**Section B**  
**Required Project Information:**  
 Report To: Noelle France  
 Copy To:  
 Purchase Order #:  
 Project Name: EFC#3 Edgefield SC  
 Project #:

**Section C**  
**Invoice Information:**  
 Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: bonnie.vang@pacelabs.com  
 Pace Profile #: 9215-3

**Regulatory Agency**  
**State / Location**  
 SC

ITEM #	MATRIX Drinking Water Waters Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique	COLLECTED		START DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260-BTEXMN, 1,2-DCA, OX EDB 8011 Trip BLANK	Residual Chlorine (Y/N)	TEMP in C	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)	
				DATE	TIME																						
1			12175 mw-16	6/14/21	17:25	6/14/21	17:25		6	X									X		013						
2			mw-17	6/15/21	10:00	6/15/21	10:00		1										X		014						
3			mw-18	6/15/21	13:20	6/15/21	13:20		1										X		015						
4			mw-20	6/14/21	13:45	6/14/21	13:45		1										X		016						
5			mw-21	6/14/21	12:15	6/14/21	12:15		1										X		017						
6			mw-22	6/15/21	9:10	6/15/21	9:10		1										X		018						
7			mw-23	6/15/21	9:15	6/15/21	9:15		1										X		019						
8			mw-24	6/15/21	10:15	6/15/21	10:15		1										X		020						
9			mw-26	6/15/21	11:00	6/15/21	11:00		1										X		021						
10			TW-1	6/14/21	12:50	6/14/21	12:50		1										X		022						
11			TW-2	6/14/21	16:55	6/14/21	16:55		1										X		023						
12			Dup-1																X		024						

**ADDITIONAL COMMENTS**  
 BTEXMN, 1,2, DCS, ethanol, and the oxygenates by 8260  
 Report J-values

**RELINQUISHED BY / AFFILIATION**  
 Date: 6/15/21 Time: 1800  
 Signature: [Signature]

**ACCEPTED BY / AFFILIATION**  
 Date: 6/16/21 Time: 0730  
 Signature: [Signature]

**DATE SIGNED:** 6/15/21

**PRINT NAME of SAMPLER:** Austen Rubenstein

**SIGNATURE of SAMPLER:** [Signature]

**APPENDIX B**  
**QUALITY ASSURANCE AND QUALITY CONTROL EVALUATION**  
**LABORATORY ACCURACY - PACE ANALYTICAL SERVICES**

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	tert-Amyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	240
12175 FB-1	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6
12175 FB-2	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6
12175 TRIP BLANK 1	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6
12175 TRIP BLANK 2	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	tert-Amyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	240
12175 MW-16	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6
12175 DUP-1	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<65.6
<b>Relative Percent Difference</b>		NA	NA	NA	NA	NA	NA	NA
<b>Average Relative Percent Difference</b>							NA	

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene	tert-Amyl Alcohol
RBSLs/Als		5	1000	700	10000	40	25	240
12175 MW-24	06/15/2021	<b>5600</b>	<b>18100</b>	<b>2650</b>	<b>12700</b>	<310	<b>567</b>	<b>23800</b>
12175 DUP-2	06/14/2021	<b>4390</b>	<b>15100</b>	<b>2200</b>	<b>11200</b>	<388	<b>414 J</b>	<b>18900</b>
<b>Relative Percent Difference</b>		<b>24.22%</b>	<b>18.07%</b>	<b>18.56%</b>	<b>12.55%</b>	NA	NA	<b>22.95%</b>
<b>Average Relative Percent Difference</b>							<b>19.27%</b>	

FB - Field Blank

Results in micrograms per liter ug/L

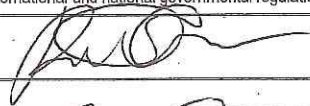
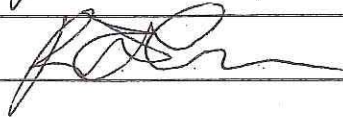
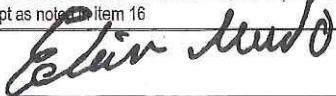
J qualifiers left out for calculation purposes



**APPENDIX G**  
Disposal Manifest

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

<b>HAZMAT BILL OF LADING/MANIFEST</b>		1. Offeror's ID Number	2. Page 1 of <b>1</b>	3. Emergency Response Phone	4. Tracking Number			
5. Offeror's Name and Mailing Address <b>Edgefield Fuel and Convenience, LLC</b> <b>107 1/2 Courthouse Square, Edgefield, SC</b>				Offeror's Site Address (if different than mailing address) <b>EFC #3</b> <b>311 main st, Edgefield, SC</b>				
Offeror's Phone: <b>803-367-1900</b>								
6. Transporter 1 Company Name <b>ATC Group Services</b>				U.S. EPA ID Number				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address <b>Haz mat Enviornmental services</b> <b>221 Dalton Avenue, Charlotte, NC</b>				U.S. EPA ID Number				
Facility's Phone: <b>704-332-5600</b>								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.			
		No.	Type					
1.	<b>Petroleum Contact water</b>	1	<b>Drum</b>	<b>41</b>	<b>gal</b>			
2.								
3.								
4.								
5.								
6.								
7.								
13. Special Handling Instructions and Additional Information								
14. OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.								
Offeror's Printed/Typed Name <b>Rachel Carps as an agent of Edgefield Fuel and Convenience LLC</b>				Signature 		Month <b>10</b>	Day <b>16</b>	Year <b>21</b>
15. Transporter Acknowledgment of Receipt of Materials				Signature 		Month <b>10</b>	Day <b>16</b>	Year <b>21</b>
Transporter 1 Printed/Typed Name <b>Rachel Carps as an agent of Edgefield Fuel and Convenience LLC</b>				Signature		Month	Day	Year
Transporter 2 Printed/Typed Name				Signature		Month	Day	Year
16. Discrepancy								
17. Designated Facility Owner or Operator: Certification of receipt of hazardous Bill of Lading/Manifest covered by the manifest except as noted in item 16				Signature 		Month <b>6</b>	Day <b>16</b>	Year <b>21</b>
Printed/Typed Name <b>Edum mudo</b>				Signature		Month	Day	Year

OFFEROR

DESIGNATED FACILITY TRANSPORTER

DESIGNATED FACILITY TO OFFEROR

**APPENDIX K**

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Data Verification Checklist

## Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		







Healthy People. Healthy Communities.

MAY 18 2022

EDGEFIELD FUEL & CONVEINCE LLC  
107 ½ COURTHOUSE SQ.  
EDGEFIELD SC 29824-1373



Re: **Site-Specific Work Plan Request for Groundwater Sampling**  
Split Stop #311, 311 Main St., Edgefield, SC  
UST Permit #12175  
Release reported December 31, 2008  
Monitoring Report received June 30, 2021  
Edgefield County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the soil and groundwater above Risk-Based Screening Levels.

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations R.61-92, implementation of groundwater sampling is necessary. The groundwater sampling must be conducted in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and all applicable regulations. The QAPP is available at [scdhec.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance](http://scdhec.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance).

Groundwater samples should be collected from all monitoring wells associated with this release along with all water supply wells and surface waters within a 1,000 foot radius of the site. Samples should be analyzed for BTEX, Naphthalene, MTBE, 1,2-DCA, the 8 oxygenates, and EDB. Only wells with screens that do not bracket the water table should be purged prior to sampling.

**Your contractor must complete the SSWP and submit it within 30 days from the date of this letter.** Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from DHEC must be issued before work begins.**

On all correspondence concerning this site, please reference UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by email at [hofferqm@dhec.sc.gov](mailto:hofferqm@dhec.sc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Quincy Hoffer". The signature is written in a cursive style with a large initial "Q".

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

cc: Atlas Technical, 7606 Whitehall Executive Ctr., STE 800, Charlotte, NC 28273  
Technical file



7606 Whitehall Executive Center Drive  
Suite 800  
Charlotte, NC 28273  
Telephone 704-529-3200  
Fax 704-583-2744  
[www.oneatlas.com](http://www.oneatlas.com)

Mr. Quincy Hoffer  
Corrective Action Section  
Underground Storage Tank Management Division  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201

May 24, 2022  
ATC Project #EFC3006



Re: Site Specific Work Plan  
Spilt Stop 311  
311 Main Street  
Edgefield, South Carolina  
UST Permit No. 12175

Mr. Hoffer:

Enclosed please find the Site Specific Work Plan requested for the referenced site per the email dated May 18, 2022. Should you have any questions or require additional information, please do not hesitate to call me at (704) 529-3200 or by email at [Noelle.france@oneatlas.com](mailto:Noelle.france@oneatlas.com)

Sincerely,  
**ATC Group Services, LLC**

Noelle A. France  
*Senior Project Manager*



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

To: Mr. Quincy Hoffer (SCDHEC Project Manager)  
 From: Noelle France (Contractor Project Manager)  
 Contractor: ATC Group Services, LLC UST Contractor Certification Number: 358

Facility Name: Split Stop 311 UST Permit #: 12175  
 Facility Address: 311 Main Street, Edgefield, South Carolina  
 Responsible Party: Edgefield Fuel and Convenience, LLC Phone: 803-367-1900  
 RP Address: 107 1/2 Courthouse Square, Edgefield, South Carolina  
 Property Owner (if different): As above  
 Property Owner Address: As above  
 Current Use of Property: Gas station and convenience store

**Scope of Work** (Please check all that apply)

- IGWA                       Tier II                       Groundwater Sampling                       GAC  
 Tier I                       Monitoring Well Installation                       Other \_\_\_\_\_

**Analyses** (Please check all that apply)

## Groundwater/Surface Water:

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

## Drinking Water Supply Wells:

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

## Soil:

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

## Air:

- BTEXN

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

NA Soil                      NA Water Supply Wells                      NA Air                      3 Field Blank  
32 Monitoring Wells                      NA Surface Water                      2 Duplicate                      2 Trip Blank

**Field Screening Methodology**

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: NA Estimated Footage: NA feet per point  
 # of deep points proposed: NA Estimated Footage: NA feet per point  
 Field Screening Methodology: NA

**Permanent Monitoring Wells**

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: NA Estimated Footage: NA feet per point  
 # of deep wells: NA Estimated Footage: NA feet per point  
 # of recovery wells: NA Estimated Footage: NA feet per point

Comments, if warranted: NA

UST Permit #: 12175 Facility Name: Split Stop 311

**Implementation Schedule** (Number of calendar days from approval)

Field Work Start-Up: Within 30 days of receipt of directive Field Work Completion: Within sixty days of receipt of directive  
Report Submittal: Within 90 days of receipt of directive # of Copies Provided to Property Owners: 1

**Aquifer Characterization**

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

NA  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Derived Waste Disposal**

Soil: NA Tons Purge Water: 100 Gallons  
Drilling Fluids: NA Gallons Free-Phase Product: NA Gallons

**Additional Details For This Scope of Work**

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

ATC will sample groundwater monitoring wells 12175-MW1 through MW26, 12175-TW1 and TW2, and 12175-RW1 through RW4. All samples will be analyzed per the methods specified above. Only wells for which the water table is not bracketed by the well screen will be purged.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Compliance With Annual Contractor Quality Assurance Plan (ACQAP)**

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: \_\_\_\_\_  
SCDHEC Certification Number: \_\_\_\_\_  
Name of Laboratory Director: \_\_\_\_\_

NA Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: \_\_\_\_\_  
SCLLR Certification Number: \_\_\_\_\_

NA Other variations from ACQAP. Please describe below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attachments**

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:  
North Arrow Proposed monitoring well locations  
Location of property lines Legend with facility name and address, UST permit number, and bar scale  
Location of buildings Streets or highways (indicate names and numbers)  
Previous soil sampling locations Location of all present and former ASTs and USTs  
Previous monitoring well locations Location of all potential receptors  
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



**ASSESSMENT COMPONENT INVOICE**

**SOUTH CAROLINA**

Department of Health and Environmental Control  
 Underground Storage Tank Management Division  
 State Underground Petroleum Environmental Response Bank Account  
 January 1, 2020

**Facility Name:** Split Stop 311

**UST Permit #:** 12175

**Cost Agreement #:** \_\_\_\_\_

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>A. Plan Preparation</b>				
1. Site-specific Work Plan	1	each	\$160.05	\$160.05
2. Tax Map		each	\$74.69	\$0.00
3. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
<b>B. Receptor Survey *</b>				
		each	\$587.92	\$0.00
<b>C. Survey (500 ft x 500 ft)</b>				
1. Comprehensive Survey		each	\$1,109.68	\$0.00
Subsurface Geophysical Survey				
2. < 10 meters below grade		each	\$1,387.10	\$0.00
3. > 10 meters below grade		each	\$2,464.77	\$0.00
4. Geophysical UST or Drum Survey		each	\$970.97	\$0.00
<b>D. Mob/Demob</b>				
1. Equipment		each	\$1,088.34	\$0.00
2. Personnel	2	each	\$451.34	\$902.68
3. Adverse Terrain Vehicle		each	\$533.50	\$0.00
<b>E.. Soil Borings (hand auger)*</b>				
		foot	\$5.34	\$0.00
<b>F. Soil Borings (requiring equipment, push technology, etc) or Field Screening (including water sample, soil sample, soil gas sample, etc.)*</b>				
1. Standard		per foot	\$16.01	\$0.00
2. Fractured Rock		per foot	\$21.55	\$0.00
<b>G. Soil Leachability Model</b>				
		each	\$64.02	\$0.00
<b>H. Abandonment (per foot)*</b>				
1. 2" diameter or less		per foot	\$3.31	\$0.00
2. Greater than 2" to 6" diameter		per foot	\$4.80	\$0.00
3. Dug/Bored well (up to 6 feet diameter)		per foot	\$16.00	\$0.00
<b>I. Well Installation (per foot)*</b>				
1. Water Table (hand augered)		per foot	\$11.31	\$0.00
2. Water Table (drill rig) 2" Diameter		per foot	\$40.55	\$0.00
3. Telescoping		per foot	\$53.35	\$0.00
4. Rock Drilling		per foot	\$61.89	\$0.00
5. 2" Rock Coring		per foot	\$32.97	\$0.00
6. Rock Multi-sampling ports/screens		per foot	\$35.64	\$0.00
7. Recovery Well (4" diameter)		per foot	\$48.02	\$0.00
8. Pushed Pre-packed screen (1.25" dia)		per foot	\$16.01	\$0.00
9. Rotasonic (2" diameter)		per foot	\$46.95	\$0.00
10. Re-develop Existing Well		per foot	\$11.74	\$0.00



<b>J. Groundwater Sample Collection / Gauge Depth to Water or Product *</b>				
1. Groundwater Purge	2	per well	\$64.02	\$128.04
2. Air or Vapors		sample	\$12.80	\$0.00
3. Water Supply Sample or Duplicate		sample	\$23.47	\$0.00
4. Groundwater No Purge or Duplicate or Grab	32	sample	\$29.88	\$956.16
5. Gauge Well only		sample	\$7.47	\$0.00
6. Sample Below Product		sample	\$12.80	\$0.00
7. Passive Diffusion Bag		sample	\$27.74	\$0.00
8. Field Blank	3	sample	\$26.25	\$78.75
9. Groundwater (low flow purge)		sample	\$97.10	\$0.00
10. Equipment Blank	1	sample	\$26.25	\$26.25
<b>K. Laboratory Analyses-Groundwater</b>				
1. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	40	per sample	\$130.17	\$5,206.80
2. Lead, Filtered		per sample	\$14.72	\$0.00
3. Rush EPA Method 8260B		per sample	\$163.89	\$0.00
4. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$29.88	\$0.00
5. PAH's		per sample	\$64.66	\$0.00
6. Lead		per sample	\$17.07	\$0.00
7. EDB by EPA 8011	38	per sample	\$48.23	\$1,832.74
8. EDB by EPA Method 8011 Rush		per sample	\$72.77	\$0.00
9. 8 RCRA Metals		per sample	\$67.65	\$0.00
10. TPH (9070)		per sample	\$43.75	\$0.00
11. PH		per sample	\$5.55	\$0.00
12. BOD		per sample	\$21.34	\$0.00
13. Ethanol		per sample	\$15.79	\$0.00
<b>K. Analyses-Drinking Water</b>				
14. BTEXNM+1,2 DCA (524.2)		per sample	\$132.36	\$0.00
15. 7-OXYGENATES & ETHANOL (8260B)		per sample	\$97.90	\$0.00
16. EDB (504.1)		per sample	\$84.83	\$0.00
17. RCRA METALS (200.8)		per sample	\$106.70	\$0.00
<b>K. Analyses-Soil</b>				
18. BTEX + Naphth.		per sample	\$68.29	\$0.00
19. PAH's		per sample	\$68.33	\$0.00
20. 8 RCRA Metals		per sample	\$60.18	\$0.00
21. TPH-DRO (3550C/8015C)		per sample	\$42.68	\$0.00
22. TPH- GRO (5035B/8015C)		per sample	\$38.37	\$0.00
23. Grain size/hydrometer		per sample	\$110.97	\$0.00
24. Total Organic Carbon		per sample	\$32.65	\$0.00
<b>K. Analyses-Air</b>				
25. BTEX + Naphthalene		per sample	\$230.47	\$0.00
<b>K. Analyses-Free Phase Product</b>				
26. Hydrocarbon Fuel Identification		per sample	\$380.92	\$0.00
<b>L. Aquifer Characterization*</b>				
1. Pumping Test		per hour	\$24.54	\$0.00
2. Slug Test		per test	\$203.80	\$0.00
3. Fractured Rock		per test	\$106.70	\$0.00
<b>M. Free Product Recovery Rate Test*</b>				
		each	\$40.55	\$0.00
<b>N. Fate/Transport Modeling</b>				
1. Mathematical Model		each	\$106.70	\$0.00
2. Computer Model		each	\$106.70	\$0.00
<b>O. Risk Evaluation</b>				
1. Tier I Risk Evaluation		each	\$320.10	\$0.00
2. Tier II Risk Evaluation		each	\$106.70	\$0.00
<b>P. Subsequent Survey*</b>				
		each	\$260.00	\$0.00

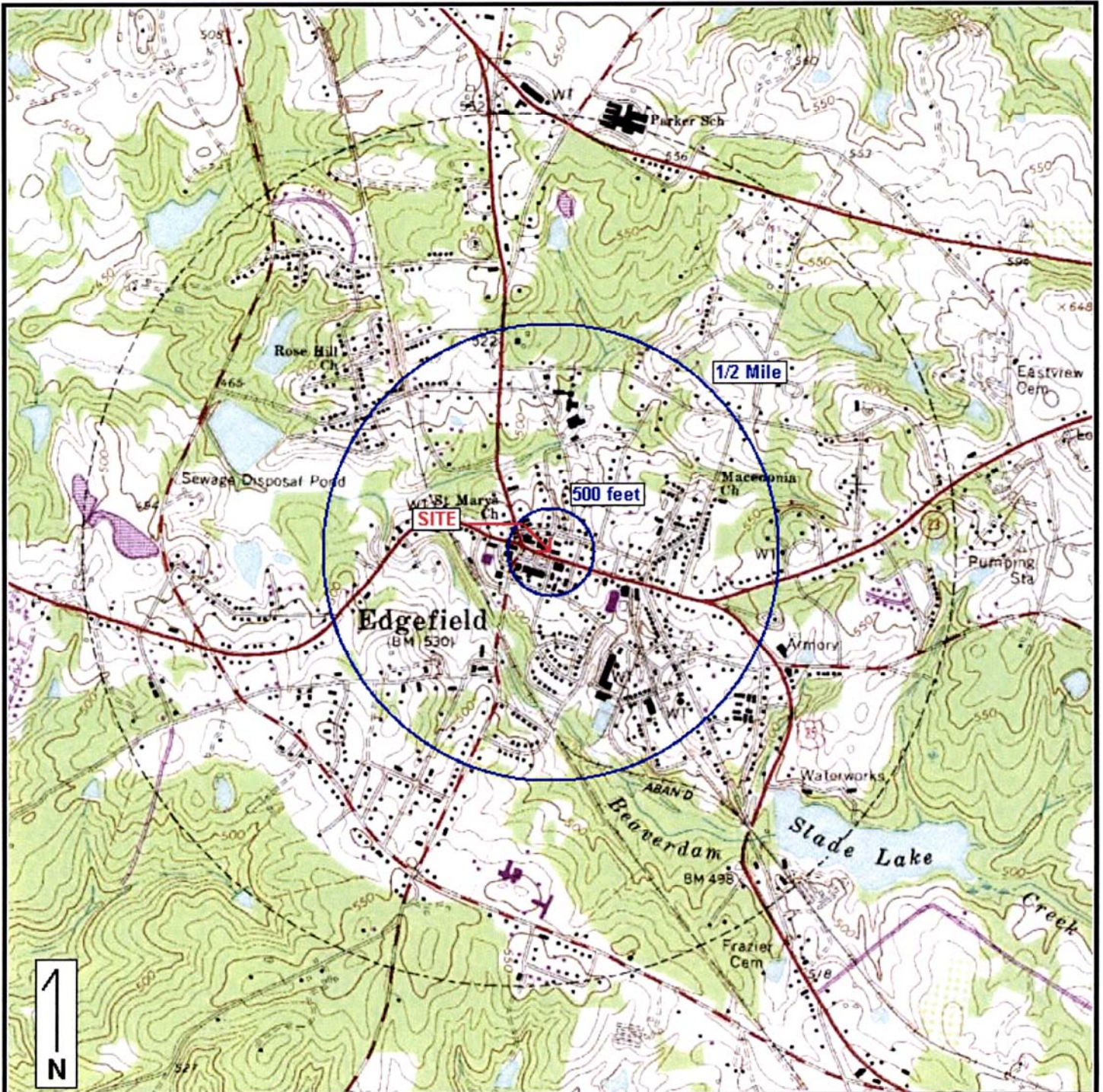
<b>Q. Disposal (gallons or tons)*</b>				
1. Wastewater	100	gallon	\$0.60	\$60.00
2. Free Product		gallon	\$0.53	\$0.00
3. Soil Treatment/Disposal		ton	\$64.02	\$0.00
4. Drilling fluids		gallon	\$0.45	\$0.00
<b>R. Miscellaneous (attach receipts)</b>				
<b>Survey</b>		each	\$1.00	\$0.00
		each	\$0.00	\$0.00
		each	\$0.00	\$0.00
<b>T. Tier I Assessment (Use DHEC 3665 form)</b>				\$0.00
1. Southeast Region		standard	\$11,026.00	\$0.00
2. All Other Counties		standard	\$12,093.00	\$0.00
<b>U. IGWA (Use DHEC 3666 form)</b>				
1. Southeast Region		standard	\$3,803.00	\$0.00
2. All Other Counties		standard	\$4,123.00	\$0.00
<b>22. Corrective Action (Use DHEC 3667 form)</b>		PPF Bid		\$0.00
<b>W. Aggressive Fluid &amp; Vapor Recovery (AFVR)</b>				
1. 8-hour Event*		per event	\$1,467.13	\$0.00
2. 24-hour Event*		per event	\$4,081.28	\$0.00
3. 48-hour Event*		per event	\$6,706.10	\$0.00
4. 96-hour Event*		per event	\$13,409.52	\$0.00
5. Off-gas Treatment 8 hour		per event	\$130.71	\$0.00
6. Off-gas Treatment 24 hour		per event	\$257.68	\$0.00
7. Off-gas Treatment 48 hour		per event	\$348.91	\$0.00
8. Off-gas Treatment 96 hour		per event	\$832.26	\$0.00
9. Off-gas Treatment 8 hour (w/chlorinated compounds)		per event	\$430.00	\$0.00
10. Off-gas Treatment 24 hour (w/chlorinated compounds)		per event	\$500.00	\$0.00
11. Off-gas Treatment 48 hour (w/chlorinated compounds)		per event	\$1,000.00	\$0.00
12. Off-gas Treatment 96 hour (w/chlorinated compounds)		per event	\$2,000.00	\$0.00
13. AFVR Effluent Disposal(w/chlorinated compounds)		gallon	\$0.50	\$0.00
14. AFVR Site Reconnaissance		each	\$216.87	\$0.00
15. Additional Hook-ups		each	\$27.48	\$0.00
16. AFVR Effluent Disposal		gallon	\$0.47	\$0.00
17. AFVR Mobilization/Demobilization		each	\$417.73	\$0.00
<b>X. Granulated Activated Carbon (GAC) filter system installation &amp; service:</b>				
1. New GAC System Installation*		each	\$2,027.30	\$0.00
2. Refurbished GAC Sys. Install*		each	\$960.30	\$0.00
3. Filter replacement/removal*		each	\$373.45	\$0.00
4. GAC System removal, cleaning, & refurbishment*		each	\$293.43	\$0.00
5. GAC System housing*		each	\$266.75	\$0.00
6. In-line particulate filter		each	\$160.05	\$0.00
7. Additional piping & fittings		foot	\$1.60	\$0.00
<b>Y. Well Repair</b>				
1. Additional Copies of the Report Delivered		each	\$53.35	\$0.00
2. Repair 2x2 MW pad*		each	\$53.35	\$0.00
3. Repair 4x4 MW pad*		each	\$93.90	\$0.00
4. Replace well vault*		each	\$125.91	\$0.00
5. Replace well cover bolts		each	\$2.77	\$0.00
6. Replace locking well cap & lock		each	\$16.00	\$0.00
7. Replace/Repair stick-up*		each	\$142.98	\$0.00
8. Convert Flush-mount to Stick-up*		each	\$160.05	\$0.00
9. Convert Stick-up to Flush-mount*		each	\$138.71	\$0.00
10. Replace missing/illegible well ID plate		each	\$12.80	\$0.00
<b>S. Report Prep &amp; Project Management</b>	12%	percent	\$9,351.47	\$1,122.18
<b>TOTAL</b>				\$10,473.65



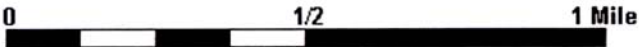


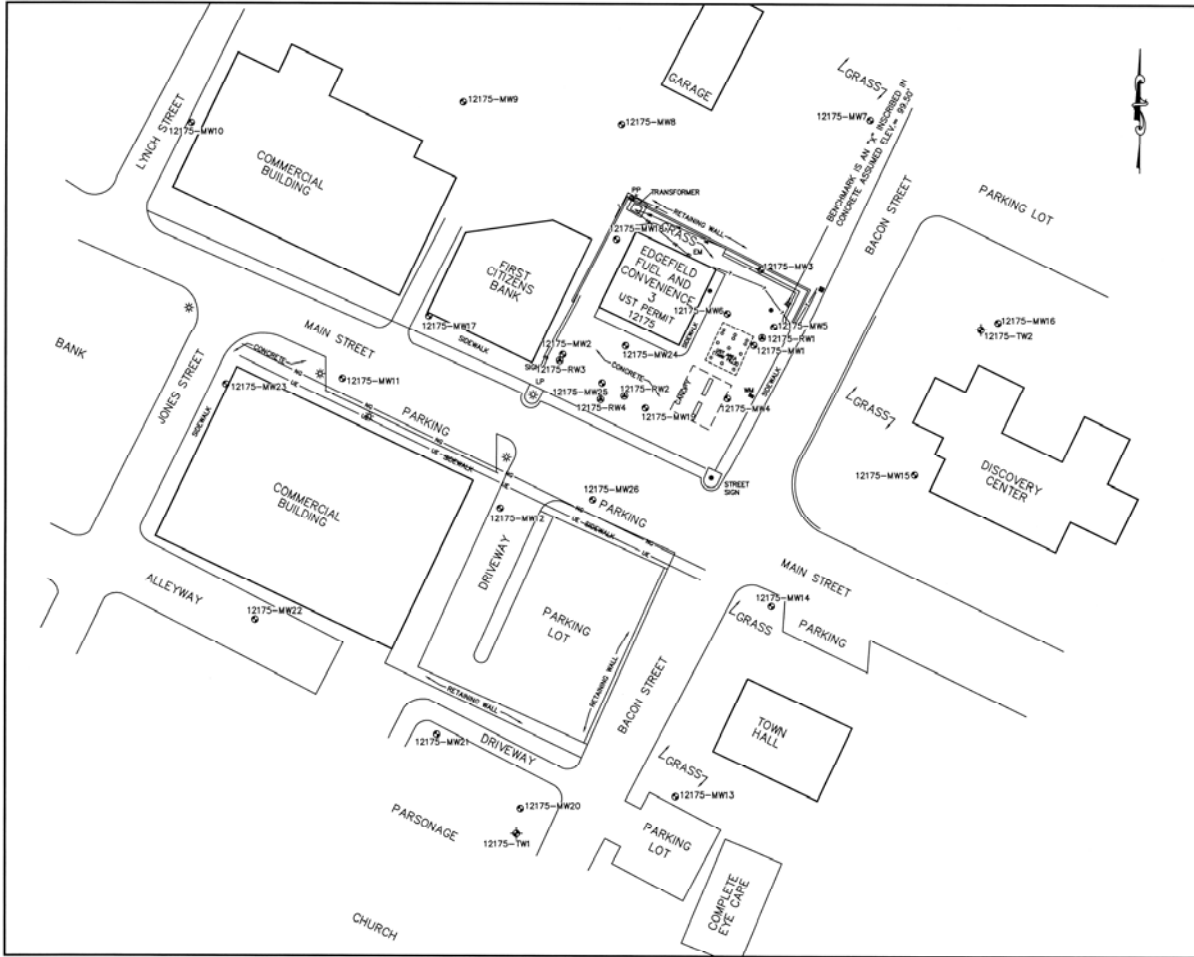
Edgefield Fuel & Convenience 3  
311 Main Street  
Edgefield, SC 29824

Figure 1: SITE LOCUS



Map Datum: NAD 27    Contour Interval: 10 Feet  
Map Edited: 1987





**Legend**

- Underground Electric Line
- X—X— Wood Fence Line
- T—T— Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- ⊙ Light Pole
- ⊙ Light Pole

12175-MW1 ⊕ Shallow (Water Table) Monitoring Well  
 12175-RW1 ⊕ Recovery Well  
 12175-TW1 ⊕ Telescoping Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATLAS**  
 7808 Whitehall Executive Center Drive, Suite 800  
 Charlotte, NC 28217  
 Phone: (704)983-2711 Fax: (704)983-0744

**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
 Site Plan

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

**SCALE:**  
 GRAPHIC SCALE: 0 25 50  
 1"=50'

DESIGNED BY:	CHECKED BY:	APPROVED BY:
KD	NF	NF
SCALE:	DATE:	JOB NO. FIGURE NO.
1"=50'	6/10/19	EFC#3 2





Healthy People. Healthy Communities.

JUN 10 2022



EDGEFIELD FUEL & CONVEINCE LLC  
107 ½ COURTHOUSE SQ  
EDGEFIELD SC 29824-1373

Re: **Site Specific Work Plan Approval and Groundwater Sampling Notice to Proceed**  
Split Stop 311, 311 Main St., Edgefield, SC  
UST Permit #12175; CA #65576  
Release reported December 31, 2008  
Site Specific Work Plan received May 26, 2022  
Spartanburg County

To Whom It May Concern:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed and approved the referenced Site Specific Work Plan (SSWP) submitted by your contractor. The groundwater sampling event should begin immediately upon receipt of this letter. All work should be conducted in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP), your contractor's Annual Contractor Quality Assurance Plan, and all applicable regulations. The QAPP is available at [scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessment-clean/quality-assurance](http://scdhec.gov/environment/land-waste/underground-storage-tanks/release-assessment-clean/quality-assurance).

**The contractor must provide notification to the UST Project Manager via email 4 days prior to initiation of any site rehabilitation activities. If there are any changes to the schedule, the UST Project Manager must be contacted within 24 hours of those changes.**

In accordance with Section IV.A.4.c of the SUPERB Site Rehabilitation & Fund Access Regulation (R.61-98), the contractor shall be required to indemnify the property owner, underground storage tank owner/operator and the State of South Carolina from and against all claims, damages, losses and expenses arising out of or resulting from activity conducted by the contractor, its agents, employees or subcontractors.

Your contractor can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. **The Monitoring Report, contractor checklist (QAPP Appendix K), and invoice should be submitted to the UST Division within sixty (60) days of the date of this correspondence.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Pursuant to S.C. Code Ann. Section 44-2-40(D), "The SUPERB Account and the SUPERB Financial Responsibility Fund shall provide combined coverage for site rehabilitation and third party claims, respectively, not to exceed one million dollars per occurrence". According to UST Division records, approximately \$398,095.25 has been expended from the SUPERB Account to date. This scope of work, as recommended by your contractor, is anticipated to cost approximately \$10,473.65.

Please note that sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that the SUPERB Account cannot compensate any costs that are not pre-approved. If for any reason additional tasks will be completed, these additional tasks, and the associated cost, must be pre-approved by the UST Division for the cost to be paid. The UST Division reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the UST Division reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

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

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

On all correspondence regarding this site, please reference the UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by email at [hofferqm@dhec.sc.gov](mailto:hofferqm@dhec.sc.gov).

Sincerely,



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

enc: Approved Cost Agreement

cc: Atlas Technical, 7606 Whitehall Executive Ctr. Dr., STE 800, Charlotte, NC 28273 (w/ enc)  
Technical file (w/ enc)



**Approved Cost Agreement****65576**

Facility: 12175 SPLIT STOP 311

HOFFERQM

PO Number: 92852

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
A PLAN PREPARATION		1 SITE SPECIFIC WORK PLAN	1.0000	\$160.050	160.05
D MOB/DEMOB		2 PERSONNEL	2.0000	\$451.340	902.68
J SAMPLE COLLECTION		1 GROUND WATER PURGE	2.0000	\$64.020	128.04
		10 EQUIPMENT BLANK	1.0000	\$26.250	26.25
		4 GROUNDWATER NO-PURGE/DUPL/GRAB	32.0000	\$29.880	956.16
		8 FIELD BLANK	3.0000	\$26.250	78.75
K ANALYSES					
	GW GROUNDWATER	1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	40.0000	\$130.170	5,206.80
		7 EDB BY EPA 8011	38.0000	\$48.230	1,832.74
Q DISPOSAL		1 WASTEWATER	100.0000	\$0.600	60.00
S REPORT PROJECT MANAGEMENT					
		S REPORT PREP & PROJ. MANAGEMENT	0.1200	\$9,351.470	1,122.18
				<b>Total Amount</b>	<b>10,473.65</b>

# Document Receipt Information



Hard Copy



CD

Date Received 8-10-22

Permit Number 12175

Project Manager Quincy Hoffer

Name of Contractor Atlas

Docket Title GWS

Document Number 65 web

Scanned \_\_\_\_\_



**GROUNDWATER SAMPLING REPORT**

**EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY**

**UST PERMIT NO. 12175  
ATLAS PROJECT NO. EFC3005**

Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388

Prepared By:

Atlas Technical Consultants  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

August 9, 2022

A handwritten signature in blue ink, appearing to read "Noelle France".

Noelle France  
Project Manager



Michael D. Shaw, P.G.  
SC Licensed Professional Geologist  
#2052

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- Appendix E: Well Construction Records (Not Required)
- Appendix F: Aquifer Evaluation Data (Not required)
- Appendix G: Disposal Manifests
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## 1.0 INTRODUCTION

This report, prepared by Atlas Technical Consultants (Atlas), presents the results of the Additional Assessment, Aggressive Fluid Vapor Recovery Events, and groundwater sampling at Edgefield Fuel & Convenience No. 3 site between July 18 and 19, 2022. The activities were conducted in accordance with the Underground Storage Tank (UST) Quality Assurance Program Plan (QAPP) Revision 3.1, and Cost Agreement Number 65576 as approved by the South Carolina Department of Health and Environmental Control (SCDHEC) in correspondence dated June 10, 2022.

### 1.1 SITE INFORMATION

**UST Facility Name:** Edgefield Fuel & Convenience 3  
**UST Permit Number:** 12175  
**Facility Address:** 311 Main Street  
Edgefield, South Carolina 29824  
**Telephone Number:** (706) 755-8445

### 1.2 UST OWNER/OPERATOR

**Name:** Mr. Joel Jolly  
Edgefield Fuel & Convenience, LLC  
**Address:** 943 US Highway 25 North  
Edgefield, South Carolina 29824  
**Telephone Number:** (803) 275-8445

### 1.3 PROPERTY OWNER INFORMATION

**Name:** BRAHMBHATT LLC  
**Address:** 1200 Interstate Parkway  
Augusta, Georgia 30909  
**Telephone Number:** Unknown

### 1.4 DHEC CERTIFIED UST SITE REHABILITATION CONTRACTOR INFORMATION

**Name:** Atlas Group Services LLC  
**Address:** 7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina, 28273  
**Telephone Number:** (800) 627-0493  
**Certification Number:** 358

### 1.5 CERTIFIED LABORATORY INFORMATION

**Company Name:** Pace Analytical Services, Inc.  
**Address:** 9800 Kinsey Avenue, Suite 100  
Huntersville, North Carolina 28078  
**SC Certification:** 99006001



## 1.6 SITE HISTORY

**UST Permit:** 12175  
**Site Name:** Edgefield Fuel & Convenience 3  
**Date Release Reported to SCDHEC:** December 31, 2008  
**Estimated Quantity of Product Released:** Not reported  
**Cause of Release:** UST system  
**SC RBCA Classification Code:** 2BA

### UST Permit 12175

UST	Size	Product	Date Installed	Currently in Use	Date Closed
1	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
2	3,000	Regular Unleaded Gasoline	10/11/1989	Yes	Not applicable
3	3,000	Premium Unleaded Gasoline	10/11/1989	Not In Use	Not applicable

The site operates as Edgefield Fuel & Convenience 3, a retail gasoline and convenience store. The site previously operated as Amoco Food Mart 3, also a retail petroleum and convenience store. A release from the UST system at the site was reported to the SCDHEC on December 31, 2008. Three USTs (one 3,000-gallon premium unleaded gasoline UST and two 3,000-gallon regular unleaded gasoline USTs) were listed at the site and the premium unleaded gasoline UST was not in use during these activities.

## 1.7 REGIONAL GEOLOGY/HYDROGEOLOGY

The area is located in the Modoc shear zone of the Piedmont physiographic province. The Modoc zone is an example of a ductile fault in the Eastern Piedmont fault system (zone). The Modoc zone separates the high grade and older Savannah River terrane (Kiokee belt) from the low-grade metavolcanics and metasediments of the Carolina terrane (Slate belt) to the northwest. The Modoc shear zone was interpreted to be of late Paleozoic. Carolina Terrane consists of upper Precambrian to Cambrian greenschist facies metasedimentary and metavolcanic rocks intruded by numerous granitic and gabbroic plutons ranging in age from 265 to 650 million years. A mantle of residual soil and saprolite typically overlie the crystalline rocks of the Carolina Terrane. The thickness of the mantle has ranges from approximately six to 60 feet, although it apparently has been absent in places and thicker than 60 feet in others. The surface layers are reportedly composed chiefly of sandy clay. The clay content of most saprolites typically ranges from 10 to 25 percent, with some containing as little as three percent and others as much as 70 percent.

The mantle that covers the underlying fractured bedrock in most places provides an intergranular medium through which recharge into, and discharge of water from, the fractured rocks commonly occur. As a result, groundwater flow occurs within a composite two-media system. The top of the system is the water table surface, which is typically located within the saprolite. The fractured bedrock is expected to generally grade downward into unfractured rock below a depth of approximately 300 feet. The base of the groundwater system is therefore indistinct.

---

## 2.0 RECEPTOR SURVEY & SITE DATA

### 2.1 RECEPTOR SURVEY

The Edgefield Fuel & Convenience 3 site is located in a primarily business and commercial area within the town limits of Edgefield, South Carolina. The site is bordered to the north by an access road and parking lot for the west abutting Carolina First Bank. The site is bordered to the east by Bacon Street followed by the South Carolina National Heritage Corridor Discovery Center. The site is bordered to the south by Main Street (US Highway 25) followed by a parking lot for the downtown district of Edgefield. Edgefield Town Hall is located diagonally across the cross streets of Bacon Street and Main Street. A site vicinity map with topographic features is included as **Figure 1**.

Potable water to the site and surrounding properties is provided by the Edgefield County Water and Sewer Authority. The Edgefield County Water and Sewer Authority utilize potable water from portions of the Savannah River located within the Savannah-SalkehAtlashie Basin. One private water supply well was previously identified within a 1,000-foot radius of the site. The private water supply well is located approximately 860 feet southeast of the active site UST basin at the community college; however, this well is not in operation.

One wet weather drainage feature was previously identified as being located approximately 1,000 feet southeast of the site. This wet weather drainage feature flows in a general east to west direction before a turn and then flows toward the southwest. The wet weather drainage feature drains into the Beaverdam Creek. The two closest surface water bodies previously identified in relation to the site were Beaverdam Creek and a tributary to Beaverdam Creek. Beaverdam Creek is located approximately 1,375 feet southwest of the site and flows in a general northwest to southeast direction. The tributary to Beaverdam Creek is located approximately 1,380 feet northwest of the site and flowed in a general northeast to southwest direction.

Underground utility conduits previously marked by area utility companies include a water meter for a municipal water line, electrical lines, and a telephone line. Additionally, a sanitary sewer cleanout for a sanitary sewer line and drop inlets for a storm drainage system are located on-site. The water meter is located on the eastern side of the property. Electrical lines are located along the eastern side of the property beneath the sidewalk and along the northern property limits of the site. A telephone line is located along the northeastern portion of the site. The sewer cleanout is located on the east side of the site building. The storm drains are located along Bacon Street next to the site property limits. A natural gas line and municipal water line are located across Main Street from the site. A Site Plan showing the utilities and the current UST system is included as **Figure 2**.

### 2.2 SITE GEOLOGY/HYDROGEOLOGY

The site is located at an elevation of approximately 525 feet above mean sea level (MSL) with an approximate total site topographic relief of three feet. The surface at the site is generally covered by asphalt, and some smaller areas of concrete and grass. The site USTs were overlain with a concrete surface finish. The boring logs provide a general characterization of the geological formations encountered at the location of each monitoring well installed during assessment activities. In general, the site subsurface is characterized by asphalt and concrete ranging from 4 to 6 inches in thickness followed by fill material consisting of aggregate base course (ABC) stone and clayey to silty sand to depths of approximately 2 feet below ground

surface (bgs). Native soils (residuum), below the fill material, are characterized as tan to brown to red silty sand and silty clay to depths of 6 feet bgs. Soils encountered in the boreholes 6 feet bgs are characterized as yellow to orange and tan to gray silty sand to the termination depths of the boreholes.

The percentages of sand, silt and clay in a soil sample collected from SB-2 (MW-1) at a depth of 20 feet during Tier I assessment activities (March 2009) were reported as 64.1%, 24.5%, and 11.4%, respectively. The percentages of gravel, sand, and combination of silt & clay in the soil sample collected during Tier II activities (April 2010) from on-site monitoring well MW-6 at a depth of 20 feet were reported as 0.6%, 52.2%, and 47.2%, respectively. A hydrometer analysis was not performed on the soil sample collected from monitoring well MW-6 to determine the percentages of silt and clay. Based on the sieve and hydrometer analyses, the site was underlain at shallow depths by clayey silty sand.

Historical depths to groundwater measured in shallow monitoring wells at the site ranged from 18.09 feet bgs (MW-5 in May 2010) to 25.61 feet bgs (MW-2 in October 2010 with 3.65 feet of free product), and averaged 22.24 feet bgs in on-site monitoring wells over time. Historical groundwater elevation data is presented in **Table 2**. Groundwater beneath the site was historically reported to flow radially from the northwest to south beneath the site.

Slug tests were previously performed on shallow monitoring wells MW-2 and MW-3 in March 2009 during Tier I activities and shallow monitoring wells MW-6 and MW-11 in May 2010 during Tier II activities. Hydraulic conductivities for these four shallow monitoring wells, calculated using the Bouwer and Rice method, ranged between 0.11 feet per day (ft/day) and 0.73 ft/day. Seepage velocities were calculated to have ranged between 1.66 feet per year (ft/yr) to 3.81 ft/yr.

---

### 3.0 ASSESSMENT INFORMATION

#### 3.1 GROUNDWATER ASSESSMENT

##### 3.1.1 Product/Water Level Measurements

Thirty two wells (MW--1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, TW-1, TW-2, RW-1, RW-2, RW-3, and RW-4) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on July 18, 2022. Free phase product was detected in wells MW-1 (thickness of 2.02 feet), MW-2 (2.20 feet), MW-5 (2.44 feet), MW-19 (1.68 feet), MW-25 (2.58 feet), RW-1 (2.50 feet), RW-2 (2.31 feet), RW-3 (2.10 feet) and RW-4 (2.20 feet).

On July 18, 2022, the groundwater elevations measured in the shallow monitoring wells, relative to a temporary benchmark with an assumed datum of 99.50 feet, ranged from 81.90 feet (MW-16) to 75.12 feet (MW-20). Based on these data, the groundwater flow direction is interpreted to trend primarily to the south in the southern site vicinity and to the north-northwest to the north of the site.

The horizontal hydraulic gradient is estimated based on the change in hydraulic head per unit distance, calculated by using the formula  $i = (h_2 - h_1)/d$ , referenced from the "EPA On-line Tools for Site Assessment Calculation" website. In this calculation,  $i$  is the gradient,  $h$  is the hydraulic head at the up gradient monitoring well ( $h_1$ ) and down gradient monitoring well ( $h_2$ ), and  $d$  is the distance between the down gradient monitoring well and the up gradient monitoring well. The horizontal hydraulic gradient was calculated to be approximately 0.0280 ft/ft between monitoring wells RW-2 and MW-20 and approximately 0.0104 ft/ft between monitoring wells RW-2 and MW-8.

The groundwater elevations in adjacent (paired) shallow monitoring wells were used to calculate the vertical gradient. The vertical gradient was calculated using the formula  $dh/dl = (h_2 - h_1)/(z_2 - z_1)$ , referenced from the "EPA On-line Tools for Site Assessment Calculation" site <<http://www.epa.gov/athens/learn2model/part-two/onsite/vgradient02.html>>. In this calculation, the vertical hydraulic gradient is the difference in head divided by the vertical distance of mid-points of the screened intervals between wells.

The vertical hydraulic gradient between monitoring well pair MW-20 and TW-1 was calculated to be 0.0111 ft/ft in the downward direction.

The vertical hydraulic gradient between monitoring well pair MW-16 and TW-2 was calculated to be 0.0007 ft/ft in the downward direction.

Historical groundwater elevation data is presented in **Table 2**. A groundwater elevation map for site monitoring wells is included as **Figure 5**.

### 3.1.2 Water Sampling and Analyses

Twenty-one monitoring wells (MW-3, MW-4, MW-6, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-20, MW-21, MW-22, MW-23, MW-24, MW-26, TW-1 and TW-2) were sampled between July 18 and 19, 2022. Groundwater samples were not collected from monitoring wells MW-1, MW-2, MW-5, MW-19, MW-25, RW-1, RW-2, RW-3 and RW-4 due to the presence of free phase product and from MW-7 and MW-9 due to inaccessibility.

Monitoring wells were purged using a combination of new, disposable polyethylene bailers and/or a stainless steel Proactive Mega-Monsoon® (centrifugal pump) with new, disposable polyethylene tubing and/or a Waterra Hydrolift2® pump with decontaminated foot valves and new, disposable polyethylene tubing while wearing new, disposable nitrile gloves.

Purging was accomplished by removing three to five well volumes while observing in-field groundwater quality parameters for stabilization criteria or until the well was bailed dry and allowed to recharge. Measurements of hydrogen ion concentration (pH), conductivity, temperature, oxidation reduction potential (ORP), and dissolved oxygen (DO) were recorded utilizing a Horiba U52® multi-parameter water quality meter. The visual clarity (turbidity) was also noted.

Groundwater samples collected were containerized in laboratory-prepared glass bottles, packed on ice, and transported to Pace Analytical Services, Inc. located in Huntersville, North Carolina, a South Carolina certified laboratory. Standard chain-of-custody procedures were maintained, as documented in **Appendix B**.

The duplicate samples were assigned a unique identification name with no time listed on the chain of custody to avoid potential laboratory analytical bias and identified in the field book. Two field blank samples were collected (per quality assurance/quality control [QAQC], one field blank sample is to be obtained for each 24 hour sampling period), during water sampling activities for quality assurance and quality control. Two sets of trip blank samples, (per QAQC protocol, one set of trip blank samples per each cooler submitted) were included for quality assurance and quality control.

A duplicate sample identified as DUP1 was collected from MW-16 within 5 minutes of MW-16 groundwater sample collection. A second duplicate sample, identified as DUP2, was collected from MW-18 within 5 minutes of MW-18 groundwater sample collection.

Twenty-seven water samples (21 monitoring wells, two duplicates, two field blanks, one equipment blank, and one trip blank) were analyzed for benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX compounds), naphthalene, 1,2-dichloroethane (1,2-DCA), methyl tertiary butyl ether (MTBE), tertiary amyl alcohol (TAA), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), tertiary butyl formate (TBF), diisopropyl ether (DIPE), ethanol, ethyl tertiary butyl ether (ETBE), and 3,3-dimethyl-1-butanol by Environmental Protection Agency (EPA) Method 8260. Twenty-six water samples (21 monitoring wells, two duplicates, two field blanks, and one equipment blank) were analyzed for ethylene dibromide (EDB) by EPA Method 8011.

### 3.1.3 Groundwater Analytical Data

Analytical results were compared to the Risk Based Screening Levels (RBSLs), as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D1: RBSLs for Groundwater* and the Action Levels (ALs) as defined in Appendix D of SCDHEC, Bureau of Land and Waste Management, UST Management Division, Programmatic QAPP, Revision 3.1, August 2016, *Table D2: Action Levels for Groundwater (Oxygenates)*.

ATLAS requested that the laboratory report include values flagged with a “J”, representing an estimated value between the laboratory reporting limit and the method detection limit. Where the “J” values are reported in excess of the RBSL or AL, they are included as exceeding the RBSL or AL for that constituent.

Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells MW-6, MW-11, MW-17, MW-18, MW-23, MW-24, and MW-26.

Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells MW-11, MW-17, MW-18, and MW-24.

Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells MW-17 and MW-24.

Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells MW-17 and MW-24.

Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells MW-6, MW-11, MW-23, MW-24, and MW-26.

Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells MW-4, MW-11 (as a “J” value), MW-18 (as a “J” value), and MW-24 (as a “J” value).

Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from well TW-1.

Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater collected from well MW-26.

Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells MW-6, MW-11, MW-23, MW-24 and MW-26.

Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128  $\mu\text{g/L}$  in the groundwater samples collected from monitoring well MW-11 (as a “J” value).



Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400 µg/L was reported in the groundwater sample collected from monitoring well MW-6.

Chemicals of Concern (COCs) were not detected in the field blanks, equipment blank, or trip blank from the July 2022 groundwater sampling event.

Per QAPP requirements, precision is measured utilizing the relative percent difference (RPD) calculation. The average RPD for CoC concentrations exceeding the reporting limits from groundwater sample pair Dup-1 and MW-16 was calculated to be less than the maximum RPD limits of 20%. Groundwater sample pair Dup-2 and MW-18 was calculated to be greater than the maximum RPD limits of 20%.

Historical groundwater analytical data are presented in **Table 3**. A groundwater quality map based on the July 2022 data is included as **Figure 4**. Groundwater Sampling Field Data Sheets, the laboratory reports for groundwater samples collected during this assessment, and the QA/QC evaluation are included in **Appendix B**.

### 3.2 INVESTIGATIVE DERIVED WASTE

A total of approximately 45-gallons of purge water generated during monitoring well purging and sampling activities were manifested and transported off-site by Atlas for disposal at the Haz-Mat Environmental Services facility located in Charlotte, NC. Copies of the disposal manifests for soil and water generated from well installation and sampling activities are included in **Appendix G**.

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## 4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### 4.1 SUMMARY

- Thirty two wells (MW--1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, TW-1, TW-2, RW-1, RW-2, RW-3, and RW-4) were gauged for depths to free phase product (where present), depths to groundwater, and total well depths on July 18, 2022.
- Based on the July 2022 gauging data, the groundwater flow direction was interpreted to trend toward the south to the south of the site and towards the north-northwest on the northern site vicinity.
- Free phase product was detected in wells MW-1 (thickness of 2.02 feet), MW-2 (2.20 feet), MW-5 (2.44 feet), MW-19 (1.68 feet), MW-25 (2.58 feet), RW-1 (2.50 feet), RW-2 (2.31 feet), RW-3 (2.10 feet) and RW-4 (2.20 feet).  
Dissolved-phase benzene concentrations were reported to exceed the applicable RBSL of 5.0 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater samples collected from wells MW-6, MW-11, MW-17, MW-18, MW-23, MW-24, and MW-26.
- Dissolved-phase toluene concentrations were reported to exceed the applicable RBSL of 1,000  $\mu\text{g/L}$  in groundwater samples collected from wells MW-11, MW-17, MW-18, and MW-24.
- Dissolved-phase ethylbenzene concentrations were reported to exceed the applicable RBSL of 700  $\mu\text{g/L}$  in groundwater samples collected from wells MW-17 and MW-24.
- Dissolved-phase total xylenes concentrations were reported to exceed the applicable RBSL of 10,000  $\mu\text{g/L}$  in groundwater samples collected from wells MW-17 and MW-24.
- Dissolved-phase MTBE concentrations were reported to exceed the applicable RBSL of 40  $\mu\text{g/L}$  in groundwater samples collected from wells MW-6, MW-11, MW-23, MW-24, and MW-26.
- Dissolved-phase naphthalene concentrations were reported to exceed the applicable RBSL of 25  $\mu\text{g/L}$  in groundwater samples collected from wells MW-4, MW-11 (as a "J" value), MW-18 (as a "J" value), and MW-24 (as a "J" value).
- Dissolved-phase EDB concentrations were reported to exceed the applicable RBSL of 0.05  $\mu\text{g/L}$  in groundwater samples collected from well TW-1.
- Dissolved-phase 1,2-DCA concentrations were reported to exceed the applicable RBSL of 5.0  $\mu\text{g/L}$  in groundwater collected from well MW-26.
- Dissolved-phase TAA concentrations were reported to exceed the applicable AL of 240  $\mu\text{g/L}$  in groundwater samples collected from wells MW-6, MW-11, MW-23, MW-24 and MW-26.

- Dissolved-phase TAME concentration was reported to exceed the applicable AL of 128 µg/L in the groundwater samples collected from monitoring well MW-11 (as a “J” value).
- Dissolved-phase TBA concentrations were reported to exceed the applicable AL of 1,400 µg/L was reported in the groundwater sample collected from monitoring well MW-6.

#### 4.2 CONCLUSIONS

- Free phase product continues to be detected at the site in wells located at and to the west of the UST system, and has generally increased in thickness since the previous sampling event.
- The horizontal and vertical extent of dissolved phase petroleum in the groundwater has not been defined.

#### 4.3 RECOMMENDATIONS

- Atlas recommends delineating the extent of free phase petroleum at the site with the use of Laser Induced Fluorescence (LIF) technology, to establish optimal locations to target remedial options.
- Subsequent to the LIF event, it is recommended that recovery wells be installed in the areas determined to have the greatest thickness of free phase petroleum product. For future corrective action activities.
- Atlas recommends performing two 96-hour aggressive fluid vapor recovery (AFVR) events in order to aid in mitigation of onsite free phase product. The first event will target monitoring wells MW-1, MW-5 and RW-1, and a second event will target monitoring wells MW-2, MW-19 MW-25, and recovery wells RW-2, RW-3 and RW-4. Groundwater gauging events will be conducted prior to and at the conclusion of each AFVR event.
- Additional monitoring wells appear appropriate to delineate CoC above RBSLs in groundwater. It is recommended that these wells be installed subsequent to the removal of free phase petroleum product at the site.

## 5.0 LIMITATIONS

This report has been prepared for the exclusive use of Edgefield Fuel & Convenience, LLC for specific application to the referenced site in Edgefield County, South Carolina. The assessment was conducted based on the scope of work and level of effort desired by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

Certain data contained in this report were not obtained under the supervision of Atlas. Although the accuracy of these data cannot be verified, for the purposes of this report, Atlas assumes that they are correct.

### 5.1 DATA VERIFICATION

The Project Verifier/Quality Assurance Manager has reviewed this report and provided any additional comments if applicable in **Appendix K**.



**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVENIENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)				
12175-MW1	35	20-35	98.51	12/17/04	22.13	23.68	1.55	75.99	NM				
				05/10/10	17.83	21.00	3.17	79.89	NM				
				10/20/10	19.38	25.07	5.69	77.71	NM				
				09/12/11	20.59	26.35	5.76	76.48	NM				
				08/16/13	19.33	22.72	3.39	78.33	NM				
				01/09/14	19.37	22.77	3.40	78.29	NM				
				01/23/15	18.70	20.10	1.40	79.46	33.30				
				09/15/15	19.15	22.67	3.52	78.48	NM				
				10/11/16	18.62	21.77	3.15	79.10	NM				
				05/20/19	17.80	18.81	1.01	80.46	NM				
				06/14/21	15.92	20.23	4.31	81.51	NM				
				07/18/22	16.16	18.18	2.02	81.85	NM				
				12175-MW2	34	19-34	100.42	12/17/04	---	24.55	---	75.87	34.05
05/10/10	20.27	22.73	2.46					79.54	33.98				
10/20/10	21.96	25.61	3.65					77.55	NM				
09/12/11	23.01	27.06	4.05					76.40	NM				
08/16/13	22.35	22.67	0.32					77.99	NM				
01/09/14	22.08	22.91	0.83					78.13	NM				
01/23/15	21.10	21.90	0.80					79.12	34.00				
09/15/15	21.80	22.63	0.83					78.41	NM				
10/11/16	21.46	21.72	0.26					78.90	NM				
05/20/19	19.66	21.88	2.22					80.21	NM				
06/14/21	18.81	20.52	1.71					81.18	NM				
07/18/22	18.76	20.96	2.20					81.11	NM				
12175-MW3	34	19-34	100.44					12/17/04	---	24.38	---	76.06	34.00
				05/10/10	---	20.54	---	79.90	33.91				
				10/20/10	---	22.71	---	77.73	33.90				
				09/12/11	---	23.90	---	76.54	33.89				
				08/16/13	---	22.32	---	78.12	---				
				01/09/14	---	22.11	---	78.33	---				
				12/22/14	---	21.90	---	78.54	33.90				
				09/15/15	---	21.77	---	78.67	33.90				
				10/11/16	---	21.38	---	79.06	27.89				
				05/20/19	---	19.72	---	80.72	33.95				
				06/14/21	---	20.62	---	79.82	33.84				
				07/18/22	---	19.22	---	81.22	NM				
				12175-MW4	29	19-29	98.61	05/10/10	---	18.92	---	79.69	28.91
10/20/10	---	21.04	---					77.57	28.95				
09/12/11	---	22.22	---					76.39	28.96				
08/16/13	20.49	21.49	1.00					77.87	---				
01/09/14	20.27	21.15	0.88					78.12	---				
01/23/15	19.30	19.85	0.55					79.17	29.00				
09/15/15	19.93	20.90	0.97					78.44	NM				
10/11/16	---	19.65	---					78.96	28.89				
05/20/19	---	18.17	---					80.44	29.03				
06/14/21	---	17.20	---					81.41	28.92				
07/18/22	---	17.33	---					81.28	NM				
12175-MW5	29	19-29	98.05					05/10/10	---	18.09	---	79.96	29.04
								10/20/10	20.22	20.57	0.35	77.74	NM
				09/12/11	20.66	24.05	3.39	76.54	NM				
				08/16/13	19.39	21.83	2.44	78.05	NM				
				01/09/14	19.24	20.96	1.72	78.38	NM				
				01/23/15	18.55	18.90	0.35	79.41	29.00				
				09/15/15	19.35	19.72	0.37	78.61	NM				
				10/11/16	---	18.80	---	79.25	28.99				
				05/20/19	---	17.18	---	80.87	29.14				
				06/14/21	16.10	17.45	1.35	81.61	NM				
				07/18/22	16.11	18.55	2.44	81.33	NM				
				12175-MW6	29	19-29	99.82	05/10/10	---	19.94	---	79.88	28.99
								10/20/10	---	22.09	---	77.73	29.02
09/12/11	---	23.27	---					76.55	28.99				
08/16/13	---	21.75	---					78.07	---				
01/09/14	---	21.51	---					78.31	---				
12/22/14	---	21.24	---					78.58	29.01				
09/15/15	---	21.12	---					78.70	28.99				
10/11/16	---	20.70	---					79.12	28.93				
05/20/19	---	19.10	---					80.72	29.80				
06/14/21	---	18.38	---					81.44	29.01				
07/18/22	---	18.54	---					81.28	NM				
12175-MW7	20	10-20	93.32					05/10/10	---	13.51	---	79.81	20.33
								10/20/10	---	15.91	---	77.41	20.25
				09/12/11	---	17.00	---	76.32	20.36				
				08/16/13	---	15.18	---	78.14	---				
				01/09/14	---	14.95	---	78.37	---				
				12/22/14	---	15.10	---	78.22	20.40				
				09/15/15	---	15.03	---	78.29	20.40				
				10/11/16	---	14.65	---	78.67	20.28				
				05/20/19	---	12.77	---	80.55	20.38				
				06/14/21	---	15.25	---	78.07	20.37				
				07/18/22				Not Accessible					



TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENENCE 3

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW8	27	17-27	100.59	05/10/10	---	21.61	---	78.98	26.85
				10/20/10	---	23.83	---	76.76	26.89
				09/12/11	---	24.89	---	75.70	26.89
				08/16/13	---	22.87	---	77.72	---
				01/09/14	---	22.73	---	77.86	---
				12/22/14	---	23.07	---	77.52	26.90
				09/15/15	---	23.01	---	77.58	26.90
				10/11/16	---	22.57	---	78.02	26.80
				05/20/19	---	21.00	---	79.59	26.90
				06/14/21	---	22.12	---	78.47	26.90
				07/18/22	---	20.75	---	79.84	27.00
12175-MW9	27	17-27	97.55	05/10/10	---	18.81	---	78.74	27.03
				10/20/10	---	21.12	---	76.43	27.07
				09/12/11	---	22.16	---	75.39	26.93
				08/16/13	---	20.03	---	77.52	---
				01/09/14	---	19.75	---	77.80	---
				12/22/14	---	20.30	---	77.25	26.89
				09/15/15	---	20.36	---	77.19	26.89
				10/11/16	---	19.85	---	77.70	26.97
				05/20/19	---	18.33	---	79.22	27.07
				06/14/21	---	17.80	---	79.75	27.03
				07/18/22	---		CNL		
12175-MW10	30	20-30	101.31	05/10/10	---	22.88	---	78.43	30.31
				10/20/10	---	24.90	---	76.41	30.40
				09/12/11	---	25.87	---	75.44	30.39
				08/16/13	---	23.86	---	77.45	---
				01/09/14	---	23.74	---	77.57	---
				12/22/14	---	24.10	---	77.21	30.30
				09/15/15	---	23.89	---	77.42	30.30
				10/11/16	---	23.66	---	77.65	30.25
				05/20/19	---	22.30	---	79.01	30.34
				06/14/21	---	24.14	---	77.17	30.31
				07/18/22	---	22.04	---	79.27	30.00
12175-MW11	31	21-31	101.65	05/10/10	---	22.16	---	79.49	31.04
				10/20/10	---	24.10	---	77.55	31.07
				09/12/11	---	25.25	---	76.40	30.91
				08/16/13	---	23.69	---	77.96	---
				01/09/14	---	23.61	---	78.04	---
				12/22/14	---	23.41	---	78.24	30.85
				09/15/15	---	23.09	---	78.56	30.85
				10/11/16	---	22.79	---	78.86	30.85
				05/20/19	---	21.36	---	80.29	30.84
				06/14/21	---	20.72	---	80.93	30.82
				07/18/22	---	20.69	---	80.96	31.00
12175-MW12	30	20-30	100.55	05/10/10	---	21.78	---	78.77	30.15
				10/20/10	---	23.75	---	76.80	30.10
				09/12/11	---	25.00	---	75.55	30.04
				08/16/13	---	23.35	---	77.20	---
				01/09/14	---	23.24	---	77.31	---
				12/22/14	---	22.98	---	77.57	30.05
				09/15/15	---	22.70	---	77.85	30.05
				10/11/16	---	22.29	---	78.26	29.95
				05/20/19	---	20.78	---	79.77	30.00
				06/14/21	---	19.90	---	80.65	29.94
				07/18/22	---	19.92	---	80.63	30.00
12175-MW13	25	15-25	93.20	05/10/10	---	17.82	---	75.38	25.20
				10/20/10	---	20.26	---	72.94	25.24
				09/12/11	---	21.60	---	71.60	25.24
				08/16/13	---	19.20	---	74.00	---
				01/09/14	---	18.87	---	74.33	---
				12/22/14	---	19.44	---	73.76	25.25
				09/15/15	---	18.86	---	74.34	25.25
				10/11/16	---	18.55	---	74.65	25.15
				05/20/19	---	16.84	---	76.36	25.23
				06/14/21	---	16.10	---	77.10	25.26
				07/18/22	---	16.37	---	76.83	25.00
12175-MW14	30	20-30	100.05	05/10/10	---	22.47	---	77.58	29.54
				10/20/10	---	24.77	---	75.28	29.59
				09/12/11	---	25.97	---	74.08	29.57
				08/16/13	---	24.06	---	75.99	---
				01/09/14	---	23.70	---	76.35	---
				12/22/14	---	23.90	---	76.15	29.60
				09/15/15	---	23.40	---	76.65	29.60
				10/11/16	---	23.05	---	77.00	29.46
				05/20/19	---	21.29	---	78.76	29.59
				06/14/21	---	22.15	---	77.90	29.60
				07/18/22	---	20.75	---	79.30	30.00

TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENENCE 3

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)	
12175-MW15	27	17-27	98.47	05/10/10	---	18.81	---	79.66	26.93	
				10/20/10	---	21.16	---	77.31	26.97	
				09/12/11	---	22.10	---	76.37	26.96	
				08/16/13	---	20.66	---	77.81	---	
				01/09/14	---	20.24	---	78.23	---	
				12/22/14	---	20.09	---	78.38	26.93	
				09/15/15	---	19.70	---	78.77	26.93	
				10/11/16	---	19.69	---	78.78	26.89	
				05/20/19	---	17.68	---	80.79	27.00	
				06/14/21	---	18.56	---	79.91	26.98	
				07/18/22	---	17.45	---	81.02	27.00	
12175-MW16	20	10-20	93.01	05/10/10	---	12.34	---	80.67	19.92	
				10/20/10	---	14.97	---	78.04	19.89	
				09/12/11	---	16.15	---	76.86	19.66	
				08/16/13	---	14.68	---	78.33	---	
				01/09/14	---	14.28	---	78.73	---	
				12/22/14	---	13.61	---	79.40	19.25	
				09/15/15	---	13.93	---	79.08	19.25	
				10/11/16	---	13.51	---	79.50	19.29	
				05/20/19	---	11.36	---	81.65	19.34	
				06/14/21	---	12.31	---	80.70	19.28	
				07/18/22	---	11.11	---	81.90	20.00	
12175-MW17	28	18-28	101.09	10/20/10	---	23.52	---	77.57	28.70	
				09/12/11	---	24.67	---	76.42	28.68	
				08/16/13	22.62	24.66	2.04	77.96	---	
				01/09/14	---	23.00	---	78.09	---	
				12/22/14	---	22.82	---	78.27	28.66	
				09/15/15	---	22.72	---	78.37	28.66	
				10/11/16	---	22.21	---	78.88	28.61	
				05/20/19	---	20.69	---	80.40	28.71	
				06/14/21	---	20.05	---	81.04	28.68	
				07/18/22	---	20.06	---	81.03	28.00	
				10/20/10	---	24.01	---	77.50	28.66	
12175-MW18	28	18-28	101.51	09/12/11	---	25.14	---	76.37	28.58	
				08/16/13	---	23.45	---	78.06	---	
				01/09/14	---	23.33	---	78.18	---	
				12/22/14	---	23.31	---	78.20	28.60	
				09/15/15	---	23.12	---	78.39	28.60	
				10/11/16	---	22.73	---	78.78	28.39	
				05/20/19	---	21.19	---	80.32	28.58	
				06/14/21	---	24.05	---	77.46	28.55	
				07/18/22	---	20.71	---	80.80	NM	
				10/20/10	22.35	23.19	0.84	77.45	NM	
				09/12/11	22.57	27.18	4.61	76.29	NM	
12175-MW19	28	18-28	100.01	08/16/13	20.73	23.35	2.62	78.63	NM	
				01/09/14	21.58	23.25	1.67	78.01	NM	
				01/23/15	20.05	20.80	0.75	79.77	28.30	
				09/15/15	21.53	22.05	0.52	78.35	NM	
				10/11/16	---	21.18	---	78.83	28.16	
				05/20/19	19.36	20.41	1.05	80.39	NM	
				06/14/21	17.77	17.97	0.20	82.19	NM	
				07/18/22	18.13	19.81	1.68	81.46	NM	
				10/20/10	---	20.28	---	71.52	26.24	
				09/12/11	---	21.66	---	70.14	26.24	
				12175-MW20	27	17-27	91.80	08/16/13	---	18.98
01/09/14	---	18.42	---					73.38	---	
12/22/14	---	19.21	---					72.59	26.25	
09/15/15	---	19.13	---					72.67	26.25	
10/11/16	---	18.59	---					73.21	26.15	
05/20/19	---	16.69	---					75.11	26.25	
06/14/21	---	15.98	---					75.82	26.25	
07/18/22	---	16.68	---					75.12	27.00	
10/20/10	---	21.70	---					72.60	29.37	
09/12/11	---	22.94	---					71.36	29.35	
12175-MW21	29	19-29	94.30					08/16/13	---	20.70
				01/09/14	---	20.33	---	73.97	---	
				12/22/14	---	20.81	---	73.49	29.37	
				09/15/15	---	20.58	---	73.72	29.37	
				10/11/16	---	20.01	---	74.29	29.25	
				05/20/19	Not Accessible			---	---	---
				06/14/21	---	19.34	---	74.96	29.36	
				07/18/22	---	18.22	---	76.08	29.00	

**TABLE 2  
GROUNDWATER ELEVATION DATA  
EDGEFIELD FUEL & CONVIENENCE 3**

Well ID	Well Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft)	Date Measured	Depth to Free Phase Product (ft)	Depth to Groundwater (ft)	Free Phase Product Thickness (ft)	Groundwater Elevation (ft)	Measured Well Depth (ft)
12175-MW22	30	20-30	99.82	10/20/10	---	25.99	---	73.83	29.89
				09/12/11	---	26.94	---	72.88	29.89
				08/16/13	---	24.04	---	75.78	---
				01/09/14	---	23.98	---	75.84	---
				12/22/14	---	25.15	---	74.67	29.90
				09/15/15	---	24.79	---	75.03	29.90
				10/11/16	---	23.73	---	76.09	29.80
				05/20/19	---	23.00	---	76.82	29.91
				06/14/21	---	21.33	---	78.49	29.89
				07/18/22	---	21.92	---	77.90	30.00
12175-MW23	31	21-31	102.29	10/20/10	---	24.86	---	77.43	31.37
				09/12/11	---	25.99	---	76.30	31.34
				08/16/13	20.87	24.35	3.48	80.55	NM
				01/09/14	---	24.32	---	77.97	---
				12/22/14	---	24.21	---	78.08	31.35
				09/15/15	---	23.90	---	78.39	31.35
				10/11/16	---	23.61	---	78.68	31.23
				05/20/19	---	22.19	---	80.10	31.27
				06/14/21	---	21.61	---	80.68	31.15
				07/18/22	---	21.58	---	80.71	31.00
12175-MW24	30	20-30	100.23	08/16/13	---	22.07	---	78.16	---
				01/09/14	---	22.08	---	78.15	---
				12/22/14	---	21.85	---	78.38	30.15
				09/15/15	---	21.76	---	78.47	30.15
				10/11/16	---	21.21	---	79.02	30.05
				05/20/19	---	20.00	---	80.23	30.25
				06/14/21	---	19.00	---	81.23	30.15
				07/18/22	---	29.49	---	70.74	30.00
12175-MW25	30	20-30	99.95	08/16/13	21.40	23.87	2.47	77.93	NM
				01/09/14	21.22	23.75	2.53	78.10	NM
				01/23/15	19.90	21.90	2.00	79.55	30.15
				09/15/15	20.48	24.45	3.97	78.48	NM
				10/11/16	20.16	23.77	3.61	78.89	NM
				05/20/19	19.64	19.68	0.04	80.30	NM
				06/14/21	17.94	21.16	3.22	81.21	NM
				07/18/22	18.37	20.95	2.58	80.94	NM
12175-MW26	30	20-30	99.89	08/16/13	---	22.81	---	77.08	---
				01/09/14	---	22.68	---	77.21	---
				12/22/14	---	22.45	---	77.44	30.09
				09/15/15	---	22.13	---	77.76	30.09
				10/11/16	---	21.66	---	78.23	29.97
				05/20/19	---	20.17	---	79.72	30.08
				06/14/21	---	19.68	---	80.21	30.05
				07/18/22	---	19.39	---	80.50	30.00
12175-RW1	30	20-30	98.05	08/16/13	---	19.80	---	78.25	---
				08/16/13	19.64	19.67	0.03	78.40	NM
				04/03/14	18.31	18.35	0.04	79.73	NM
				12/22/14	---	19.38	---	78.67	29.18
				09/15/15	---	19.42	---	78.63	NM
				10/11/16	18.75	18.80	0.05	79.29	NM
				05/20/19	17.25	17.26	0.01	80.80	NM
				06/14/21	15.84	18.28	2.44	81.60	NM
				07/18/22	15.71	18.21	2.50	81.72	NM
				12175-RW2	30	20-30	100.05	08/16/13	20.75
08/16/13	21.16	24.18	3.02					78.14	NM
04/03/14	19.79	22.38	2.59					79.61	NM
01/23/15	20.00	22.50	2.50					79.43	30.10
09/15/15	20.45	24.40	3.95					78.61	NM
10/11/16	20.20	24.09	3.89					78.88	NM
05/20/19	19.67	20.03	0.36					80.29	NM
06/14/21	17.96	21.14	3.18					81.30	NM
07/18/22	18.18	20.49	2.31					81.29	NM
12175-RW3	30	20-30	100.16					08/16/13	---
				01/09/14	---	22.00	---	78.16	---
				12/22/14	---	21.78	---	78.38	30.00
				09/15/15	---	21.68	---	78.48	NM
				10/11/16	---	21.28	---	78.88	30.08
				05/20/19	19.67	20.20	0.53	80.36	NM
				06/14/21	18.71	19.93	1.22	81.15	NM
				07/18/22	18.59	20.69	2.10	81.05	NM
12175-RW4	35	15-35	100.25	05/20/19	19.80	19.81	0.01	80.45	NM
				06/14/21	18.20	21.50	3.30	81.23	NM
				07/18/22	18.31	20.51	2.20	81.39	NM
12175-TW1	38	33-38	91.52	05/20/19	---	16.82	---	74.70	38.79
				06/14/21	---	17.60	---	73.92	38.78
				07/18/22	---	16.58	---	74.94	38.00
12175-TW2	38	25-30	93.29	05/20/19	---	11.66	---	81.63	29.50
				06/14/21	---	11.07	---	82.22	29.50
				07/18/22	---	11.40	---	81.89	38.00

**Notes:**

Elevations relative to a temporary benchmark with an assumed datum of 99.50 feet.

Groundwater elevation adjusted for the presence of free phase product with an assumed density of 0.75g/cm3, where present.

Well depths and screen lengths based on well construction records referencing ground surface.

Measured depths to fluids reference top of casing as measuring point.

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW1	03/04/09	FREE PHASE PRODUCT																	
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
	05/20/19	FREE PHASE PRODUCT																	
	06/14/21	FREE PHASE PRODUCT																	
07/18/22	FREE PHASE PRODUCT																		
12175-MW2	03/04/09	4,970	7,470	1,020	4,400	183	142	0.46	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	
	05/10/10	FREE PHASE PRODUCT																	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/11/16	FREE PHASE PRODUCT																	
	05/20/19	FREE PHASE PRODUCT																	
	06/14/21	FREE PHASE PRODUCT																	
07/18/22	FREE PHASE PRODUCT																		
12175-MW3	03/04/09	7.9	33.0	<5.0	12.8	<5.0	<5.0	<0.019	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	
	05/10/10	<5.0	4.5J	<5.0	5.7J	<5.0	<5.0	<0.020	<5.0	<5.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	7.5	<5.0	<5.0	4.7J	<5.0	3.6J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	21.4	<1	<0.5	3.5	<1	<5	<0.0189	<0.5	NR	<20	<1	2.6 I	<160	<1	<800	<1	<40	
	12/23/14	43.1	1.7 J	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	3.1 J	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	8.5	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	3.0 J	<1.8	<5.0	<3.1	3.0 J	0.19	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	12175-MW4	05/10/10	411	29.8	8.3	31.9J	256	<5.0	<0.020	<5.0	17.8	3,120	11.8	322	<50.0	<5.0	<200	<10.0	<100
10/21/10		1,360	87.5	108	121.6	630	15.2	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11		626	10.6	9.5	19.2	862	<25	<0.019	<2.5	NR	7,600	30	350	<800	4.4 I	<4,000	<5	<200	
12/22/14		FREE PHASE PRODUCT																	
09/15/15		FREE PHASE PRODUCT																	
10/12/2016		415	3210	1630	7070	464	526	<0.019	<45.0	NR	20000	<85.0	2760	<182	<42.5	<3280	<90.0	<802	
05/22/2019		<74.8	1030	1550	7140	101 J	722	<0.011	<70.5	NR	6760	<139	1510 J	<585	<65.0	<3200	<134	<1640	
06/15/2021		<8.7	268	564	2210	27.2	261	<0.010	<10.3	NR	2640	<15.2	<455	<120	<17.4	<720	<42.3	<270	
07/19/2022		<8.7	75.0	657	2470	<15.5	360	<0.0078	<10.3	NR	<328	<15.2	<455	<120	<17.4	<720	<42.3	<270	
12175-MW5	05/10/10	20,900	30,900	1,090	12,100	11,400	316	0.93	<5.0	21.7	25,300	1,620	<100	<50.0	131	<200	47.1	<100	
	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/12/2016	26000	41800	3100	17000	660 J	819 J	2.1	<450	NR	<19200	1370 J	<14400	<1820	<425	<32800	<900	<8020	
	05/22/2019	22600	37700	3260	16700	<524	723 J	1.4	<564	NR	<12400	<1110	<5880	<4680	<520	<25600	<1070	<13100	
	06/14/21	FREE PHASE PRODUCT																	
	07/18/22	FREE PHASE PRODUCT																	
12175-MW6	05/10/10	270	200	20.1	213.3	69.4	<5.0	<0.019	<5.0	9.4	757	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/21/10	1,830	1,140	110	677	186	9.1J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	1,500	351	19.5	353	155	<50	<0.0187	<5	NR	<200	6.7 I	<200	<1,600	<10	<8,000	<10	<400	
	12/23/14	2,350	183	483	263	459	26.6	<0.019	<25.0	NR	13,600	<50.0	1,050	<250	<25.0	<1,000	<50.0	<500	
	09/15/15	1890	<100	708	<200	905	<100	<0.020	<100	NR	28300	<200	2020	<1000	<100	<4000	<200	<2000	
	10/12/2016	1660	595	497	842	770	43.6 J	<0.020	<36.0	NR	34800	<68.0	2870	<146	<34.0	<2620	<72.0	<642	
	05/22/2019	3480	562	932	2120	1190	115. J	<0.011	<113	NR	62100	<223	4340	<936	<104	<5120	<215	<2620	
	06/15/2021	3510	564	965	1540	1530	111 J	<0.0099	<51.5	NR	68600	<76.0	6040	<602	<87.2	<3600	<212	<1350	
	07/19/2022	862	<50.2	253	<125	1920	<52.2	<0.0078	<51.5	NR	77300	<76.0	5240	<602	<87.2	<3600	<212	<1350	

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW7	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	59.3	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0187	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/19/2022																			
Paved Over																			
12175-MW8	05/10/10	<5.0	3.7J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	57.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	1.91	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW9	05/10/10	<5.0	3.1J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	34.4	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0185	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/16/15	<5.0	<5.0	<5.0	<10.0	<5.0	2.8 J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.018 J	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/19/2022																			
Not Located																			
12175-MW10	05/10/10	<5.0	1.8J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	41.6	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0078	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW11	05/10/10	1,820	522	33.1	522	125	31.9	0.097	<5.0	40.5	310	100	<100	<50.0	4.7J	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	4.4J	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	1,110	1,140	155	3,610	<10	<50	<0.0191	<5	NR	<200	19.3	<200	<1,600	<10	<8,000	<10	<400	
	12/22/14	1,980	519	62.7	2,470	161	251	<0.020	<5.0	NR	1,340	94.0	200	<50.0	5.9	<200	<10.0	<100	
	09/15/15	673	637	<62.5	3620	<62.5	260	<0.020	<62.5	NR	<1250	<125	<1250	<625	<62.5	<2500	<125	<1250	
	10/12/2016	1340	451	50.4 J	3950	25.3 J	279	<0.020	<22.5	NR	<960	<42.5	<721	<91.2	<21.2	<1640	<45.0	<401	
	05/21/2019	4860	850	155	916	480	218	0.26	<70.5	NR	5360	207 J	<735	<585	<65.0	<3200	<134	<1640	
	06/15/2021	5990	4240	566	2290	707	229	<0.0096	<82.4	NR	10000	289 J	<3640	<964	<140	<5760	<338	<2160	
07/18/2022	4930	4030	514	2110	544	160 J	<0.0077	<82.4	NR	13000	244 J	<3640	<964	<140	<5760	<338	<2160		
12175-MW12	05/10/10	75.7	3.5J	9.4	34.0J	<5.0	12.0	<0.020	<5.0	61.5	157	<10.0	570	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	58.0	2.6J	8.5	19.5	<5.0	14.6	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	53.6	2.1	2.6	1.1 J	<1	5.9	<0.0188	<0.5	NR	343	<1	88.2	<160	<1	<800	<1	<40	
	12/23/14	44.7	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	1,120	<10.0	75.6 J	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	24.7	<5.0	11.3	<10.0	<5.0	14.5	<0.019	<5.0	NR	715	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	29.1	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	979	<3.4	87.4 J	<7.3	<1.7	<131	<3.6	<32.1	
	05/22/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	NR	186	<5.6	54.7 J	<23.4	<2.6	<128	<5.4	<65.6	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenze ne (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl- 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW13	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.021	<5.0	96.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.019	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	3.5 J	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW14	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	7.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.644	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW15	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.031	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW16	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	146	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0079	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW17	10/21/10	16,900	31,400	2,820	12,970	564	623	0.69	<5.0	NR	13,600	533J	<100	<50.0	24.5	<200	8.5J	<100
	09/12/11	9,220	19,600	1,530	7,480	<100	272.1	0.13	<5.0	NR	9,580	260	<2,000	<16,000	<100	<80,000	<100	<4,000
	12/23/14	16,600	40,400	3,430	18,600	545 J	843	0.23	<625	NR	18,000	490 J	<12,500	<6,250	<625	<25,000	<1,250	<12,500
	09/16/15	16,000	33,000	2,820	17,000	<1000	1880	0.70	<1000	NR	16700 J	<2000	<20000	<10000	<1000	<40000	<2000	<20000
	10/12/2016	19,100	38,100	3,180	16,200	<340	613 J	0.64	<360	NR	29100	<680	<11,500	<1460	<340	<26200	<720	<6420
	05/21/2019	13,600	30,900	3,120	16,900	<1050	<1070	0.74	<1130	NR	<24,800	<2,230	<11,800	<9,360	<1,040	<51,200	<2,150	<26,200
	06/15/2021	11,000	39,100	3,300	16,200	<775	686 J	0.33	<515	NR	<16,400	<760	<22,800	<6,020	<872	<36,000	<2,120	<13,500
	07/18/2022	7,610	35,600	2,760	13,600	<775	<522	<0.0080	<515	NR	<16,400	<760	<22,800	<6,020	<872	<36,000	<2,120	<13,500
	07/18/2022	7,610	35,600	2,760	13,600	<775	<522	<0.0080	<515	NR	<16,400	<760	<22,800	<6,020	<872	<36,000	<2,120	<13,500
	07/18/2022	146	2010	291	908	<62.0	61.4 J	<0.0074	<41.2	NR	<1310	<60.8	<1820	<482	<69.8	<2880	<169	<1080
12175-MW18	05/10/10	26.8	101	9.3	42.7	2.8J	3.1J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/23/14	7,030	17,400	1,430	8,170	18.7	228	<0.019	<10.0	NR	1,540	94.3	<200	<100	<10.0	<400	<20.0	<200
	09/16/15	3,360	9,620	898	6070	<25.0	208	0.056	<25.0	NR	740	31.8J	<500	<250	<25.0	<1000	<50.0	<500
	10/12/2016	6070	13,300	1630	5810	<170	276 J	0.11	<180	NR	<7080	<340	<5770	<730	<170	<13100	<360	<3210
	05/22/2019	2,460	13,300	1,690	7050	<328	388 J	0.096	<352	NR	<7740	<696	<3680	<2920	<325	<16000	<671	<8200
	06/15/2021	1,510	14,000	1,780	7,280	<388	375 J	<0.0097	<258	NR	<8200	<						



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW19	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/12/2016	910	6950	1460	9810	<85.0	360	<0.020	<90.0	NR	7780	<170	<2880	<365	<85.0	<6550	<180	<1600	
	5/20/2019	FREE PHASE PRODUCT																	
	06/14/21	FREE PHASE PRODUCT																	
07/19/2022	FREE PHASE PRODUCT																		
12175-MW20	10/21/10	5.6	7.0	1.1J	9.1J	9.5	2.9J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	0.17J	<0.5	<2	5	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/20/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	0.096	<2.8	NR	<61.9	<5.6	<29.4	<23.4	<2.6	<128	<5.4	<65.6	
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW21	10/21/10	2.5J	10.5	1.8J	8.2J	<5.0	5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/23/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	3.2 J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	9.9	<0.019	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/20/2019	No Access																	
	06/14/2021	<1.7	<2.0	<1.8	8.0	<3.1	24.2	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	16.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW22	10/21/10	<5.0	4.5J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0191	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	2.9 J	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	2.2 J	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW23	10/21/10	<5.0	4.5J	<5.0	<15.0	3.8J	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	0.66 J	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	18.9	<5.0	<5.0	<10.0	6.4	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	18.7	<5.0	<5.0	<10.0	10.1	3.6 J	<0.020	<5.0	NR	<100	3.5 J	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	1110	<16.0	<16.0	51.6 J	117	22.1 J	<0.020	18.0	NR	<76.8	65.4 J	<57.7	<73.0	<17.0	<1310	<36.0	<32.1	
	05/21/2019	998	<28.7	<29.0	<50.0	262	<26.7	<0.011	<28.2	NR	2260	115	447 J	<234	<26.0	<1280	<53.7	<65.6	
	06/15/2021	167	<5.0	<4.6	43.5	373	11.2 J	<0.010	<5.2	NR	4990	171	237 J	<60.2	9.3 J	<360	<21.2	<135	
07/18/2022	16.3	<2.0	<1.8	<5.0	161	<2.1	<0.0076	<2.1	NR	1280	61.3	94.7 J	<24.1	4.3 J	<144	<8.5	<53.9		
12175-MW24	12/23/14	12,100	32,800	1,780	21,100	75.5	469	<0.020	<50.0	NR	17,400	119	644 J	<500	<50.0	<2,000	<100	<1,000	
	09/16/15	4720	17000	2600	14600	<625	1320	<0.020	<625	NR	15600	<1250	<12500	<6250	<625	<25000	<1250	<12500	
	10/12/2016	4320	13600	2170	11300	<170	493 J	0.35	<180	NR	18700	<340	<5770	<730	<170	<13100	<360	<3210	
	05/22/2019	6290	16300	2470	12000	<262	684	<0.011	<282	NR	18700	<557	<2940	<2340	<260	<12800	<53.7	<6560	
	06/15/2021	5600	18100	2650	12700	<310	567	<0.0098	<206	NR	23800	<304	<9100	<2410	<349	<14400	<846	<5390	
	07/18/2022	6860	15700	2430	11800	1390	479 J	<0.0077	<258	NR	31600	<380	<11400	<3010	<436	<18000	<1060	<6740	
	12/22/14	FREE PHASE PRODUCT																	
09/15/15	FREE PHASE PRODUCT																		
10/11/16	FREE PHASE PRODUCT																		
05/20/19	FREE PHASE PRODUCT																		
06/14/21	FREE PHASE PRODUCT																		
07/19/2022	FREE PHASE PRODUCT																		
12175-MW20	12/22/14	967	41.8	<25.0	<50.0	84.6	25.6	<0.019	13.9 J	NR	1,310	44.7 J	306 J	<250	16.0 J	<1,000	<50.0	161 J	
	09/15/15	563	<25.0	<25.0	<50.0	54.4	47.5	<0.020	12.1 J	NR	1200	27.4 J	<500	<250	16.6 J	<1000	<50.0	<500	
	10/12/2016	238	<4.0	<4.0	<8.8	37.2	<5.0	<0.019	7.6 J	NR	1100	30.6	249 J	<18.2	10.0 J	<328	<9.0	<80.2	
	05/22/2019	62.1	<2.0	<1.8	<5.0	29.7	<2.1	<0.011	6.9	NR	1920	57.4	194	<24.1	10.2	<144	<8.5	<53.9	
	06/15/2021	3.1 J	<2.0	<1.8	<5.0	53.8	<2.1	<0.0098	5.2	NR	3330	94.8	282	<24.1	14.7	<144	<8.5	<53.9	
	07/18/2022	13.2	<2.0	<1.8	<5.0	47.6	<2.1	<0.0079	6.6	NR	3470	83.6	251	<24.1	15.5	<144	<8.5	<53.9	

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenze ne (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl- 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175- TW1	05/20/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<b>0.41</b>	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175 - TW2	05/22/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-RW1	12/23/14	<b>27,900</b>	<b>44,800</b>	<b>2,900</b>	<b>17,000</b>	<b>4,540</b>	<b>525</b>	<b>1.2</b>	<100	NR	<b>18,100</b>	<b>2,010</b>	<b>1,560 J</b>	<1,000	145	<4,000	<200	<2,000
	09/16/15	<b>26800</b>	<b>51700</b>	<b>3630</b>	<b>21600</b>	<b>2330</b>	<b>3120</b>	<b>0.39</b>	<2000	NR	<b>41800</b>	<b>1670 J</b>	<40000	<20000	<2000	<80000	<4000	<40000
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
12175-RW2	06/14/21	FREE PHASE PRODUCT																
	07/19/2022	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
12175-RW3	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
	07/19/2022	FREE PHASE PRODUCT																
12175-RW4	12/23/14	<b>13,300</b>	<b>36,200</b>	<b>3,140</b>	<b>15,700</b>	<2,500	<2,500	0.028	<2,500	NR	<50,000	<5,000	<50,000	<25,000	<2,500	<100,000	<5,000	<50,000
	09/16/15	<b>8210</b>	<b>29800</b>	<b>2410</b>	<b>16000</b>	<125	<b>705</b>	<0.019	<125	NR	<b>19600</b>	<250	<2500	<1250	<125	<5000	<250	<2500
	10/12/2016	<b>11200</b>	<b>34900</b>	<b>3280</b>	<b>17100</b>	<425	<b>602 J</b>	<b>0.21</b>	<450	NR	<b>39000</b>	<850	<14400	<1820	<425	<32800	<900	<8020
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
12175-RW4	07/19/2022	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
07/19/2022	FREE PHASE PRODUCT																	

Risk-Based Screening Level (RBSL) as defined in Appendix B of SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, May 2008, South Carolina Risk-Based Corrective Action for Petroleum Releases  
Action Level (AL) as defined in SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, October 22, 2008, Certification of the C

Concentrations in bold face type exceeded the RBSL / Action Level  
< = less than the reporting limit specified in the laboratory report  
NR = analysis not requested  
NS = not sampled

EDB = 1,2-Dibromoethane  
TBF = *tert*-Butyl Formate

TAA = *tert*-Amyl Alcohol  
1,2-DCA = 1,2-Dichloroethane  
TBA = *tert*-Butyl Alcohol  
MTBE = Methyl-*tert*-butyl ether

TAME = *tert*-Amyl methyl ether  
DIPE = Diisopropyl ether  
ETBE = Ethyl-*tert*-butyl ether

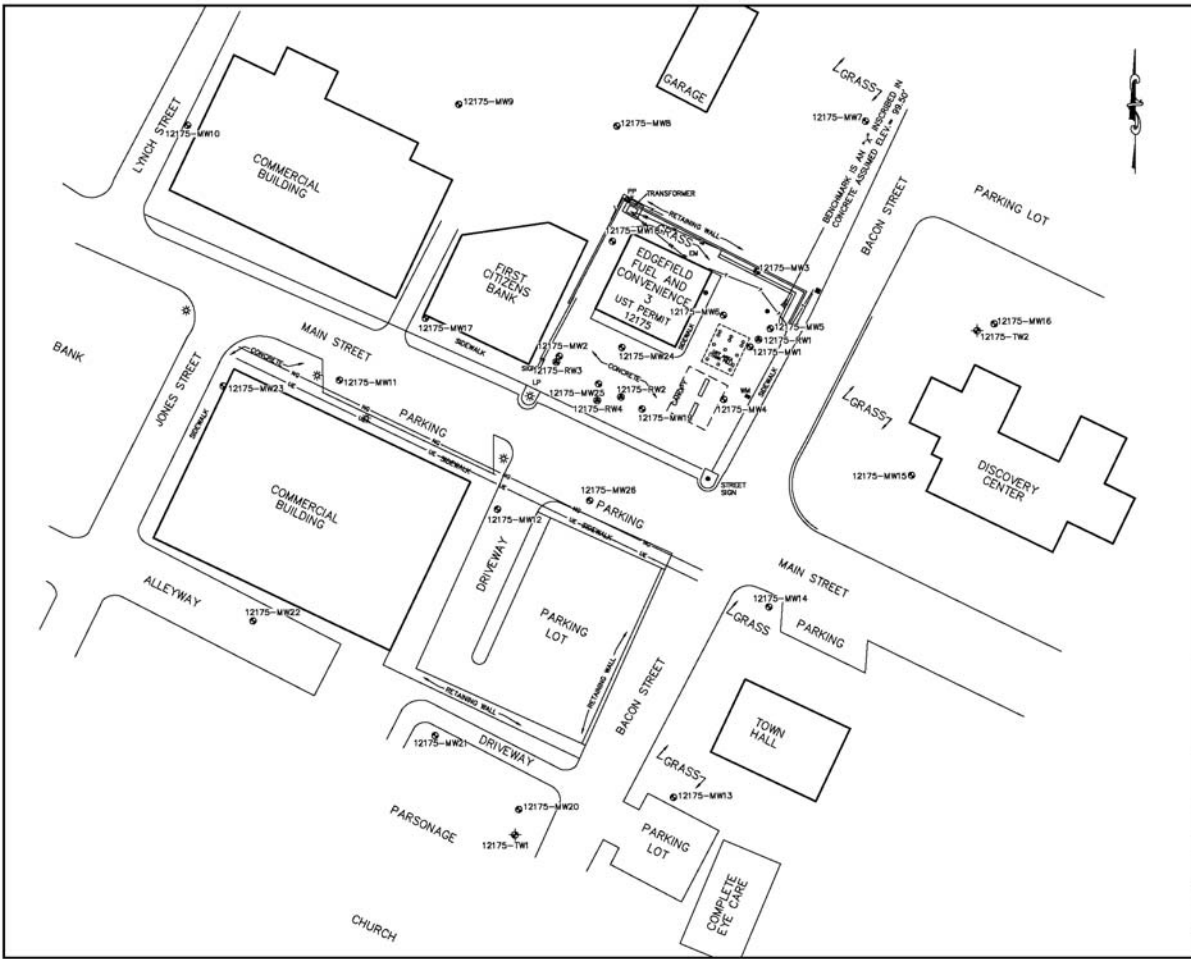
J value = an estimated value between the laboratory reporting limit and the method detection limit  
I value = an estimated value between the laboratory method detection limit and the laboratory practical quantitation limit  
NE = not established  
NF = well not found











- Legend**
- UE— Underground Electric Line
  - X— Wood Fence Line
  - T— Underground Telephone Line
  - ⊕ Sanitary Sewer Clean Out
  - ⊕ Grate Top Drop Inlet
  - ⊕ Light Pole
  - ⊕ Light Pole
  - 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
  - 12175-RW1 ⊕ Recovery Well
  - 12175-TW1 ⊕ Telescoping Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

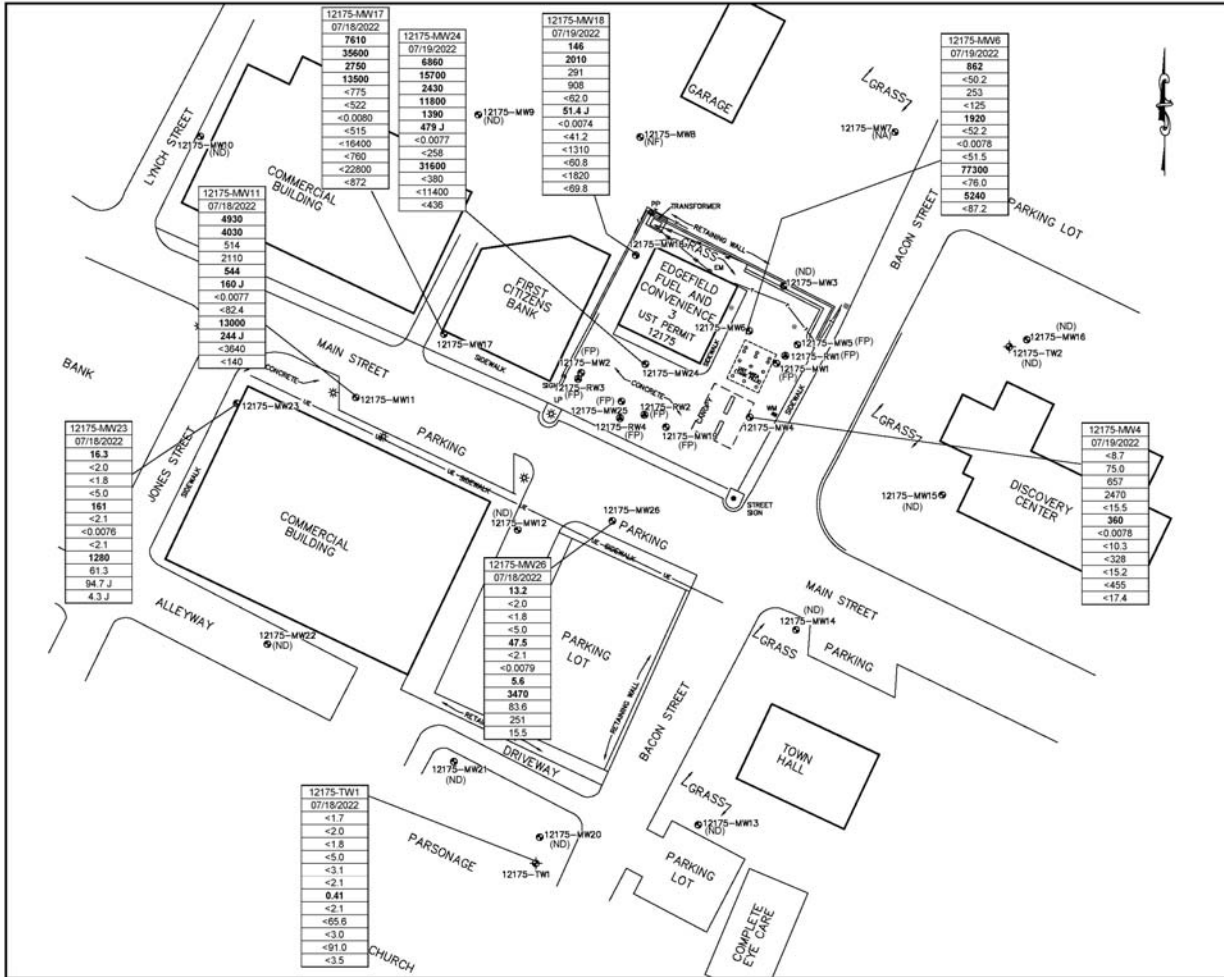


**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
 Site Plan

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

DATE:	SCALE:	FIGURE NO.:
6/18/19	1"=50'	2



**Legend**

- UE— Underground Electric Line
- X- Wood Fence Line
- T- Underground Telephone Line
- 12175-MW1 (Symbol) Shallow (Water Table) Monitoring Well
- 12175-RW1 (Symbol) Recovery Well
- 12175-TW1 (Symbol) Telescoping Well

Sample ID	RBSL/Ais
Date	
Benzene	5
Toluene	1000
Ethylbenzene	700
Xylene (Total)	10000
Methyl-tert-butyl ether	40
Naphthalene	25
1,2-Dibromoethane (EDB)	0.05
1,2-Dichloroethane	5
tert-Amyl Alcohol	240
tert-Butyl Alcohol	128
Diisopropyl ether	1400

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.  
 All concentrations are measured in micrograms per liter (µg/L).  
 Above Concentration Represent RBSLs as defined in Programmatic GAPP, Revision 3.1, August 2016, Table D1 RBSLs for Groundwater and the Action Levels (ALs) as defined in Appendix D of RCDEHC, Bureau of Land and Waste Management, UST Management Division, Programmatic GAPP, Revision 3.1, August 2016, Table D2: Action Levels for Groundwater (Organics).  
 <1.0 - Less than the laboratory specified reporting limit.  
 ND - CoC not detected.  
 NF - Not Found  
 FP - Free Phase Petroleum Product present  
 Samples collected 7/18/2022-7/19/2022



**Edgefield Fuel & Convenience 3**  
 311 Main Street  
 Edgefield, South Carolina

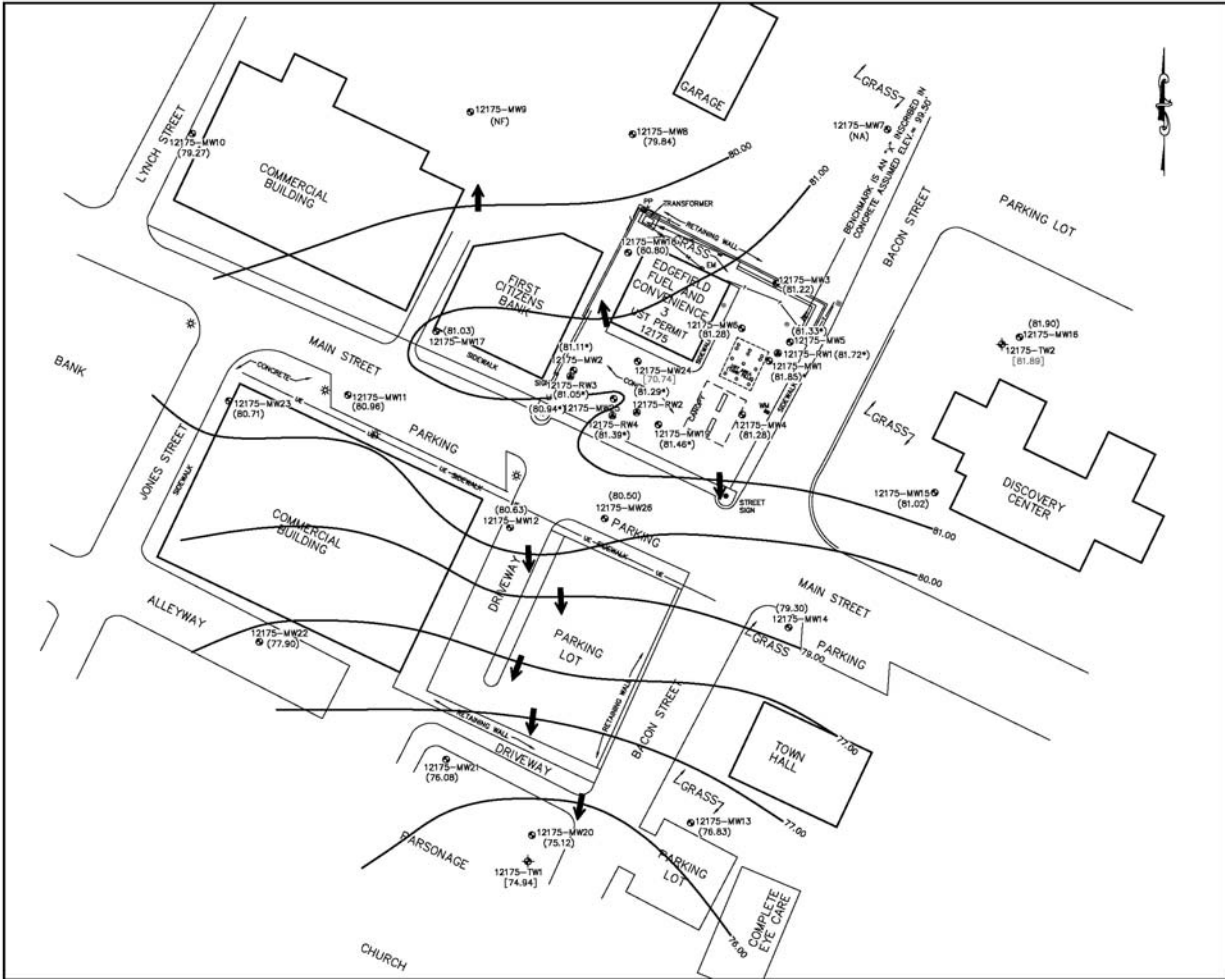
**TITLE:**  
 Groundwater Quality Map

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

**GRAPHIC SCALE:**  
 0 25 50 Feet

**COMPILED BY:** [Signature]  
**DESIGNED BY:** [Signature]  
**CHECKED BY:** [Signature]  
**APPROVED BY:** [Signature]

KD	KD	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	06/24/21	EF083	4



**Legend**

- LE— Underground Electric Line
- X— Wood Fence Line
- T— Underground Telephone Line
- ⊕ Sanitary Sewer Clean Out
- ⊕ Grate Top Drop Inlet
- PP Light Pole
- LP Light Pole
- 12175-MW1 ⊕ Shallow (Water Table) Monitoring Well
- 12175-RW1 ⊕ Recovery Well
- 12175-TW1 ⊕ Telescoping Well
- (80.46) — Groundwater Elevation (ft)
- 80.00 — Water Table Contour (Dashed where inferred)
- Flow Direction Indicator
- [74.75] — Groundwater Elevation not used to determine groundwater flow
- \* — Groundwater elevation adjusted in the presence of Free Product

**General Notes:**

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes. Horizontal, and vertical locations of wells, and selected site features determined through measurements made by representatives of ATC. Groundwater elevations are relative to a temporary benchmark with an assumed datum of 99.50 feet. Groundwater elevations are based on measurements made on 7/18/2022.



NO. 101

**Edgefield Fuel & Convenience 3**  
311 Main Street  
Edgefield, South Carolina

TITLE: **Groundwater Elevation Map**

CLIENT: **Edgefield Fuel & Convenience, LLC**

DATE: 6/24/21

SCALE: 1"=50'

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
KD	KD	NF	NF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=50'	6/24/21	EF083	5



**APPENDIX B**

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Sampling Logs, Laboratory Reports, COC Forms, QA/QC Evaluation



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information			
Date: 7/19/22	Site ID #: 12175	Site Name: EFC 3	Field Personnel: A. B. S. 1
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: SUNNY	
Ambient Air Temp (°F): 80			
Quality Assurance			
Meter Name: Horiba U-53	Serial #: 7MU17389	Calibration:	
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: <input checked="" type="radio"/> Y or <input type="radio"/> N	pH 7.0: <input checked="" type="radio"/> Y or <input type="radio"/> N	pH 10.0: <input type="radio"/> Y or <input checked="" type="radio"/> N
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> Y or <input type="radio"/> N		S.C.: <input checked="" type="radio"/> Y or <input type="radio"/> N
LaMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> Y or <input type="radio"/> N	1.0 NTU: <input type="radio"/> Y or <input type="radio"/> N	10.0 NTU: <input type="radio"/> Y or <input type="radio"/> N
Well Information			
Well ID: MK-1	Well Diameter (ft.): 2 1/4	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Screened Interval (ft.): 20 to 35	Total Well Depth (TWD) (ft.): 35	
Depth to Free Product (DFP) (ft.): 16.16	Depth to Groundwater (DGW) (ft.): 18.18	Free Product Thickness (ft.): 2.02	
Length of water column (LWC=TWD-DGW)(ft.):	1 casing volume (CV=LWC*C)(gals):	3 casing volumes (3*CV)(gals):	5 casing volumes (5*CV)(gals):
Purging Data			
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.
Volume Purged (gallons)			
Time (military)			
PH (s.u.)			
Specific Conductivity (µS/cm)			
Water Temperature (°C)			
Turbidity (NTU)			
Dissolved Oxygen (mg/L)			
Sampling Data			
Sampled By:	Sampling Time:	Duplicate: <input type="radio"/> Y or <input type="radio"/> N	If yes, Duplicate Time:
Notes: PRODUCT in well did not sample			
			Signature: _____



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information			
Date: 7/19/22	Site ID #: 12175	Site Name: EFC 3	Field Personnel: <i>noel</i>
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: <i>SUNNY</i>	
Quality Assurance			
Meter Name: <i>Cori de U-53</i>	Serial #: <i>4MVI7389</i>	Calibration:	
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: <input checked="" type="radio"/> Y or N	pH 7.0: <input checked="" type="radio"/> Y or N	pH 10.0: <input checked="" type="radio"/> Y or N
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> Y or N	S.C.: <input checked="" type="radio"/> Y or N	
LaMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> Y or N	1.0 NTU: <input type="radio"/> Y or N	10.0 NTU: <input type="radio"/> Y or N
Well Information			
Well ID: <i>MW-2</i>	Well Diameter (ft.): <i>2"</i>	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Screened Interval (ft.): <i>19 to 34</i>	Total Well Depth (TWD) (ft.): <i>34</i>	Free Product Thickness (ft.): <i>2.20</i>
Depth to Free Product (DFP) (ft.): <i>18.76</i>	Depth to Groundwater (DGW) (ft.): <i>20.96</i>	5 casing volumes (5*CV)(gals): _____	
Length of water column (LWC=TWD-DGW)(ft.): _____	3 casing volumes (3*CV)(gals): _____	5 casing volumes (5*CV)(gals): _____	
Purging Data			
Volume Purged (gallons)	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.
Time (military)		3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.
PH (s.u.)		5 <sup>th</sup> Vol.	Post
Specific Conductivity (µS/cm)			Sampling
Water Temperature (°C)			
Turbidity (NTU)			
Dissolved Oxygen (mg/L)			
Sampling Data			
Sampled By:	Sampling Time:	Duplicate: <input type="radio"/> Y or N	If yes, Duplicate Time:
Notes: <i>Product in well unable to sample</i>			
			Signature:





Underground Storage Tank Management Division Field Data Information Sheet – Sampling



Site Information

Date: 7/19/2022 Site ID # 12175 Site Name: Split-Stop-344 Field Personnel: B. Belding, N. Reel  
County: Spartenburg-Edgemoor Project Manager: Noelle France General Weather Conditions: Ambient Air Temp (°F):

Quality Assurance

Meter Name: Horiba multimeter Serial #: VYUXBPG9 Calibration:   
pH, conductivity pH 4.0:  Y or N pH 7.0: Y or N pH 10.0: Y or N S.C.:  Y or N 4.49  
DO  Y or N  
Turbidity (NTU) Turb.: 0.0 NTU:  Y or N 1.0 NTU: Y or N 10.0 NTU: Y or N

Well Information

Well ID: MW-3 Well Diameter (in): 2 Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652 Method of Purging/Sample Collection: Ballor  
Pump

MW  HW  RW  Other  Screened Interval (ft.): 19 Total Well Depth (TWD) (ft.): 34

Private-WSW  Public-WSW  Depth to Free Product (DFP) (ft.): 19.22 Free Product Thickness (ft.):

Length of water column (LWC = TWD - DGW) (ft.): 14.78 1 casing volume (CV = LWC x C) (gals.): 2.4 Total Gallons Purged: 0

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling
Volume Purged (gallons)	0						
Time (military)	9:37						9:39
PH (s.u.)	6.02						
Specific Conductivity (µS/cm)	346						
Water Temperature (°C)	24.31						
Turbidity (NTU)	274						
Dissolved Oxygen (mg/L)	8.76						

Sampling Data

Sampled By: B. Belding, N. Reel Sampling Time: 9:39 Duplicate: Y or N If yes, Duplicate Time:

Notes: Split Stop 311  
NOTES: GRAB

Signature: *B. Belding*

Total Gallons:



Underground Storage Tank Management Division Field Data Information Sheet – Sampling



<b>Site Information</b>						
Date: 7/19/2022	Site ID # 12175					
County: <del>Spartanburg</del> Edgefield	Project Manager: Noelle France					
Site Name: <del>Split-Stop 344</del> EFC 3	Field Personnel: B. Belding, N. Reel					
General Weather Conditions: Ambient Air Temp (°F):						
<b>Quality Assurance</b>						
Meter Name: Horiba multimeter	Serial #: VYUXBPG9					
Calibration:	pH 4.0: <input checked="" type="checkbox"/> Y or N					
ph, conductivity	pH 7.0: Y or N					
Dissolved Oxygen (mg/L)	pH 10.0: Y or N					
Turbidity (NTU)	DQ: <input checked="" type="checkbox"/> Y or N					
	Turb.: 0.0 NTU: <input checked="" type="checkbox"/> Y or N					
	1.0 NTU: Y or N					
	10.0 NTU: Y or N					
<b>Well Information</b>						
Well ID: MW-4	Well Diameter (in): 2					
Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652	Method of Purging/Sample Collection: Baller Pump					
MW <input checked="" type="checkbox"/> Private-WSW <input type="checkbox"/> Public-WSW <input type="checkbox"/> Other <input type="checkbox"/>	Screened Interval (ft.): 19					
Depth to Free Product (DFP) (ft.):	Total Well Depth (TWD) (ft.): 29					
Length of water column (LWC = TWD - DGW) (ft.): 11.67	Free Product Thickness (ft.):					
1 casing volume (CV = LWC x C) (gals.):	Total Gallons Purged: 5.75					
<b>Purging Data</b>						
Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post
Volume Purged (gallons)	1.95	4.0				
Time (military)	10:28	10:33	10:37			10:43
PH (s.u.)	6.27	6.30	6.40			
Specific Conductivity (µS/cm)	359	385	390			
Water Temperature (°C)	27.00	25.42	33.11			
Turbidity (NTU)	529	1000+	864			
Dissolved Oxygen (mg/L)	1.65	0.77	1.23			
<b>Sampling Data</b>						
Sampled By: B. Belding, N. Reel	Sampling Time: 1043	Duplicate: Y or N	If yes, Duplicate Time:			
Notes: Split Stop 311	Signature: <i>Bradley Belding</i>					
NOTES: <del>split stop</del>	Total Gallons: 5.75					

DRY @ 2ND. Vol. + 1.75 GALS.





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: <del>12745</del> 12175						
County: Edgefield	Project Manager: Noelle France						
Site Name: EFC 3	Field Personnel: <del>Wade</del>						
General Weather Conditions: SUNNY	Ambient Air Temp (°F): 80						
Quality Assurance							
Meter Name: Abiba U-53	Serial #: 7HV17389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: <input checked="" type="radio"/> or N pH 7.0: <input checked="" type="radio"/> or N pH 10.0: Y or <input checked="" type="radio"/> or N S.C.: <input checked="" type="radio"/> or N						
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> or N						
LaMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> or N 1.0 NTU: Y or N 10.0 NTU: Y or N						
Well Information							
Well ID: MW-5	Well Diameter (ft.): 2"						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump						
Depth to Free Product (DFP) (ft.): 16.11	Depth to Groundwater (DGW) (ft.): 18.55						
Length of water column (LWC=TWD-DGW)(ft.): 1 casing volume (CV=LWC*C)(gals): 3 casing volumes	Free Product Thickness (ft.): 2.44						
	5 casing volumes (5*CV)(gals):						
Purging Data							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)							
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							
Sampling Data							
Sampled By:	Product in well	Unable to Sample	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:		
Notes:	Product in well Unable to Sample						
	Signature:						





Underground Storage Tank Management Division Field Data Information Sheet – Sampling



Site Information

Date: 7/19/2022 Site ID # 12175 Site Name: Spill Stop 311 EFC 3 Field Personnel: B. Belding, N. Reel  
 County: Spartenburg 2551.010 Project Manager: Noelle France General Weather Conditions: Ambient Air Temp (°F):

Quality Assurance

Meter Name: Honiba multimeter Serial #: VYUXBPG9 Calibration: pH 4.0: (Y) or N pH 7.0: Y or N pH 10.0: Y or N S.C.: (Y) or N 4.49  
 pH, conductivity DO: (Y) or N  
 Dissolved Oxygen (mg/L) Turb.: 0.0 NTU: (Y) or N 1.0 NTU: Y or N 10.0 NTU: Y or N  
 Turbidity (NTU)

Well Information

Well ID: MW-6 Well Diameter (in): 2 Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652 Method of Purging/Sample Collection: Baller Pump  
 MW:  RW  Other  Screened Interval (ft.): 19  
 Private-WSW  Public-WSW  Depth to Groundwater (DGW) (ft.): 18.54  
 Total Well Depth (TWD) (ft.): 29  
 Free Product Thickness (ft.):  
 Length of water column (LWC = TWD - DGW) (ft.): 10.46 1 casing volume (CV = LWC x C) (gals.): 1.74  
 Total Gallons Purged: 5.25

Purging Data

Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
9:48	1.75	3.5	5.25				10:03
6:42	9:52	6:48	10:00				
5:64	6:45	5:76	6:54				
24:59	5:72	24:35	5:74				
120	24:16	1000+	23:36				
1.20	1000+	6:15	1000+				
	1.61	6:15	1.95				

Sampling Data

Sampled By: B. Belding, N. Reel Duplicate: Y or N  
 Sampling Time: 1003 If yes, Duplicate Time:  
 Total Gallons: 5.25

Notes: Split Stop 311  
 NOTES: *SPRINK*

DRY @ 3RD. Vol.



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information									
Date: <u>7/19/12</u>	Site ID #: <u>12175</u>	Site Name: <u>EFC 3</u>	Field Personnel: <u>NR-1</u>						
County: <u>Edgefield</u>	Project Manager: <u>Noelle France</u>	General Weather Conditions: <u>SUNNY</u>		Ambient Air Temp (°F): <u>80</u>					
Quality Assurance									
Meter Name: <u>Debiol U-53</u>	Serial #: <u>10VIT389</u>	Calibration:							
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: <u>Y</u> or N	pH 7.0: <u>Y</u> or N	pH 10.0: <u>Y</u> or N	S.C. <u>Y</u> or N					
YSI 55 (Dissolved Oxygen)	<u>Y</u> or N								
LaMotte (Turbidity)	0.0 NTU: <u>Y</u> or N	1.0 NTU: <u>Y</u> or N	10.0 NTU: <u>Y</u> or N						
Well Information									
Well ID: <u>MU-7</u>	Well Diameter (ft.): <u>2"</u>	Conversion Factor (C): 1" well = 0.047, 2" well = <u>0.16</u> 4" well = 0.652							
<input checked="" type="checkbox"/> MW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Screened Interval (ft.): <u>10</u> to <u>20</u>	Total Well Depth (TWD) (ft.): _____							
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): _____	Free Product Thickness (ft.): _____							
Length of water column (LWC=TWD-DGW)(ft.): _____	1 casing volume (CV=LWC*C)(gals): _____	5 casing volumes (5*CV)(gals): _____							
Purging Data									
Volume Purged (gallons)	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling	
Time (military)									
PH (s.u.)									
Specific Conductivity (µS/cm)									
Water Temperature (°C)									
Turbidity (NTU)									
Dissolved Oxygen (mg/L)									
UNACCESSIBLE									
Sampling Data									
Sampled By: _____	Sampling Time: _____	Duplicate: <u>Y</u> or N		If yes, Duplicate Time: _____					
Notes: <u>Partially Paved over</u>	<u>UNACCESSIBLE</u>								
								Signature: _____	





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information											
Date:	7/19/22	Site ID #:	12175	Site Name:	EFC 3	Field Personnel:	na				
County:	Edgefield	Project Manager:	Noelle France	General Weather Conditions:	SUNNY	Ambient Air Temp (°F):	80				
Quality Assurance											
Meter Name	Asiba U-53			Serial #:	7NVT 389						
YSI 63 (pH, Specific Conductivity, Temperature)				Calibration:							
YSI 55 (Dissolved Oxygen)				pH 4.0:	<input checked="" type="radio"/> Y or N	pH 7.0:	<input checked="" type="radio"/> Y or N	pH 10.0:	<input checked="" type="radio"/> Y or N	S.C.:	<input checked="" type="radio"/> Y or N
LaMotte (Turbidity)				Y or N	<input checked="" type="radio"/> Y or N	0.0 NTU:	<input checked="" type="radio"/> Y or N	1.0 NTU:	<input checked="" type="radio"/> Y or N	10.0 NTU:	<input checked="" type="radio"/> Y or N
Well Information											
Well ID:	nw-8			Well Diameter (ft.):	2'		Conversion Factor (C):	1" well = 0.047, 2" well = 0.16, 4" well = 0.652			
Screened Interval (ft.):	17 to 27			Method of Purging/Sample Collection:	<input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump						
Depth to Free Product (DFP) (ft.):	—			Depth to Groundwater (DGW) (ft.):	20.75		Free Product Thickness (ft.):	—			
Length of water column (LWC=TWD-DGW)(ft.):	6.25			1 casing volume (CV=LWC*(C)(gals):	1.0		3 casing volumes (3*CV)(gals):	3.0		5 casing volumes (5*CV)(gals):	5.0
Purging Data											
Volume Purged (gallons)	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling			
Time (military)	0										
PH (s.u.)	8.15										
Specific Conductivity (µS/cm)	7.11										
Water Temperature (°C)	0.449										
Turbidity (NTU)	23.58										
Dissolved Oxygen (mg/L)	332										
	61.63										
Sampling Data											
Sampled By:	NBelej			Sampling Time:	8:20		Duplicate:	<input checked="" type="radio"/> Y or <input checked="" type="radio"/> N			
Notes:	Grab Sample Water Bracket Screen										
Signature: _____											



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

<b>Site Information</b>	
Date: <u>7/19/22</u>	Site ID #: <u>12175</u>
County: <u>Edgefield</u>	Project Manager: <u>Andree France</u>
Site Name: <u>EFC 3</u>	Field Personnel: <u>Wheeler</u>
General Weather Conditions: <u>SUNNY</u>	Ambient Air Temp (°F): <u>80</u>

<b>Quality Assurance</b>	
Meter Name: <u>Veriba U0453</u>	Serial #: <u>9MUT389</u>
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: <u>Y</u> or N pH 7.0: <u>Y</u> or N pH 10.0: Y or N S.C.: Y or N
YSI 55 (Dissolved Oxygen)	<u>Y</u> or N
LaMotte (Turbidity)	0.0 NTU: <u>Y</u> or N 1.0 NTU: Y or N 10.0 NTU: Y or N

<b>Well Information</b>	
Well ID: <u>M4-9</u>	Well Diameter (ft.): <u>2"</u>
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Conversion Factor (C): 1" well = 0.047, 2" well = <u>0.16</u>
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	4" well = 0.652
Depth to Free Product (DFP) (ft.): _____	Screened Interval (ft.): <u>17 to 27</u>
Depth to Groundwater (DGW) (ft.): _____	Total Well Depth (TWD) (ft.): _____
Length of water column (LWC=TWD-DGW)(ft.): _____	Free Product Thickness (ft.): _____
1 casing volume (CV=LWC*C)(gals): _____	5 casing volumes (5*CV)(gals): _____
3 casing volumes (3*CV)(gals): _____	

Purging Data								
	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

<b>Sampling Data</b>	
Sampled By: _____	Sampling Time: _____
Notes: <u>could not locate due to debris and trash at well location</u>	Duplicate: Y or N _____
	If yes, Duplicate Time: _____
	Signature: <u>[Signature]</u>





Underground Storage Tank Management Division Field Data Information Sheet – Sampling



Site Information

Date: **7/18/2022** Site ID # **12175** Site Name: **Split-Stop-344** **EF3** Field Personnel: **B. Belding, N. Reel**  
 County: **Spartanburg** **5884110** Project Manager: **Noelle France** General Weather Conditions: Ambient Air Temp (°F):

Quality Assurance

Meter Name: **Horiba multimeter** Serial #: **VYUXBPG9** Calibration: **S.C.: Y or N**  
 pH, conductivity: pH 4.0: **Y or N** pH 7.0: **Y or N** pH 10.0: **Y or N** S.C.: **Y or N** 4.49  
 Dissolved Oxygen (mg/L): DO: **Y or N**  
 Turbidity (NTU): Turb.: **0.0 NTU: Y or N** 1.0 NTU: **Y or N** 10.0 NTU: **Y or N**

Well Information

Well ID: **MW-10** Well Diameter (in): **2** Conversion Factor (C): **1" well = 0.047, 2" well = 0.169, 4" well = 0.652** Method of Purging/Sample Collection: **Baller Pump**  
 MW: **RW** Other: **20** Screened Interval (ft.): **30** Total Well Depth (TWD) (ft.): **30**  
 Private-WSW Public-WSW Depth to Groundwater (DGW) (ft.): **22.04** Free Product Thickness (ft.): **—**  
 Depth to Free Product (DFP) (ft.): **—** 1 casing volume (CV = LWC x C) (gals.): **1.3** Total Gallons Purged: **0**

Purging Data

	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	<b>0</b>							
Time (military)	<b>10:37</b>							<b>10:39</b>
PH (s.u.)	<b>5.21</b>							
Specific Conductivity (µS/cm)	<b>112</b>							
Water Temperature (°C)	<b>26.76</b>							
Turbidity (NTU)	<b>870</b>							
Dissolved Oxygen (mg/L)	<b>5.19</b>							

Sampling Data

Sampled By: **B. Belding, N. Reel** Sampling Time: **1039** Duplicate: **Y or N** If yes, Duplicate Time: **—**

Notes: Split Stop 311  
 NOTES: **GRAB**

Signature: *B. Belding*  
 Total Gallons: **0**



Underground Storage Tank Management Division Field Data Information Sheet – Sampling



Site Information

Date: **7/18/2022** Site ID #: **12175** Site Name: **Split-Stop-344** Field Personnel: **B. Belding, N. Reel**  
 County: **Spartanburg** Project Manager: **Noelle France** General Weather Conditions: **Clear** Ambient Air Temp (°F): **83**

Quality Assurance

Meter Name: **Horiba multimeter** Serial #: **VYUXBPG9** Calibration: **Y**  
 pH, conductivity: **Y** or **N** pH 4.0: **Y** or **N** pH 7.0: **Y** or **N** pH 10.0: **Y** or **N** S.C.: **Y** or **N** 4.49  
 Dissolved Oxygen (mg/L): **Y** or **N** DO: **Y** or **N**  
 Turbidity (NTU): **Y** or **N** Turb.: **0.0** NTU: **Y** or **N** 1.0 NTU: **Y** or **N** 10.0 NTU: **Y** or **N**

Well Information

Well ID: **MW-11** Well Diameter (in): **2** Conversion Factor (C): **1"** well = 0.047, **2"** well = 0.166, **4"** well = 0.652  
 Method of Purging/Sample Collection: **Bailer Pump**

MW: **IW** **RW** **Other**  
 Private-WSW: **Public-WSW**  
 Depth to Free Product (DFP) (ft.): **—** Screened Interval (ft.): **20** **21** **31** Total Well Depth (TWD) (ft.): **31**  
 Length of water column (LWC = TWD - DGW) (ft.): **10.31** Depth to Groundwater (DGW) (ft.): **20.69** Free Product Thickness (ft.): **—**  
 1 casing volume (CV = LWC x C) (gals.): **1.71** Total Gallons Purged: **8.75**

Purging Data

Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post
<b>0</b>	<b>1.71</b>	<b>3.42</b>	<b>5.13</b>	<b>6.84</b>	<b>8.55</b>	
<b>15.41</b>	<b>15.49</b>	<b>15.54</b>	<b>16.00</b>	<b>16.05</b>	<b>16.10</b>	<b>16.13</b>
<b>6.56</b>	<b>6.49</b>	<b>6.56</b>	<b>6.61</b>	<b>6.65</b>	<b>6.65</b>	
<b>5.13</b>	<b>4.83</b>	<b>5.55</b>	<b>5.88</b>	<b>6.23</b>	<b>6.53</b>	
<b>28.32</b>	<b>27.16</b>	<b>26.44</b>	<b>26.17</b>	<b>27.08</b>	<b>28.08</b>	
<b>103</b>	<b>219</b>	<b>1000+</b>	<b>1000+</b>	<b>1000+</b>	<b>1000+</b>	
<b>5.50</b>	<b>1.29</b>	<b>2.36</b>	<b>4.79</b>	<b>1.35</b>	<b>0.93</b>	

Sampling Data

Sampled By: **B. Belding, N. Reel** Duplicate: **Y** or **N** If yes, Duplicate Time: **—**  
 Sampling Time: **1613**

Notes: Split Stop 311  
 NOTES: **OK**  
 Signature: **B. Belding**  
 Total Gallons: **8.75**





Underground Storage Tank Management Division Field Data Information Sheet – Sampling



Site Information

Date: 7/18/2022 Site ID # 12175 Site Name: Split-Stop 311 Efc 3 Field Personnel: B. Beiding, N. Reel  
 County: Spartanburg SCS Field General Weather Conditions: Ambient Air Temp (°F):

Quality Assurance

Meter Name: Honiba multimeter Serial #: VYUXBPG9 Calibration: S.C.: Y or N 4.49  
 pH, conductivity pH 4.0: Y or N pH 7.0: Y or N pH 10.0: Y or N  
 Dissolved Oxygen (mg/L) DO: Y or N  
 Turbidity (NTU) Turb.: 0.0 NTU: Y or N 1.0 NTU: Y or N 10.0 NTU: Y or N

Well Information

Well ID: MW-12 Well Diameter (in): 2 Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652 Method of Purging/Sample Collection: Baller Pump  
 MW: RW Other Screened Interval (ft.): 30  
 Private-WSW Public-WSW Depth to Groundwater (DGW) (ft.): 19.92  
 Depth to Free Product (DFP) (ft.): Free Product Thickness (ft.):  
 Length of water column 10.08 1 casing volume (CV = LWC x C) (gals.): 1.67 Total Gallons Purged: 8.75

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post
Volume Purged (gallons)	13:37	13:20	13:43	5.0	6.68	8.75	
Time (military)	13:40	13:40	13:43	13:47	13:51	13:55	13:58
PH (s.u.)	5.90	5.97	5.93	5.87	5.87	5.93	
Specific Conductivity (µS/cm)	878	901	1020	1060	1040	1040	
Water Temperature (°C)	30.96	28.74	27.04	26.54	27.29	27.14	
Turbidity (NTU)	24.5	524	1000+	1000+	1000+	1000+	
Dissolved Oxygen (mg/L)	0.94	1.22	1.61	1.18	6.85	6.47	

Sampling Data

Sampled By: B. Beiding, N. Reel Duplicate: Y or N  
 Sampling Time: 1358 If yes, Duplicate Time:

Notes: Split Stop 311

NOTES: *[Handwritten]*

Signature: *B. Beiding*

Total Gallons: 8.75



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 7/18/22 Site ID #: 12175 Site Name: EFC 3 Field Personnel: Noelle  
 County: Edgefield Project Manager: Noelle Egan General Weather Conditions: Sunny Ambient Air Temp (°F): 93

### Quality Assurance

Meter Name: Naloga U-53 Serial #: TMV17389 Calibration: \_\_\_\_\_  
 YSI 63 (pH, Specific Conductivity, Temperature) pH 4.0: Y or N pH 7.0: Y or N pH 10.0: Y or N S.C.: Y or N  
 YSI 55 (Dissolved Oxygen) Y or N  
 LaMotte (Turbidity) 0.0 NTU: Y or N 1.0 NTU: Y or N 10.0 NTU: Y or N

### Well Information

Well ID: NW-13 Well Diameter (ft.): 2' Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652  
 Private WSW  Public WSW  Other \_\_\_\_\_ Screened Interval (ft.): 15 to 25 Method of Purging/Sample Collection: X Bailer  Pump  
 Depth to Free Product (DFP) (ft.): \_\_\_\_\_ Depth to Groundwater (DGW) (ft.): 16.37 Total Well Depth (TWD) (ft.): 25  
 Length of water column (LWC=TWD-DGW)(ft.): 8.63 1 casing volume (CV=LWC\*C)(gals): \_\_\_\_\_ 3 casing volumes (3\*CV)(gals): 4.2 Free Product Thickness (ft.): \_\_\_\_\_ 5 casing volumes (5\*CV)(gals): 7

### Purging Data

	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	<u>0</u>							
Time (military)	<u>1255</u>							
PH (s.u.)	<u>4.14</u>							
Specific Conductivity (µS/cm)	<u>0.251</u>							
Water Temperature (°C)	<u>26.31</u>							
Turbidity (NTU)	<u>553</u>							
Dissolved Oxygen (mg/L)	<u>5.15</u>							

### Sampling Data

Sampled By: AR Sampling Time: 1300 Duplicate: Y or N If yes, Duplicate Time: \_\_\_\_\_  
 Notes: Grab Sample water bracket screen Signature: \_\_\_\_\_





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information									
Date: 7/18/22	Site ID #: 12175	Site Name: EFC 3	Field Personnel: NReel						
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Cloudy	Ambient Air Temp (°F): 93						
Quality Assurance									
Meter Name: U-53 Desriba	Serial #: 74VIT389	Calibration:							
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: (Y) or N	pH 7.0: (Y) or N	pH 10.0: Y or N	S.C.: (Y) or N					
YSI 55 (Dissolved Oxygen)	(Y) or N								
LaMotte (Turbidity)	0.0 NTU: (Y) or N	1.0 NTU: Y or N	10.0 NTU: Y or N						
Well Information									
Well ID: 24-14	Well Diameter (ft.): 2"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16	Method of Purging/Sample Collection: Bailer Pump						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Screened Interval (ft.): 20 to 30	Total Well Depth (TWD) (ft.): 30							
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 20.75	Free Product Thickness (ft.):							
Depth to Free Product (DFP) (ft.):	1 casing volume (CV=LWC*CV)(gals): 1.5	5 casing volumes (5*CV)(gals): 7.5							
Length of water column (LWC=TWD-DGW)(ft.): 9.25									
Purging Data									
Volume Purged (gallons)	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling	
Time (military)	0								
PH (s.u.)	1310								
Specific Conductivity (µS/cm)	4.22								
Water Temperature (°C)	0.136								
Turbidity (NTU)	28.39								
Dissolved Oxygen (mg/L)	33.4								
	4.43								
Sampling Data									
Sampled By: NReel	Sampling Time: 1315	Duplicate: Y or N	If yes, Duplicate Time:						
Notes: Grab Sample water Bucket Screen									
									Signature:



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: 12175						
County: Edgefield	Project Manager: Noelle France						
Site Name: EFC 3	Field Personnel: MR						
General Weather Conditions: Clear							
Ambient Air Temp (°F): 86							
Quality Assurance							
Meter Name: Dor: ka U-53	Serial #: 7MVT289						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: (Y) or N pH 7.0: (Y) or N pH 10.0: Y or N S.C.(Y) or N						
YSI 55 (Dissolved Oxygen)	(Y) or N						
LaMotte (Turbidity)	0.0 NTU: (Y) or N 1.0 NTU: Y or N 10.0 NTU: Y or N						
Well Information							
Well ID: nu-15	Well Diameter (ft.): 2"						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____ <input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
Depth to Free Product (DFP) (ft.): —	Screened Interval (ft.): 17 to 27						
Length of water column (LWC=TWD-DGW)(ft.): 9.55	Depth to Groundwater (DGW) (ft.): 17.45						
1 casing volume (CV=LWC*C)(gals):	3 casing volumes 3*CV)(gals):						
9.55	1.6						
4.8	4.8						
8.0	8.0						
Purging Data							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	0						
Time (military)	750						
PH (s.u.)	6.21						
Specific Conductivity (µS/cm)	0.885						
Water Temperature (°C)	22.53						
Turbidity (NTU)	334						
Dissolved Oxygen (mg/L)	4.26						
Sampling Data							
Sampled By: MR	Sampling Time: 755	Duplicate: Y or (N)	If yes, Duplicate Time: —				
Notes: Grab Sample Bracket water Table							
							Signature:





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 7/18/22	Site ID #: 12175	Site Name: EPC3	Field Personnel: NPEel
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: Cloudy	Ambient Air Temp (°F): 92

### Quality Assurance

Meter Name: NoLiba U-53	Serial #: 70117389	Calibration:
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: Y or N	pH 7.0: Y or N
YSI 55 (Dissolved Oxygen)	Y or N	pH 10.0: Y or N
LaMotte (Turbidity)	0.0 NTU: Y or N	1.0 NTU: Y or N
		10.0 NTU: Y or N

### Well Information

Well ID: 214-16	Well Diameter (ft.): 2"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Screened Interval (ft.): 10 to 20	Total Well Depth (TWD) (ft.): 20	
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 11.11	Free Product Thickness (ft.): 1	
Depth to Free Product (DFP) (ft.): -	1 casing volume (CV=LWC°C)(gals): 1.5	5 casing volumes (5*CV)(gals): 7.5	

### Purging Data

	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	0							
Time (military)	1455							
PH (s.u.)	4.75							
Specific Conductivity (µS/cm)	0.157							
Water Temperature (°C)	25.28							
Turbidity (NTU)	429							
Dissolved Oxygen (mg/L)	3.31							

### Sampling Data

Sampled By: Noelle	Sampling Time: 1500	Duplicate: Y or N	If yes, Duplicate Time: 5:00 P
Notes: Grab Sample water Bracket screen			
Signature:			



Underground Storage Tank Management Division Field Data Information Sheet – Sampling



**Site Information**

Date: 7/18/2022 Site ID #: 12175 Site Name: Split-Step-344 Field Personnel: B. Belding, N. Reel

County: Spartanburg Project Manager: Noelle France General Weather Conditions: EC 3 Ambient Air Temp (°F): \_\_\_\_\_

**Quality Assurance**

Meter Name: Honiba multimeter Serial #: VYUXBPG9 Calibration: \_\_\_\_\_

ph, conductivity: \_\_\_\_\_ pH 4.0: Y or N \_\_\_\_\_ pH 7.0: Y or N \_\_\_\_\_ pH 10.0: Y or N \_\_\_\_\_ S.C.: Y or N 4.49

Dissolved Oxygen (mg/L): \_\_\_\_\_ DO: Y or N \_\_\_\_\_

Turbidity (NTU): \_\_\_\_\_ Turb.: 0.0 NTU: Y or N \_\_\_\_\_ 1.0 NTU: Y or N \_\_\_\_\_ 10.0 NTU: Y or N \_\_\_\_\_

**Well Information**

Well ID: MW-17 Well Diameter (in): 2 Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652

MW: IW RW Other Screened Interval (ft.): 18 Method of Purging/Sample Collection: Boiler Pump

Private-WSW Public-WSW Depth to Groundwater (DGW) (ft.): 20.06 Free Product Thickness (ft.): \_\_\_\_\_

Depth to Free Product (DFP) (ft.): \_\_\_\_\_ Total Well Depth (TWD) (ft.): 28

Length of water column (LWC = TWD - DGW) (ft.): 7.94 1 casing volume (CV = LWC x C) (gals.): 1.3 Total Gallons Purged: 0

**Purging Data**

Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling
Volume Purged (gallons)	<u>0</u>					
Time (military)	<u>12:36</u>					<u>12:38</u>
PH (s.u.)	<u>6.03</u>					
Specific Conductivity (µS/cm)	<u>269</u>					
Water Temperature (°C)	<u>29.31</u>					
Turbidity (NTU)	<u>24.6</u>					
Dissolved Oxygen (mg/L)	<u>7.68</u>					

**Sampling Data**

Sampled By: B. Belding, N. Reel Duplicate: Y or N \_\_\_\_\_ If yes, Duplicate Time: \_\_\_\_\_

Sampling Time: 1238

Notes: Split Step 311

Signature: B. Belding

NOTES: **GRAB**

Total Gallons: \_\_\_\_\_





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information									
Date: 7/19/22	Site ID #: 12715	Site Name: EFC3	Field Personnel: NAREE1						
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: SUNNY	Ambient Air Temp (°F): 80						
Quality Assurance									
Meter Name: Defiba U-53	Serial #: 7MUIT389	Calibration:							
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: <input type="radio"/> or N	pH 7.0: <input checked="" type="radio"/> or N	pH 10.0: Y or N	S.C. <input checked="" type="radio"/> or N					
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> or N								
LaMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> or N	1.0 NTU: Y or N	10.0 NTU: Y or N						
Well Information									
Well ID: M4-18	Well Diameter (ft.): 2'	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Screened Interval (ft.): 18 to 28	Total Well Depth (TWD) (ft.): 28							
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 20.71	Free Product Thickness (ft.): 1							
Depth to Free Product (DFP) (ft.): 1	1 casing volume (CV=LWC°C)(gals): 7.29	3 casing volumes (5*CV)(gals): 36.0							
Length of water column (LWC=TWD-DGW)(ft.): 7.29	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling			
Purging Data									
Volume Purged (gallons)	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling	
Time (military)	0								
PH (s.u.)	950								
Specific Conductivity (µS/cm)	0.97								
Water Temperature (°C)	0.265								
Turbidity (NTU)	23.70								
Dissolved Oxygen (mg/L)	371								
	2.46								
Sampling Data									
Sampled By: NAREE1	Sampling Time: 955	Duplicate: <input checked="" type="radio"/> or N	If yes, Duplicate Time: ←	Samp					
Notes: Grab Sample water Bucket Screen									
ADUP 28	Signature:								



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 7/19/22      Site ID #: 12175      Site Name: EFC 3      Field Personnel: *ARL*  
 County: Edgefield      Project Manager: Noelle France      General Weather Conditions: SUNNY      Ambient Air Temp (°F): 80

### Quality Assurance

Meter Name: *Acrisa U-53*      Serial #: *74017389*      Calibration: \_\_\_\_\_  
 YSI 63 (pH, Specific Conductivity, Temperature)      pH 4.0: *Y* or N      pH 7.0: *Y* or N      pH 10.0: *Y* or N      S.C.: *Y* or N  
 YSI 55 (Dissolved Oxygen)      *Y* or N  
 LaMotte (Turbidity)      0.0 NTU: *Y* or N      1.0 NTU: *Y* or N      10.0 NTU: *Y* or N

### Well Information

Well ID: *MW-19*      Well Diameter (ft.): *24*      Conversion Factor (C): 1" well = 0.047, 2" well = *0.16*, 4" well = 0.652      Method of Purging/Sample Collection: *A* Bailer \_\_\_\_\_ Pump  
 \_\_\_\_\_ MW \_\_\_\_\_ RW \_\_\_\_\_ Other \_\_\_\_\_      Screened Interval (ft.): *18 to 28*      Total Well Depth (TWD) (ft.): *28*  
 \_\_\_\_\_ Private WSW \_\_\_\_\_ Public WSW      Depth to Groundwater (DGW) (ft.): *19.81*      Free Product Thickness (ft.): *1.68*  
 Depth to Free Product (DFP) (ft.): *16.13*      1 casing volume (CV=LWC\*C)(gals): \_\_\_\_\_      3 casing volumes (5\*CV)(gals): \_\_\_\_\_  
 Length of water column (LWC=TWD-DGW)(ft.): \_\_\_\_\_      3 casing volumes (5\*CV)(gals): \_\_\_\_\_

### Purging Data

	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

### Sampling Data

Sampled By: \_\_\_\_\_      Sampling Time: \_\_\_\_\_      Duplicate: *Y* or N      If yes, Duplicate Time: \_\_\_\_\_

Notes: *Product in well Unable to Sample*

Signature: \_\_\_\_\_





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

<b>Site Information</b>	
Date: 7/18/22	Site ID #: 12175
County: Edgefield	Project Manager: Noelle Franco
Site Name: EFC 3	Field Personnel: A Reel
General Weather Conditions: SUNNY	
Ambient Air Temp (°F): 93	

<b>Quality Assurance</b>	
Meter Name: U-52 Horiba	Serial #: MVLT389
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration:
YSI 55 (Dissolved Oxygen)	pH 4.0: Y or N
LaMotte (Turbidity)	0.0 NTU: Y or N
	1.0 NTU: Y or N
	10.0 NTU: Y or N
	pH 7.0: Y or N
	pH 10.0: Y or N
	S.C.: Y or N

<b>Well Information</b>	
Well ID: MW-20	Well Diameter (ft.): 2"
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____ <input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652
Depth to Free Product (DFP) (ft.):	Screened Interval (ft.): 17 to 27
Length of water column (LWC=TWD-DGW)(ft.): 10.32	Depth to Groundwater (DGW) (ft.): 16.68
	3 casing volumes 3°CV(gals): 5.1
	5 casing volumes (5°CV)(gals): 8.5
	Total Well Depth (TWD) (ft.): 27
	Free Product Thickness (ft.):
	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump

Purging Data								
	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	0	1.7	3.4	5.1				
Time (military)	1130	1135	1140	1145				
PH (s.u.)	7.15	7.01	7.00	7.98				
Specific Conductivity (µS/cm)	0.221	0.282	0.285	0.287				
Water Temperature (°C)	23.99	22.99	22.98	22.97				
Turbidity (NTU)	606	800	891	881				
Dissolved Oxygen (mg/L)	3.91	2.81	2.79	2.77				

<b>Sampling Data</b>	
Sampled By:	Sampling Time: 1150
Notes:	Duplicate: Y or N
	If yes, Duplicate Time: _____
	Signature:



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

### Site Information

Date: 7/18/22	Site ID #: 12175	Site Name: EFC3	Field Personnel: w R e l
County: Edgefield	Project Manager: Noelle France	General Weather Conditions: P cloudy	Ambient Air Temp (°F): 93

### Quality Assurance

Meter Name: Haliba U-53	Serial #: 7MUT389	Calibration:
YSI 63 (pH, Specific Conductivity, Temperature)	pH 4.0: (Y) or N	pH 7.0: (Y) or N
YSI 55 (Dissolved Oxygen)	(Y) or N	pH 10.0: Y or N
LaMotte (Turbidity)	0.0 NTU: (Y) or N	1.0 NTU: Y or N
		10.0 NTU: Y or N

### Well Information

Well ID: 144-21	Well Diameter (ft.): 2"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Screened Interval (ft.): 19 to 29	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 18.22	Free Product Thickness (ft.): —

Length of water column (LWC=TWD-DGW)(ft.): 10.78	1 casing volume (CV=LWC*C)(gals): 1.8	5 casing volumes (5*CV)(gals): 9
--	---------------------------------------	----------------------------------

### Purging Data

	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	0	2.0	4.0	5.5				
Time (military)	1350	1355	1400	1405				
PH (s.u.)	4.38	4.19	4.21	4.21				
Specific Conductivity (µS/cm)	0.244	0.250	0.248	0.247				
Water Temperature (°C)	25.85	24.19	24.21	24.20				
Turbidity (NTU)	348	944	943	945				
Dissolved Oxygen (mg/L)	9.63	1.37	1.41	1.38				

### Sampling Data

Sampled By: w R e l	Sampling Time: 1410	Duplicate: Y or N
Notes:		If yes, Duplicate Time: —

Signature: \_\_\_\_\_





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information	
Date: <u>7/19/22</u>	Site ID #: <u>12175</u>
County: <u>Edgefield</u>	Project Manager: <u>NORLEEFENCE</u>
Site Name: <u>EFC</u>	Field Personnel: <u>N. Reel</u>
General Weather Conditions: <u>SUNNY</u> Ambient Air Temp (°F): <u>93</u>	
Quality Assurance	
Meter Name: <u>HANIBA U-53</u>	Serial #: <u>7MV17389</u>
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: <u>Y</u> or N pH 7.0: <u>Y</u> or N pH 10.0: <u>Y</u> or N S.C.: <u>Y</u> or N
YSI 55 (Dissolved Oxygen)	<u>Y</u> or N 0.0 NTU: <u>Y</u> or N 1.0 NTU: <u>Y</u> or N 10.0 NTU: <u>Y</u> or N
LaMotte (Turbidity)	
Well Information	
Well ID: <u>MW-22</u>	Well Diameter (ft.): <u>24</u>
<input type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Conversion Factor (C): 1" well = 0.047, 2" well = <u>0.16</u> 4" well = 0.652
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft.): <u>20</u> to <u>30</u>
Depth to Free Product (DFP) (ft.): _____	Depth to Groundwater (DGW) (ft.): <u>21.92</u>
Length of water column (LWC=TWD-DGW)(ft.): <u>8.08</u>	1 casing volume (CV=LWC*C)(gals): <u>1.3</u>
	3 casing volumes (3*CV)(gals): <u>3.9</u>
	5 casing volumes (5*CV)(gals): <u>6.5</u>
	Total Well Depth (TWD) (ft.): <u>30</u>
	Free Product Thickness (ft.): _____
	Method of Purging/Sample Collection: <u>2</u> Baller _____ Pump
Purging Data	
Volume Purged (gallons)	Initial _____
Time (military)	1 <sup>st</sup> Vol. _____
PH (s.u.)	2 <sup>nd</sup> Vol. _____
Specific Conductivity (µS/cm)	3 <sup>rd</sup> Vol. _____
Water Temperature (°C)	4 <sup>th</sup> Vol. _____
Turbidity (NTU)	5 <sup>th</sup> Vol. _____
Dissolved Oxygen (mg/L)	Post _____
	Sampling _____
Sampling Data	
Sampled By: <u>mpd</u>	Sampling Time: <u>1245</u>
Notes: <u>Grab Sample Water Bucket Screen</u>	Duplicate: <u>Y</u> or <u>N</u> If yes, Duplicate Time: _____
Signature: _____	



Underground Storage Tank Management Division Field Data Information Sheet - Sampling



Site Information

Date: 7/18/2022 Site ID # 12175 Site Name: Split Stop 311 LFC 3 Field Personnel: B. Belding, N. Reel  
County: Spartanburg, SC Ambient Air Temp (°F):

Project Manager: Noelle France General Weather Conditions:

Quality Assurance

Meter Name: Horiba multimeter Serial #: VYUXBPG9  
pH, conductivity Calibration: pH 4.0: (Y) or N pH 7.0: Y or N pH 10.0: Y or N S.C. (Y) or N 4.49  
D.O. (Y) or N  
Turbidity (NTU) Turb.: 0.0 NTU: (Y) or N 1.0 NTU: Y or N 10.0 NTU: Y or N

Well Information

Well ID: MW-23 Well Diameter (in): 2 Conversion Factor (C): 1" well = 0.047, 2" well = 0.166, 4" well = 0.652 Method of Purging/Sample Collection: Baller Pump

MW: Private-WSW Public-WSW Other: 21 Screened Interval (ft.): 31 Total Well Depth (TWD) (ft.): 31  
Depth to Free Product (DFP) (ft.): 21.58 Free Product Thickness (ft.):

Length of water column (LWC = TWD - DGW) (ft.): 9.42 1 casing volume (CV = LWC x C) (gals.): 1.5 Total Gallons Purged: 0

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0							
Time (military)	11:13							11:13
PH (s.u.)	5.97							
Specific Conductivity (µS/cm)	350							
Water Temperature (°C)	29.78							
Turbidity (NTU)	26.3							
Dissolved Oxygen (mg/L)	1.13							

Sampling Data

Sampled By: B. Belding, N. Reel Duplicate: Y or N If yes, Duplicate Time:

Sampling Time: 1113

Signature: Braden Belding

Total Gallons:

Notes: Split Stop 311

NOTES: GRAB





**Underground Storage Tank Management Division  
Field Data Information Sheet – Sampling**

<b>Site Information</b>							
Date: 7/19/22	Site ID #: 12175						
County: Edgefield	Project Manager: Noelle France						
Site Name: EFC 3	Field Personnel: N Acel						
General Weather Conditions: Sunny	Ambient Air Temp (°F): 83						
<b>Quality Assurance</b>							
Meter Name: Horiba U-53	Serial #: 7MB17389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: (Y) or N    pH 7.0: (Y) or N    pH 10.0: Y or N    S.C.: (Y) or N						
YSI 55 (Dissolved Oxygen)	(Y) or N						
LaMotte (Turbidity)	0.0 NTU: (Y) or N    1.0 NTU: Y or N    10.0 NTU: Y or N						
<b>Well Information</b>							
Well ID: MLW 24	Well Diameter (ft.): 2"						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____ <input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
Depth to Free Product (DFP) (ft.): /	Screened Interval (ft.): 20 to 30						
Length of water column (LWC=TWD-DGW)(ft.): 10.51	Depth to Groundwater (DGW) (ft.): 19.49						
1 casing volume (CV=LWC*CV)(gals):	3 casing volumes (3*CV)(gals): 5.1						
Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump	Total Well Depth (TWD) (ft.): 30						
	Free Product Thickness (ft.): /						
	5 casing volumes (5*CV)(gals): 8.3						
<b>Purging Data</b>							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
0	2.0	4.0	5.5				
1015	1020	1025	1030				
6.07	6.22	6.21	6.29				
0.313	0.314	0.311	0.313				
24.29	24.08	24.06	24.07				
572	804	809	804				
3.74	1.73	1.75	1.71				
<b>Sampling Data</b>							
Sampled By: Me	Sampling Time: 1035	Duplicate: Y or (N)	If yes, Duplicate Time:				
Notes: Purge Water Contained		Signature:					



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: 12175						
County: Edgefield	Project Manager: Noelle Fleuve						
Site Name: EFC 3	Field Personnel: W. A. Red						
General Weather Conditions: SUNNY							
Ambient Air Temp (°F): 80							
Quality Assurance							
Meter Name: YSI 63	Serial #: 17017389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration:						
YSI 55 (Dissolved Oxygen)	pH 4.0: <input type="radio"/> or N						
LaMotte (Turbidity)	pH 7.0: <input checked="" type="radio"/> or N						
	0.0 NTU: <input checked="" type="radio"/> or N						
	1.0 NTU: Y or N						
	10.0 NTU: Y or N						
	S.C.C: <input checked="" type="radio"/> Y or N						
Well Information							
Well ID: MW-25	Well Diameter (ft.): 2"						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft.): 20 to 30						
Depth to Free Product (DFP) (ft.): 19.37	Depth to Groundwater (DGW) (ft.): 20.95						
Length of water column (LWC=TWD-DGW)(ft.):	Free Product Thickness (ft.): 2.58						
1 casing volume (CV=LWC*C)(gals):	5 casing volumes (5*CV)(gals):						
Purging Data							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)							
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							
Sampling Data							
Sampled By:	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:				
Notes: Product in well unable to sample							
							Signature:





Underground Storage Tank Management Division Field Data Information Sheet – Sampling



**Site Information**

Date: **7/18/2022** Site ID #: **12175** Site Name: **Split Stop 311** Field Personnel: **B. Beiding, N. Reel**

County: **Spartanburg** Project Manager: **Noelle France** General Weather Conditions: **Clear** Ambient Air Temp (°F): \_\_\_\_\_

**Quality Assurance**

Meter Name: **Horiba multimeter** Serial #: **VYUXBPG9** Calibration: \_\_\_\_\_

ph, conductivity: \_\_\_\_\_ pH 4.0:  Y or N pH 7.0: Y or N pH 10.0: Y or N S.C.:  Y or N 4.49

Dissolved Oxygen (mg/L): \_\_\_\_\_ DO:  Y or N

Turbidity (NTU): \_\_\_\_\_ Turb.: 0.0 NTU:  Y or N 1.0 NTU: Y or N 10.0 NTU: Y or N

**Well Information**

Well ID: **MW-26** Well Diameter (in): **2** Conversion Factor (C): 1" well = 0.047, 2" well = 0.169, 4" well = 0.652

MW:  RW  Other **20** Screened Interval (ft.): **30** Method of Purging/Sample Collector: **Bailer**

Private-WSW  Public-WSW  Depth to Free Product (DFP) (ft.): \_\_\_\_\_ Depth to Groundwater (DGW) (ft.): **19.39** Free Product Thickness (ft.): \_\_\_\_\_

Length of water column (LWC = TWD - DGW) (ft.): **10.61** 1 casing volume (CV = LWC x C) (gals.): **1.76** Total Gallons Purged: **5.28**

**Purging Data**

Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
	1:40	3:52	5:28				
Volume Purged (gallons)	14:34	14:43	14:49				14:55
Time (military)	6:20	6:24	6:31				
PH (s.u.)	9:37	9:51	9:44				
Specific Conductivity (µS/cm)	28.96	26.97	26.14				
Water Temperature (°C)	37.9	34.0	34.1				
Turbidity (NTU)	4.97	7.09	1.08				
Dissolved Oxygen (mg/L)			2.38				

Sampled By: **B. Beiding, N. Reel** Duplicate: Y or N \_\_\_\_\_

Sampling Time: **1455** If yes, Duplicate Time: \_\_\_\_\_

Notes: Split Stop 311

NOTES: **DRY @ 3RD. VOL. + 1.25 GALS.**

Signature: **B. Beiding** Total Gallons: \_\_\_\_\_



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information								
Date: 7/18/22	Site ID #: 12175							
County: Edgefield	Project Manager: Noelle France							
Meter Name: Horiba U-52	Serial #: PMV17383							
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: <input checked="" type="radio"/> or N    pH 7.0: <input checked="" type="radio"/> or N    pH 10.0: Y or N    S.C.: <input checked="" type="radio"/> or N							
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> or N							
LaiMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> or N    1.0 NTU: Y or N    10.0 NTU: Y or N							
Quality Assurance								
Well ID: Tw-1	Well Diameter (ft.): 2"							
<input checked="" type="checkbox"/> MW <input checked="" type="checkbox"/> RW <input type="checkbox"/> Other	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652							
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft.): 33 to 38							
Depth to Free Product (DFP) (ft.): —	Depth to Groundwater (DGW) (ft.): 16.58							
Length of water column (LWC=TWD-DGW)(ft.): 21.42	1 casing volume (CV=LWC*C)(gals): 3.5							
	3 casing volumes (3*CV)(gals): 10.5							
	5 casing volumes (5*CV)(gals): 17.5							
	Total Well Depth (TWD) (ft.): 38							
	Free Product Thickness (ft.): —							
	Method of Purging/Sample Collection: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump							
Well Information								
	Field Personnel: Alee							
	Ambient Air Temp (°F): 85							
Purging Data								
	Field Personnel: Alee							
	Ambient Air Temp (°F): 85							
Sampling Data								
Volume Purged (gallons)	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Time (military)	1040	3.5	7.0	10.5				
PH (s.u.)	5.78	10.50	11.00	11.10				
Specific Conductivity (µS/cm)	0.206	4.89	4.87	4.91				
Water Temperature (°C)	23.39	0.202	0.203	0.202				
Turbidity (NTU)	383	22.98	22.99	22.97				
Dissolved Oxygen (mg/L)	4.45	121	124	119				
		3.37	3.31	3.28				
Sampled By: A. Red	Sampling Time: 1115	Duplicate: Y or N	If yes, Duplicate Time: —					
Notes: —								
Signature:								





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information								
Date: 7/18/22	Site ID #: 12715	Site Name: EFC 3	Field Personnel: N. Reed					
County: Edgecombe	Project Manager: Nodelle France	General Weather Conditions: Cloudy	Ambient Air Temp (°F): 93					
Quality Assurance								
Meter Name: Hambro U-53	Serial #: 7MV17389	Calibration:						
YSI 63 (pH, Specific Conductivity, Temperature)		pH 4.0: (Y) or N	pH 7.0: (Y) or N      pH 10.0: Y or N      S.C.O. or N					
YSI 55 (Dissolved Oxygen)		(Y) or N						
LaMotte (Turbidity)		0.0 NTU: (Y) or N	1.0 NTU: Y or N      10.0 NTU: Y or N					
Well Information								
Well ID: TW-2	Well Diameter (ft.): 2'	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	Method of Purging/Sample Collection: <u>2</u> Bailer <u>3</u> Pump					
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Screened Interval (ft.): 33 to 38	Total Well Depth (TWD) (ft.): 38						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 11.40	Free Product Thickness (ft.): /						
Depth to Free Product (DFP) (ft.): /	1 casing volume (CV=LWC°C)(gals): 4.3	3 casing volumes (3*CV)(gals): 12.9	5 casing volumes (5*CV)(gals): 21.5					
Length of water column (LWC=TWD-DGW)(ft.): 26.60	<b>Purging Data</b>							
	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)	0	4.5	9.0	13.5				
Time (military)	1520	1525	1530	1535				
PH (s.u.)	4.93	4.89	4.85	4.83				
Specific Conductivity (µS/cm)	0.130	0.131	0.130	0.129				
Water Temperature (°C)	23.14	22.24	22.23	22.21				
Turbidity (NTU)	348	120	428	429				
Dissolved Oxygen (mg/L)	5.48	4.36	4.37	4.38				
Sampling Data								
Sampled By: N. Reed	Sampling Time: 1540	Duplicate: Y or (N)	If yes, Duplicate Time: _____					
Notes: _____								
Signature:								



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: 12715						
County: Edgefield	Project Manager: Nolle France						
Meter Name: Horiba U-53	Serial #: 71017389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration:						
YSI 55 (Dissolved Oxygen)	Y or N						
LaMotte (Turbidity)	0.0 NTU: Y or N						
	1.0 NTU: Y or N						
	10.0 NTU: Y or N						
	Field Personnel: <i>ARCEL</i>						
	General Weather Conditions: <i>SUNNY</i>						
	Ambient Air Temp (°F): <i>80</i>						
Quality Assurance							
Well ID: <i>Rw-1</i>	Well Diameter (ft.): <i>4"</i>						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Conversion Factor (C): 1" well = 0.04Z, 2" well = 0.16, 4" well = <u>0.652</u>						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Method of Purging/Sample Collection: <i>A</i> Bailer <input type="checkbox"/> Pump						
Depth to Free Product (DFP) (ft.): <i>15.71</i>	Depth to Groundwater (DGW) (ft.): <i>18.21</i>						
Length of water column (LWC=TWD-DGW)(ft.):	1 casing volume (CV=LWC*C)(gals):						
	3 casing volumes (3*CV)(gals):						
	5 casing volumes (5*CV)(gals):						
	Total Well Depth (TWD) (ft.): <i>30</i>						
	Free Product Thickness (ft.): <i>2.49</i>						
Purging Data							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)							
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							
Sampling Data							
Sampled By:	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:				
Notes: <i>Product in well unable to sample</i>							
							Signature: _____





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

<b>Site Information</b>	
Date: 7/19/22	Site Name: EFC 3
County: Edgefield	Field Personnel: NRS-1
Project Manager: Noelle France	General Weather Conditions: SUNNY
	Ambient Air Temp (°F): 80

<b>Quality Assurance</b>	
Meter Name: Coriba U-53	Serial #: FMIT 389
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration:
YSI 55 (Dissolved Oxygen)	pH 4.0: (Y) or N
LaMotte (Turbidity)	pH 7.0: (Y) or N
	pH 10.0: Y or N
	1.0 NTU: Y or N
	10.0 NTU: Y or N

<b>Well Information</b>	
Well ID: RW-2	Well Diameter (ft.): 4"
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other _____ <input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652
Depth to Free Product (DFP) (ft.): 18.18	Screened Interval (ft.): 20 to 30
Length of water column (LWC=TWD-DGW)(ft.):	Depth to Groundwater (DGW) (ft.): 20.99
1 casing volume (CV=LWC*C)(gals):	3 casing volumes (3*CV)(gals):
	5 casing volumes (5*CV)(gals):
	Total Well Depth (TWD) (ft.): 30
	Free Product Thickness (ft.): 2.81

Purging Data								
	Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

<b>Sampling Data</b>	
Sampled By:	Sampling Time:
Notes: Product in well unable to sample	Duplicate: Y or N
	If yes, Duplicate Time:
Signature:	



## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: 12175						
County: Edgefield	Project Manager: Noelle France						
Field Personnel: NR-ee1	Ambient Air Temp (°F): 80						
Quality Assurance							
Meter Name: Horiba U-53	Serial #: FMU 17389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: pH 4.0: <input checked="" type="radio"/> or N						
YSI 55 (Dissolved Oxygen)	<input checked="" type="radio"/> or N						
LaMotte (Turbidity)	0.0 NTU: <input checked="" type="radio"/> or N						
	1.0 NTU: Y or N						
	10.0 NTU: Y or N						
Well Information							
Well ID: RW-3	Well Diameter (ft.): 4"						
	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> IW <input type="checkbox"/> RW <input type="checkbox"/> Other	Screened Interval (ft.): 15 to 35						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Depth to Groundwater (DGW) (ft.): 20.69						
Depth to Free Product (DFP) (ft.): 18.59	Free Product Thickness (ft.): 2.10						
Length of water column (LWC=TWD-DGW)(ft.):	5 casing volumes (5*CV)(gals):						
1 casing volume (CV=LWC*C)(gals):							
Purging Data							
Initial	1 <sup>st</sup> Vol.	2 <sup>nd</sup> Vol.	3 <sup>rd</sup> Vol.	4 <sup>th</sup> Vol.	5 <sup>th</sup> Vol.	Post	Sampling
Volume Purged (gallons)							
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							
Sampling Data							
Sampled By:	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:				
Notes: Product in well unable to sample							
							Signature:





## Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Site Information							
Date: 7/19/22	Site ID #: 12175						
County: Edgefield	Project Manager: Noelle France						
Field Personnel: N. Noel	Ambient Air Temp (°F): 80						
Quality Assurance							
Meter Name: Horiba U-53	Serial #: 74017389						
YSI 63 (pH, Specific Conductivity, Temperature)	Calibration: _____						
YSI 55 (Dissolved Oxygen)	pH 4.0: <input checked="" type="radio"/> or N						
LaMotte (Turbidity)	pH 7.0: <input checked="" type="radio"/> or N						
	0.0 NTU: <input checked="" type="radio"/> or N						
	1.0 NTU: Y or N						
	10.0 NTU: Y or N						
Well Information							
Well ID: RW-4	Well Diameter (ft.): 4"						
<input checked="" type="checkbox"/> MW <input type="checkbox"/> JW <input type="checkbox"/> RW <input type="checkbox"/> Other _____	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652						
<input type="checkbox"/> Private WSW <input type="checkbox"/> Public WSW	Screened Interval (ft.): 15 to 35						
Depth to Free Product (DFP) (ft.): 18, 31	Depth to Groundwater (DGW) (ft.): 20.51						
Length of water column (LWC=TWD-DGW)(ft.): _____	1 casing volume (CV=LWC*C)(gals): _____						
	3 casing volumes (5*CV)(gals): _____						
	5 casing volumes (5*CV)(gals): _____						
Purging Data							
Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)							
Time (military)							
PH (s.u.)							
Specific Conductivity (µS/cm)							
Water Temperature (°C)							
Turbidity (NTU)							
Dissolved Oxygen (mg/L)							
Sampling Data							
Sampled By:	Sampling Time:	Duplicate: Y or N	If yes, Duplicate Time:				
Notes: Product in well unable to sample							
							Signature: _____

July 28, 2022

Noelle France  
ATC Group Services LLC- South Charlotte  
7606 Whitehall Exe Center Dr  
Suite 800  
Charlotte, NC 28273

RE: Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Dear Noelle France:

Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,



Taylor M Cannon  
taylor.cannon@pacelabs.com  
(704)875-9092  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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

## CERTIFICATIONS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

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### **Pace Analytical Services Charlotte**

South Carolina Laboratory ID: 99006  
9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Laboratory ID: 99006

South Carolina Certification #: 99006001  
South Carolina Drinking Water Cert. #: 99006003  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Louisiana DoH Drinking Water #: LA029  
Virginia/VELAP Certification #: 460221

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92616133001	TW-1	Water	07/18/22 11:15	07/21/22 08:45
92616133002	MW-20	Water	07/18/22 11:30	07/21/22 08:45
92616133003	MW-22	Water	07/18/22 12:45	07/21/22 08:45
92616133004	MW-13	Water	07/18/22 13:00	07/21/22 08:45
92616133005	MW-14	Water	07/18/22 13:15	07/21/22 08:45
92616133006	MW-21	Water	07/18/22 14:10	07/21/22 08:45
92616133007	MW-16	Water	07/18/22 15:00	07/21/22 08:45
92616133008	TW-2	Water	07/18/22 15:40	07/21/22 08:45
92616133009	DUP-1	Water	07/18/22 00:00	07/21/22 08:45
92616133010	FB-1	Water	07/18/22 15:45	07/21/22 08:45
92616133011	MW-10	Water	07/18/22 10:34	07/21/22 08:45
92616133012	MW-11	Water	07/18/22 16:13	07/21/22 08:45
92616133013	MW-12	Water	07/18/22 13:58	07/21/22 08:45
92616133014	MW-17	Water	07/18/22 12:38	07/21/22 08:45
92616133015	MW-23	Water	07/18/22 11:13	07/21/22 08:45
92616133016	MW-26	Water	07/18/22 14:55	07/21/22 08:45
92616133017	MW-3	Water	07/19/22 09:39	07/21/22 08:45
92616133018	MW-4	Water	07/19/22 10:43	07/21/22 08:45
92616133019	MW-6	Water	07/19/22 10:03	07/21/22 08:45
92616133020	FB-2	Water	07/19/22 10:57	07/21/22 08:45
92616133021	MW-15	Water	07/19/22 07:35	07/21/22 08:45
92616133022	MW-8	Water	07/19/22 08:20	07/21/22 08:45
92616133023	MW-18	Water	07/19/22 09:55	07/21/22 08:45
92616133024	MW-24	Water	07/19/22 10:35	07/21/22 08:45
92616133025	DUP-2	Water	07/19/22 00:00	07/21/22 08:45
92616133026	EB-1	Water	07/19/22 11:30	07/21/22 08:45
92616133027	TRIP BLANK	Water	07/19/22 00:00	07/21/22 08:45
92616133028	TRIP BLANK	Water	07/19/22 00:00	07/21/22 08:45

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92616133001	TW-1	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133002	MW-20	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133003	MW-22	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133004	MW-13	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133005	MW-14	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133006	MW-21	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133007	MW-16	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133008	TW-2	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133009	DUP-1	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133010	FB-1	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133011	MW-10	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133012	MW-11	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133013	MW-12	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133014	MW-17	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133015	MW-23	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92616133016	MW-26	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133017	MW-3	EPA 8011	HH	2	PASI-C
		EPA 8260D	CL	18	PASI-C
92616133018	MW-4	EPA 8011	HH	2	PASI-C
		EPA 8260D	NSCQ	18	PASI-C
92616133019	MW-6	EPA 8011	HH	2	PASI-C

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### SAMPLE ANALYTE COUNT

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92616133020	FB-2	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133021	MW-15	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133022	MW-8	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133023	MW-18	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133024	MW-24	EPA 8260D	NSCQ	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133025	DUP-2	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133026	EB-1	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133027	TRIP BLANK	EPA 8260D	CL	18	PASI-C
		EPA 8011	HH	2	PASI-C
92616133028	TRIP BLANK	EPA 8260D	CL	18	PASI-C

PASI-C = Pace Analytical Services - Charlotte

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: TW-1 Lab ID: 92616133001 Collected: 07/18/22 11:15 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	0.41	ug/L	0.020	0.0076	1	07/27/22 11:07	07/27/22 12:46	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	07/27/22 11:07	07/27/22 12:46	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 20:55	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 20:55	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 20:55	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 20:55	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 20:55	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 20:55	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 20:55	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 20:55	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 20:55	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 20:55	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 20:55	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 20:55	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 20:55	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 20:55	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 20:55	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	106	%	70-130		1		07/21/22 20:55	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		07/21/22 20:55	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		07/21/22 20:55	2037-26-5	

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## ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-20 Lab ID: 92616133002 Collected: 07/18/22 11:30 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/27/22 13:08	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	119	%	60-140		1	07/27/22 11:07	07/27/22 13:08	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 21:13	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 21:13	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 21:13	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 21:13	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 21:13	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 21:13	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 21:13	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 21:13	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 21:13	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 21:13	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 21:13	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 21:13	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 21:13	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 21:13	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 21:13	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		07/21/22 21:13	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		07/21/22 21:13	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		07/21/22 21:13	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC

Pace Project No.: 92616133

Sample: MW-22 Lab ID: 92616133003 Collected: 07/18/22 12:45 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/28/22 09:16	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/27/22 11:07	07/28/22 09:16	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 21:31	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 21:31	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 21:31	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 21:31	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 21:31	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 21:31	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 21:31	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 21:31	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 21:31	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 21:31	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 21:31	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 21:31	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 21:31	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 21:31	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 21:31	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	106	%	70-130		1		07/21/22 21:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		07/21/22 21:31	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		07/21/22 21:31	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

**Sample: MW-13**      **Lab ID: 92616133004**      Collected: 07/18/22 13:00      Received: 07/21/22 08:45      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011    Preparation Method: EPA 8011 Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/28/22 09:27	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/27/22 11:07	07/28/22 09:27	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 21:49	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 21:49	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 21:49	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 21:49	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 21:49	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 21:49	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 21:49	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 21:49	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 21:49	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 21:49	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 21:49	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 21:49	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 21:49	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 21:49	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 21:49	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	70-130		1		07/21/22 21:49	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		07/21/22 21:49	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		07/21/22 21:49	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-14 Lab ID: 92616133005 Collected: 07/18/22 13:15 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0074	ug/L	0.019	0.0074	1	07/27/22 11:07	07/28/22 09:38	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/27/22 11:07	07/28/22 09:38	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 22:07	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 22:07	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 22:07	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 22:07	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 22:07	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 22:07	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 22:07	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 22:07	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 22:07	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 22:07	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 22:07	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 22:07	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 22:07	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 22:07	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 22:07	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/21/22 22:07	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		07/21/22 22:07	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		07/21/22 22:07	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-21 Lab ID: 92616133006 Collected: 07/18/22 14:10 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 09:48	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	07/27/22 11:07	07/28/22 09:48	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/22/22 00:47	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/22/22 00:47	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/22/22 00:47	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/22/22 00:47	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/22/22 00:47	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/22/22 00:47	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/22/22 00:47	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/22/22 00:47	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/22/22 00:47	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/22/22 00:47	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/22/22 00:47	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/22/22 00:47	1634-04-4	
Naphthalene	16.1	ug/L	5.0	2.1	1		07/22/22 00:47	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/22/22 00:47	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/22/22 00:47	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	109	%	70-130		1		07/22/22 00:47	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		07/22/22 00:47	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		07/22/22 00:47	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-16 Lab ID: 92616133007 Collected: 07/18/22 15:00 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0079	ug/L	0.021	0.0079	1	07/27/22 11:07	07/28/22 09:59	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	07/27/22 11:07	07/28/22 09:59	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 22:25	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 22:25	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 22:25	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 22:25	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 22:25	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 22:25	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 22:25	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 22:25	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 22:25	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 22:25	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 22:25	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 22:25	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 22:25	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 22:25	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 22:25	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	105	%	70-130		1		07/21/22 22:25	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		07/21/22 22:25	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		07/21/22 22:25	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: TW-2 Lab ID: 92616133008 Collected: 07/18/22 15:40 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 10:10	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	07/27/22 11:07	07/28/22 10:10	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 22:43	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 22:43	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 22:43	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 22:43	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 22:43	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 22:43	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 22:43	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 22:43	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 22:43	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 22:43	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 22:43	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 22:43	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 22:43	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 22:43	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 22:43	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/21/22 22:43	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		07/21/22 22:43	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		07/21/22 22:43	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: DUP-1 Lab ID: 92616133009 Collected: 07/18/22 00:00 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 10:21	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/27/22 11:07	07/28/22 10:21	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 23:01	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 23:01	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 23:01	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 23:01	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 23:01	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 23:01	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 23:01	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 23:01	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 23:01	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 23:01	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 23:01	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 23:01	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 23:01	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 23:01	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 23:01	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		07/21/22 23:01	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/21/22 23:01	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		07/21/22 23:01	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: FB-1 Lab ID: 92616133010 Collected: 07/18/22 15:45 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 10:31	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	07/27/22 11:07	07/28/22 10:31	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 20:02	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 20:02	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 20:02	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 20:02	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 20:02	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 20:02	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 20:02	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 20:02	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 20:02	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 20:02	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 20:02	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 20:02	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 20:02	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 20:02	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 20:02	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/21/22 20:02	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		07/21/22 20:02	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		07/21/22 20:02	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-10 Lab ID: 92616133011 Collected: 07/18/22 10:34 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0078	ug/L	0.020	0.0078	1	07/27/22 11:07	07/28/22 10:42	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	07/27/22 11:07	07/28/22 10:42	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 23:18	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 23:18	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 23:18	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 23:18	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 23:18	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 23:18	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 23:18	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 23:18	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 23:18	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 23:18	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 23:18	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 23:18	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 23:18	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 23:18	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 23:18	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		1		07/21/22 23:18	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		07/21/22 23:18	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		07/21/22 23:18	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-11 Lab ID: 92616133012 Collected: 07/18/22 16:13 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/28/22 10:53	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	07/27/22 11:07	07/28/22 10:53	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	13000	ug/L	4000	2620	40		07/22/22 10:36	75-85-4	
tert-Amylmethyl ether	244J	ug/L	400	122	40		07/22/22 10:36	994-05-8	
Benzene	4930	ug/L	200	69.6	40		07/22/22 10:36	71-43-2	
3,3-Dimethyl-1-Butanol	<2160	ug/L	4000	2160	40		07/22/22 10:36	624-95-3	
tert-Butyl Alcohol	<3640	ug/L	4000	3640	40		07/22/22 10:36	75-65-0	
tert-Butyl Formate	<964	ug/L	2000	964	40		07/22/22 10:36	762-75-4	
1,2-Dichloroethane	<82.4	ug/L	200	82.4	40		07/22/22 10:36	107-06-2	
Diisopropyl ether	<140	ug/L	200	140	40		07/22/22 10:36	108-20-3	
Ethanol	<5760	ug/L	8000	5760	40		07/22/22 10:36	64-17-5	
Ethylbenzene	514	ug/L	200	73.6	40		07/22/22 10:36	100-41-4	
Ethyl-tert-butyl ether	<338	ug/L	400	338	40		07/22/22 10:36	637-92-3	
Methyl-tert-butyl ether	544	ug/L	200	124	40		07/22/22 10:36	1634-04-4	
Naphthalene	160J	ug/L	200	83.6	40		07/22/22 10:36	91-20-3	
Toluene	4030	ug/L	200	80.4	40		07/22/22 10:36	108-88-3	
Xylene (Total)	2110	ug/L	200	200	40		07/22/22 10:36	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	106	%	70-130		40		07/22/22 10:36	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	70-130		40		07/22/22 10:36	17060-07-0	
Toluene-d8 (S)	103	%	70-130		40		07/22/22 10:36	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-12 Lab ID: 92616133013 Collected: 07/18/22 13:58 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 11:04	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/27/22 11:07	07/28/22 11:04	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 23:36	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 23:36	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 23:36	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 23:36	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 23:36	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 23:36	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 23:36	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 23:36	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 23:36	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 23:36	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 23:36	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 23:36	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 23:36	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 23:36	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 23:36	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	107	%	70-130		1		07/21/22 23:36	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		07/21/22 23:36	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		07/21/22 23:36	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-17 Lab ID: 92616133014 Collected: 07/18/22 12:38 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0080	ug/L	0.021	0.0080	1	07/27/22 11:07	07/28/22 11:14	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	07/27/22 11:07	07/28/22 11:14	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<16400	ug/L	25000	16400	250		07/22/22 11:48	75-85-4	
tert-Amylmethyl ether	<760	ug/L	2500	760	250		07/22/22 11:48	994-05-8	
Benzene	7610	ug/L	1250	435	250		07/22/22 11:48	71-43-2	
3,3-Dimethyl-1-Butanol	<13500	ug/L	25000	13500	250		07/22/22 11:48	624-95-3	
tert-Butyl Alcohol	<22800	ug/L	25000	22800	250		07/22/22 11:48	75-65-0	
tert-Butyl Formate	<6020	ug/L	12500	6020	250		07/22/22 11:48	762-75-4	
1,2-Dichloroethane	<515	ug/L	1250	515	250		07/22/22 11:48	107-06-2	
Diisopropyl ether	<872	ug/L	1250	872	250		07/22/22 11:48	108-20-3	
Ethanol	<36000	ug/L	50000	36000	250		07/22/22 11:48	64-17-5	
Ethylbenzene	2750	ug/L	1250	460	250		07/22/22 11:48	100-41-4	
Ethyl-tert-butyl ether	<2120	ug/L	2500	2120	250		07/22/22 11:48	637-92-3	
Methyl-tert-butyl ether	<775	ug/L	1250	775	250		07/22/22 11:48	1634-04-4	
Naphthalene	<522	ug/L	1250	522	250		07/22/22 11:48	91-20-3	
Toluene	35600	ug/L	1250	502	250		07/22/22 11:48	108-88-3	
Xylene (Total)	13500	ug/L	1250	1250	250		07/22/22 11:48	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		250		07/22/22 11:48	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		250		07/22/22 11:48	17060-07-0	
Toluene-d8 (S)	103	%	70-130		250		07/22/22 11:48	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-23 Lab ID: 92616133015 Collected: 07/18/22 11:13 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 11:25	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	07/27/22 11:07	07/28/22 11:25	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	1280	ug/L	100	65.6	1		07/22/22 21:26	75-85-4	
tert-Amylmethyl ether	61.3	ug/L	10.0	3.0	1		07/22/22 21:26	994-05-8	
Benzene	16.3	ug/L	5.0	1.7	1		07/22/22 21:26	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/22/22 21:26	624-95-3	
tert-Butyl Alcohol	94.7J	ug/L	100	91.0	1		07/22/22 21:26	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/22/22 21:26	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/22/22 21:26	107-06-2	
Diisopropyl ether	4.3J	ug/L	5.0	3.5	1		07/22/22 21:26	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/22/22 21:26	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/22/22 21:26	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/22/22 21:26	637-92-3	
Methyl-tert-butyl ether	161	ug/L	5.0	3.1	1		07/22/22 21:26	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/22/22 21:26	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/22/22 21:26	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/22/22 21:26	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95	%	70-130		1		07/22/22 21:26	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		07/22/22 21:26	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		07/22/22 21:26	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: **MW-26** Lab ID: **92616133016** Collected: 07/18/22 14:55 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0079	ug/L	0.021	0.0079	1	07/27/22 11:07	07/28/22 11:36	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	07/27/22 11:07	07/28/22 11:36	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	3470	ug/L	100	65.6	1		07/22/22 01:05	75-85-4	
tert-Amylmethyl ether	83.6	ug/L	10.0	3.0	1		07/22/22 01:05	994-05-8	
Benzene	13.2	ug/L	5.0	1.7	1		07/22/22 01:05	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/22/22 01:05	624-95-3	
tert-Butyl Alcohol	251	ug/L	100	91.0	1		07/22/22 01:05	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/22/22 01:05	762-75-4	
1,2-Dichloroethane	5.6	ug/L	5.0	2.1	1		07/22/22 01:05	107-06-2	
Diisopropyl ether	15.5	ug/L	5.0	3.5	1		07/22/22 01:05	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/22/22 01:05	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/22/22 01:05	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/22/22 01:05	637-92-3	
Methyl-tert-butyl ether	47.5	ug/L	5.0	3.1	1		07/22/22 01:05	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/22/22 01:05	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/22/22 01:05	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/22/22 01:05	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		07/22/22 01:05	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		07/22/22 01:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		07/22/22 01:05	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-3 Lab ID: 92616133017 Collected: 07/19/22 09:39 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/28/22 11:47	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	07/27/22 11:07	07/28/22 11:47	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 23:54	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 23:54	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 23:54	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 23:54	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 23:54	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 23:54	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 23:54	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 23:54	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 23:54	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 23:54	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 23:54	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 23:54	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 23:54	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 23:54	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 23:54	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	70-130		1		07/21/22 23:54	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		07/21/22 23:54	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		07/21/22 23:54	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-4 Lab ID: 92616133018 Collected: 07/19/22 10:43 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0078	ug/L	0.021	0.0078	1	07/27/22 11:07	07/28/22 11:57	106-93-4	
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	07/27/22 11:07	07/28/22 11:57	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<328	ug/L	500	328	5		07/22/22 23:53	75-85-4	
tert-Amylmethyl ether	<15.2	ug/L	50.0	15.2	5		07/22/22 23:53	994-05-8	
Benzene	<8.7	ug/L	25.0	8.7	5		07/22/22 23:53	71-43-2	
3,3-Dimethyl-1-Butanol	<270	ug/L	500	270	5		07/22/22 23:53	624-95-3	
tert-Butyl Alcohol	<455	ug/L	500	455	5		07/22/22 23:53	75-65-0	
tert-Butyl Formate	<120	ug/L	250	120	5		07/22/22 23:53	762-75-4	
1,2-Dichloroethane	<10.3	ug/L	25.0	10.3	5		07/22/22 23:53	107-06-2	
Diisopropyl ether	<17.4	ug/L	25.0	17.4	5		07/22/22 23:53	108-20-3	
Ethanol	<720	ug/L	1000	720	5		07/22/22 23:53	64-17-5	
Ethylbenzene	657	ug/L	25.0	9.2	5		07/22/22 23:53	100-41-4	
Ethyl-tert-butyl ether	<42.3	ug/L	50.0	42.3	5		07/22/22 23:53	637-92-3	
Methyl-tert-butyl ether	<15.5	ug/L	25.0	15.5	5		07/22/22 23:53	1634-04-4	
Naphthalene	360	ug/L	25.0	10.4	5		07/22/22 23:53	91-20-3	
Toluene	75.0	ug/L	25.0	10.0	5		07/22/22 23:53	108-88-3	
Xylene (Total)	2470	ug/L	25.0	25.0	5		07/22/22 23:53	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	70-130		5		07/22/22 23:53	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		5		07/22/22 23:53	17060-07-0	
Toluene-d8 (S)	99	%	70-130		5		07/22/22 23:53	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-6 Lab ID: 92616133019 Collected: 07/19/22 10:03 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0078	ug/L	0.020	0.0078	1	07/27/22 11:07	07/27/22 15:17	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	07/27/22 11:07	07/27/22 15:17	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	77300	ug/L	2500	1640	25		07/22/22 10:19	75-85-4	
tert-Amylmethyl ether	<76.0	ug/L	250	76.0	25		07/22/22 10:19	994-05-8	
Benzene	862	ug/L	125	43.5	25		07/22/22 10:19	71-43-2	
3,3-Dimethyl-1-Butanol	<1350	ug/L	2500	1350	25		07/22/22 10:19	624-95-3	
tert-Butyl Alcohol	5240	ug/L	2500	2280	25		07/22/22 10:19	75-65-0	
tert-Butyl Formate	<602	ug/L	1250	602	25		07/22/22 10:19	762-75-4	
1,2-Dichloroethane	<51.5	ug/L	125	51.5	25		07/22/22 10:19	107-06-2	
Diisopropyl ether	<87.2	ug/L	125	87.2	25		07/22/22 10:19	108-20-3	
Ethanol	<3600	ug/L	5000	3600	25		07/22/22 10:19	64-17-5	
Ethylbenzene	253	ug/L	125	46.0	25		07/22/22 10:19	100-41-4	
Ethyl-tert-butyl ether	<212	ug/L	250	212	25		07/22/22 10:19	637-92-3	
Methyl-tert-butyl ether	1920	ug/L	125	77.5	25		07/22/22 10:19	1634-04-4	
Naphthalene	<52.2	ug/L	125	52.2	25		07/22/22 10:19	91-20-3	
Toluene	<50.2	ug/L	125	50.2	25		07/22/22 10:19	108-88-3	
Xylene (Total)	<125	ug/L	125	125	25		07/22/22 10:19	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		25		07/22/22 10:19	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		25		07/22/22 10:19	17060-07-0	
Toluene-d8 (S)	103	%	70-130		25		07/22/22 10:19	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: **FB-2** Lab ID: **92616133020** Collected: 07/19/22 10:57 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/27/22 15:28	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	07/27/22 11:07	07/27/22 15:28	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 20:20	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 20:20	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 20:20	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 20:20	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 20:20	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 20:20	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 20:20	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 20:20	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 20:20	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 20:20	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 20:20	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 20:20	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 20:20	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 20:20	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 20:20	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/21/22 20:20	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		07/21/22 20:20	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		07/21/22 20:20	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-15 Lab ID: 92616133021 Collected: 07/19/22 07:35 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/27/22 15:38	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	07/27/22 11:07	07/27/22 15:38	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/22/22 00:12	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/22/22 00:12	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/22/22 00:12	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/22/22 00:12	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/22/22 00:12	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/22/22 00:12	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/22/22 00:12	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/22/22 00:12	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/22/22 00:12	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/22/22 00:12	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/22/22 00:12	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/22/22 00:12	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/22/22 00:12	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/22/22 00:12	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/22/22 00:12	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	70-130		1		07/22/22 00:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		07/22/22 00:12	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		07/22/22 00:12	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-8 Lab ID: 92616133022 Collected: 07/19/22 08:20 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/27/22 16:00	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	123	%	60-140		1	07/27/22 11:07	07/27/22 16:00	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/22/22 00:30	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/22/22 00:30	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/22/22 00:30	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/22/22 00:30	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/22/22 00:30	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/22/22 00:30	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/22/22 00:30	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/22/22 00:30	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/22/22 00:30	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/22/22 00:30	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/22/22 00:30	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/22/22 00:30	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/22/22 00:30	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/22/22 00:30	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/22/22 00:30	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103	%	70-130		1		07/22/22 00:30	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/22/22 00:30	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		07/22/22 00:30	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: MW-18 Lab ID: 92616133023 Collected: 07/19/22 09:55 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0074	ug/L	0.019	0.0074	1	07/27/22 11:07	07/27/22 16:33	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	07/27/22 11:07	07/27/22 16:33	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<1310	ug/L	2000	1310	20		07/22/22 22:40	75-85-4	
tert-Amylmethyl ether	<60.8	ug/L	200	60.8	20		07/22/22 22:40	994-05-8	
Benzene	146	ug/L	100	34.8	20		07/22/22 22:40	71-43-2	
3,3-Dimethyl-1-Butanol	<1080	ug/L	2000	1080	20		07/22/22 22:40	624-95-3	
tert-Butyl Alcohol	<1820	ug/L	2000	1820	20		07/22/22 22:40	75-65-0	
tert-Butyl Formate	<482	ug/L	1000	482	20		07/22/22 22:40	762-75-4	
1,2-Dichloroethane	<41.2	ug/L	100	41.2	20		07/22/22 22:40	107-06-2	
Diisopropyl ether	<69.8	ug/L	100	69.8	20		07/22/22 22:40	108-20-3	
Ethanol	<2880	ug/L	4000	2880	20		07/22/22 22:40	64-17-5	
Ethylbenzene	291	ug/L	100	36.8	20		07/22/22 22:40	100-41-4	
Ethyl-tert-butyl ether	<169	ug/L	200	169	20		07/22/22 22:40	637-92-3	
Methyl-tert-butyl ether	<62.0	ug/L	100	62.0	20		07/22/22 22:40	1634-04-4	
Naphthalene	51.4J	ug/L	100	41.8	20		07/22/22 22:40	91-20-3	
Toluene	2010	ug/L	100	40.2	20		07/22/22 22:40	108-88-3	
Xylene (Total)	908	ug/L	100	100	20		07/22/22 22:40	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98	%	70-130		20		07/22/22 22:40	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		20		07/22/22 22:40	17060-07-0	
Toluene-d8 (S)	98	%	70-130		20		07/22/22 22:40	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: **MW-24** Lab ID: **92616133024** Collected: 07/19/22 10:35 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0077	ug/L	0.020	0.0077	1	07/27/22 11:07	07/27/22 16:43	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/27/22 11:07	07/27/22 16:43	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	31600	ug/L	12500	8200	125		07/26/22 02:05	75-85-4	
tert-Amylmethyl ether	<380	ug/L	1250	380	125		07/26/22 02:05	994-05-8	
Benzene	6860	ug/L	625	218	125		07/26/22 02:05	71-43-2	
3,3-Dimethyl-1-Butanol	<6740	ug/L	12500	6740	125		07/26/22 02:05	624-95-3	
tert-Butyl Alcohol	<11400	ug/L	12500	11400	125		07/26/22 02:05	75-65-0	
tert-Butyl Formate	<3010	ug/L	6250	3010	125		07/26/22 02:05	762-75-4	
1,2-Dichloroethane	<258	ug/L	625	258	125		07/26/22 02:05	107-06-2	
Diisopropyl ether	<436	ug/L	625	436	125		07/26/22 02:05	108-20-3	
Ethanol	<18000	ug/L	25000	18000	125		07/26/22 02:05	64-17-5	
Ethylbenzene	2430	ug/L	625	230	125		07/26/22 02:05	100-41-4	
Ethyl-tert-butyl ether	<1060	ug/L	1250	1060	125		07/26/22 02:05	637-92-3	
Methyl-tert-butyl ether	1390	ug/L	625	388	125		07/26/22 02:05	1634-04-4	
Naphthalene	479J	ug/L	625	261	125		07/26/22 02:05	91-20-3	
Toluene	15700	ug/L	625	251	125		07/26/22 02:05	108-88-3	
Xylene (Total)	11800	ug/L	625	625	125		07/26/22 02:05	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	70-130		125		07/26/22 02:05	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		125		07/26/22 02:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		125		07/26/22 02:05	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: DUP-2 Lab ID: 92616133025 Collected: 07/19/22 00:00 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0075	ug/L	0.020	0.0075	1	07/27/22 11:07	07/27/22 16:54	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	07/27/22 11:07	07/27/22 16:54	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<1640	ug/L	2500	1640	25		07/26/22 00:53	75-85-4	
tert-Amylmethyl ether	<76.0	ug/L	250	76.0	25		07/26/22 00:53	994-05-8	
Benzene	226	ug/L	125	43.5	25		07/26/22 00:53	71-43-2	
3,3-Dimethyl-1-Butanol	<1350	ug/L	2500	1350	25		07/26/22 00:53	624-95-3	
tert-Butyl Alcohol	<2280	ug/L	2500	2280	25		07/26/22 00:53	75-65-0	
tert-Butyl Formate	<602	ug/L	1250	602	25		07/26/22 00:53	762-75-4	
1,2-Dichloroethane	<51.5	ug/L	125	51.5	25		07/26/22 00:53	107-06-2	
Diisopropyl ether	<87.2	ug/L	125	87.2	25		07/26/22 00:53	108-20-3	
Ethanol	<3600	ug/L	5000	3600	25		07/26/22 00:53	64-17-5	
Ethylbenzene	474	ug/L	125	46.0	25		07/26/22 00:53	100-41-4	
Ethyl-tert-butyl ether	<212	ug/L	250	212	25		07/26/22 00:53	637-92-3	
Methyl-tert-butyl ether	<77.5	ug/L	125	77.5	25		07/26/22 00:53	1634-04-4	
Naphthalene	82.7J	ug/L	125	52.2	25		07/26/22 00:53	91-20-3	
Toluene	3380	ug/L	125	50.2	25		07/26/22 00:53	108-88-3	
Xylene (Total)	1420	ug/L	125	125	25		07/26/22 00:53	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	70-130		25		07/26/22 00:53	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		25		07/26/22 00:53	17060-07-0	
Toluene-d8 (S)	98	%	70-130		25		07/26/22 00:53	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: EB-1 Lab ID: 92616133026 Collected: 07/19/22 11:30 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Pace Analytical Services - Charlotte									
1,2-Dibromoethane (EDB)	<0.0076	ug/L	0.020	0.0076	1	07/27/22 11:07	07/27/22 17:05	106-93-4	L1
<b>Surrogates</b>									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	07/27/22 11:07	07/27/22 17:05	301-79-56	
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 20:38	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 20:38	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 20:38	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 20:38	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 20:38	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 20:38	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 20:38	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 20:38	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 20:38	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 20:38	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 20:38	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 20:38	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 20:38	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 20:38	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 20:38	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	106	%	70-130		1		07/21/22 20:38	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		07/21/22 20:38	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		07/21/22 20:38	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC

Pace Project No.: 92616133

Sample: TRIP BLANK Lab ID: 92616133027 Collected: 07/19/22 00:00 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 19:26	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 19:26	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 19:26	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 19:26	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 19:26	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 19:26	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 19:26	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 19:26	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 19:26	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 19:26	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 19:26	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 19:26	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 19:26	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 19:26	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 19:26	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	70-130		1		07/21/22 19:26	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		07/21/22 19:26	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		07/21/22 19:26	2037-26-5	

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### ANALYTICAL RESULTS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Sample: TRIP BLANK Lab ID: 92616133028 Collected: 07/19/22 00:00 Received: 07/21/22 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260D									
Pace Analytical Services - Charlotte									
tert-Amyl Alcohol	<65.6	ug/L	100	65.6	1		07/21/22 19:44	75-85-4	
tert-Amylmethyl ether	<3.0	ug/L	10.0	3.0	1		07/21/22 19:44	994-05-8	
Benzene	<1.7	ug/L	5.0	1.7	1		07/21/22 19:44	71-43-2	
3,3-Dimethyl-1-Butanol	<53.9	ug/L	100	53.9	1		07/21/22 19:44	624-95-3	
tert-Butyl Alcohol	<91.0	ug/L	100	91.0	1		07/21/22 19:44	75-65-0	
tert-Butyl Formate	<24.1	ug/L	50.0	24.1	1		07/21/22 19:44	762-75-4	
1,2-Dichloroethane	<2.1	ug/L	5.0	2.1	1		07/21/22 19:44	107-06-2	
Diisopropyl ether	<3.5	ug/L	5.0	3.5	1		07/21/22 19:44	108-20-3	
Ethanol	<144	ug/L	200	144	1		07/21/22 19:44	64-17-5	
Ethylbenzene	<1.8	ug/L	5.0	1.8	1		07/21/22 19:44	100-41-4	
Ethyl-tert-butyl ether	<8.5	ug/L	10.0	8.5	1		07/21/22 19:44	637-92-3	
Methyl-tert-butyl ether	<3.1	ug/L	5.0	3.1	1		07/21/22 19:44	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	1		07/21/22 19:44	91-20-3	
Toluene	<2.0	ug/L	5.0	2.0	1		07/21/22 19:44	108-88-3	
Xylene (Total)	<5.0	ug/L	5.0	5.0	1		07/21/22 19:44	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	105	%	70-130		1		07/21/22 19:44	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		07/21/22 19:44	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		07/21/22 19:44	2037-26-5	

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 712174 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92616133001, 92616133002, 92616133003, 92616133004, 92616133005, 92616133006, 92616133007, 92616133008, 92616133009, 92616133010, 92616133011, 92616133013, 92616133016, 92616133017, 92616133020, 92616133021, 92616133022, 92616133026, 92616133027, 92616133028

METHOD BLANK: 3713753 Matrix: Water  
Associated Lab Samples: 92616133001, 92616133002, 92616133003, 92616133004, 92616133005, 92616133006, 92616133007, 92616133008, 92616133009, 92616133010, 92616133011, 92616133013, 92616133016, 92616133017, 92616133020, 92616133021, 92616133022, 92616133026, 92616133027, 92616133028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	<2.1	5.0	2.1	07/21/22 19:08	
3,3-Dimethyl-1-Butanol	ug/L	<53.9	100	53.9	07/21/22 19:08	
Benzene	ug/L	<1.7	5.0	1.7	07/21/22 19:08	
Diisopropyl ether	ug/L	<3.5	5.0	3.5	07/21/22 19:08	
Ethanol	ug/L	<144	200	144	07/21/22 19:08	
Ethyl-tert-butyl ether	ug/L	<8.5	10.0	8.5	07/21/22 19:08	
Ethylbenzene	ug/L	<1.8	5.0	1.8	07/21/22 19:08	
Methyl-tert-butyl ether	ug/L	<3.1	5.0	3.1	07/21/22 19:08	
Naphthalene	ug/L	<2.1	5.0	2.1	07/21/22 19:08	
tert-Amyl Alcohol	ug/L	<65.6	100	65.6	07/21/22 19:08	
tert-Amylmethyl ether	ug/L	<3.0	10.0	3.0	07/21/22 19:08	
tert-Butyl Alcohol	ug/L	<91.0	100	91.0	07/21/22 19:08	
tert-Butyl Formate	ug/L	<24.1	50.0	24.1	07/21/22 19:08	
Toluene	ug/L	<2.0	5.0	2.0	07/21/22 19:08	
Xylene (Total)	ug/L	<5.0	5.0	5.0	07/21/22 19:08	
1,2-Dichloroethane-d4 (S)	%	109	70-130		07/21/22 19:08	
4-Bromofluorobenzene (S)	%	102	70-130		07/21/22 19:08	
Toluene-d8 (S)	%	106	70-130		07/21/22 19:08	

LABORATORY CONTROL SAMPLE: 3713754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.1	112	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	47.3	95	70-130	
Diisopropyl ether	ug/L	50	56.7	113	70-130	
Ethanol	ug/L	2000	2140	107	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	49.2	98	70-130	
Methyl-tert-butyl ether	ug/L	50	54.2	108	70-130	
Naphthalene	ug/L	50	56.9	114	70-130	
tert-Amyl Alcohol	ug/L	1000	967	97	70-130	
tert-Amylmethyl ether	ug/L	100	104	104	70-130	
tert-Butyl Alcohol	ug/L	500	497	99	70-130	
tert-Butyl Formate	ug/L	400	443	111	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

LABORATORY CONTROL SAMPLE: 3713754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	45.5	91	70-130	
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			112	70-130	
4-Bromofluorobenzene (S)	%			94	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3713755 3713756

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92616133001 Result	Spike Conc.	Spike Conc.	MS Result						
1,2-Dichloroethane	ug/L	<2.1	20	20	21.2	21.3	106	107	70-137	1	30
3,3-Dimethyl-1-Butanol	ug/L	<53.9	400	400	399	372	100	93	39-157	7	30
Benzene	ug/L	<1.7	20	20	19.7	19.9	98	99	70-151	1	30
Diisopropyl ether	ug/L	<3.5	20	20	20.2	20.1	101	100	63-144	1	30
Ethanol	ug/L	<144	800	800	984	921	123	115	39-176	7	30
Ethyl-tert-butyl ether	ug/L	<8.5	40	40	41.2	40.9	103	102	66-137	1	30
Ethylbenzene	ug/L	<1.8	20	20	21.1	21.0	106	105	66-153	1	30
Methyl-tert-butyl ether	ug/L	<3.1	20	20	20.5	20.7	103	103	54-156	1	30
Naphthalene	ug/L	<2.1	20	20	21.0	19.7	105	99	61-148	6	30
tert-Amyl Alcohol	ug/L	<65.6	400	400	387	355	97	89	54-153	9	30
tert-Amylmethyl ether	ug/L	<3.0	40	40	41.6	41.5	104	104	69-139	0	30
tert-Butyl Alcohol	ug/L	<91.0	200	200	242	230	121	115	43-188	5	30
tert-Butyl Formate	ug/L	<24.1	160	160	95.1	71.6	59	45	10-170	28	30
Toluene	ug/L	<2.0	20	20	20.6	20.4	103	102	59-148	1	30
Xylene (Total)	ug/L	<5.0	60	60	63.4	62.4	106	104	63-158	2	30
1,2-Dichloroethane-d4 (S)	%						101	101	70-130		
4-Bromofluorobenzene (S)	%						100	100	70-130		
Toluene-d8 (S)	%						99	98	70-130		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 712176 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92616133012, 92616133014, 92616133019

METHOD BLANK: 3713775 Matrix: Water

Associated Lab Samples: 92616133012, 92616133014, 92616133019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	<2.1	5.0	2.1	07/22/22 04:57	
3,3-Dimethyl-1-Butanol	ug/L	<53.9	100	53.9	07/22/22 04:57	
Benzene	ug/L	<1.7	5.0	1.7	07/22/22 04:57	
Diisopropyl ether	ug/L	<3.5	5.0	3.5	07/22/22 04:57	
Ethanol	ug/L	<144	200	144	07/22/22 04:57	
Ethyl-tert-butyl ether	ug/L	<8.5	10.0	8.5	07/22/22 04:57	
Ethylbenzene	ug/L	<1.8	5.0	1.8	07/22/22 04:57	
Methyl-tert-butyl ether	ug/L	<3.1	5.0	3.1	07/22/22 04:57	
Naphthalene	ug/L	<2.1	5.0	2.1	07/22/22 04:57	
tert-Amyl Alcohol	ug/L	<65.6	100	65.6	07/22/22 04:57	
tert-Amylmethyl ether	ug/L	<3.0	10.0	3.0	07/22/22 04:57	
tert-Butyl Alcohol	ug/L	<91.0	100	91.0	07/22/22 04:57	
tert-Butyl Formate	ug/L	<24.1	50.0	24.1	07/22/22 04:57	
Toluene	ug/L	<2.0	5.0	2.0	07/22/22 04:57	
Xylene (Total)	ug/L	<5.0	5.0	5.0	07/22/22 04:57	
1,2-Dichloroethane-d4 (S)	%	99	70-130		07/22/22 04:57	
4-Bromofluorobenzene (S)	%	109	70-130		07/22/22 04:57	
Toluene-d8 (S)	%	107	70-130		07/22/22 04:57	

LABORATORY CONTROL SAMPLE: 3713776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	59.2	118	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	928	93	70-130	
Benzene	ug/L	50	49.5	99	70-130	
Diisopropyl ether	ug/L	50	60.4	121	70-130	
Ethanol	ug/L	2000	2170	108	70-130	
Ethyl-tert-butyl ether	ug/L	100	111	111	70-130	
Ethylbenzene	ug/L	50	57.6	115	70-130	
Methyl-tert-butyl ether	ug/L	50	62.3	125	70-130	
Naphthalene	ug/L	50	53.7	107	70-130	
tert-Amyl Alcohol	ug/L	1000	935	94	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	479	96	70-130	
tert-Butyl Formate	ug/L	400	459	115	70-130	
Toluene	ug/L	50	52.7	105	70-130	
Xylene (Total)	ug/L	150	155	104	70-130	
1,2-Dichloroethane-d4 (S)	%			118	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

LABORATORY CONTROL SAMPLE: 3713776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 3713777

Parameter	Units	92616109003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.1	95	70-137	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	386	97	39-157	
Benzene	ug/L	ND	20	18.8	94	70-151	
Diisopropyl ether	ug/L	ND	20	19.0	95	63-144	
Ethanol	ug/L	ND	800	924	115	39-176	
Ethyl-tert-butyl ether	ug/L	ND	40	38.4	96	66-137	
Ethylbenzene	ug/L	ND	20	19.7	99	66-153	
Methyl-tert-butyl ether	ug/L	7.1	20	30.4	117	54-156	
Naphthalene	ug/L	ND	20	19.1	95	61-148	
tert-Amyl Alcohol	ug/L	ND	400	371	93	54-153	
tert-Amylmethyl ether	ug/L	ND	40	39.8	100	69-139	
tert-Butyl Alcohol	ug/L	ND	200	191	96	43-188	
tert-Butyl Formate	ug/L	ND	160	151	94	10-170	
Toluene	ug/L	ND	20	19.4	97	59-148	
Xylene (Total)	ug/L	ND	60	60.4	101	63-158	
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 3714684

Parameter	Units	92616109004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	<2.1		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	<53.9		30 v1	
Benzene	ug/L	ND	<1.7		30	
Diisopropyl ether	ug/L	ND	<3.5		30	
Ethanol	ug/L	ND	<144		30	
Ethyl-tert-butyl ether	ug/L	ND	<8.5		30	
Ethylbenzene	ug/L	ND	<1.8		30	
Methyl-tert-butyl ether	ug/L	ND	<3.1		30	
Naphthalene	ug/L	ND	<2.1		30	
tert-Amyl Alcohol	ug/L	ND	<65.6		30	
tert-Amylmethyl ether	ug/L	ND	<3.0		30	
tert-Butyl Alcohol	ug/L	ND	<91.0		30	
tert-Butyl Formate	ug/L	ND	<24.1		30	
Toluene	ug/L	ND	<2.0		30	
Xylene (Total)	ug/L	ND	<5.0		30	
1,2-Dichloroethane-d4 (S)	%	99	106			
4-Bromofluorobenzene (S)	%	103	98			

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC

Pace Project No.: 92616133

SAMPLE DUPLICATE: 3714684

Parameter	Units	92616109004 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene-d8 (S)	%	107	98			

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 712177 Analysis Method: EPA 8260D  
QC Batch Method: EPA 8260D Analysis Description: 8260 MSV SC  
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92616133015, 92616133018, 92616133023

METHOD BLANK: 3713785 Matrix: Water

Associated Lab Samples: 92616133015, 92616133018, 92616133023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	<2.1	5.0	2.1	07/22/22 21:07	
3,3-Dimethyl-1-Butanol	ug/L	<53.9	100	53.9	07/22/22 21:07	
Benzene	ug/L	<1.7	5.0	1.7	07/22/22 21:07	
Diisopropyl ether	ug/L	<3.5	5.0	3.5	07/22/22 21:07	
Ethanol	ug/L	<144	200	144	07/22/22 21:07	
Ethyl-tert-butyl ether	ug/L	<8.5	10.0	8.5	07/22/22 21:07	
Ethylbenzene	ug/L	<1.8	5.0	1.8	07/22/22 21:07	
Methyl-tert-butyl ether	ug/L	<3.1	5.0	3.1	07/22/22 21:07	
Naphthalene	ug/L	<2.1	5.0	2.1	07/22/22 21:07	
tert-Amyl Alcohol	ug/L	<65.6	100	65.6	07/22/22 21:07	
tert-Amylmethyl ether	ug/L	<3.0	10.0	3.0	07/22/22 21:07	
tert-Butyl Alcohol	ug/L	<91.0	100	91.0	07/22/22 21:07	
tert-Butyl Formate	ug/L	<24.1	50.0	24.1	07/22/22 21:07	
Toluene	ug/L	<2.0	5.0	2.0	07/22/22 21:07	
Xylene (Total)	ug/L	<5.0	5.0	5.0	07/22/22 21:07	
1,2-Dichloroethane-d4 (S)	%	103	70-130		07/22/22 21:07	
4-Bromofluorobenzene (S)	%	95	70-130		07/22/22 21:07	
Toluene-d8 (S)	%	99	70-130		07/22/22 21:07	

LABORATORY CONTROL SAMPLE: 3713786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1070	107	70-130	
Benzene	ug/L	50	45.4	91	70-130	
Diisopropyl ether	ug/L	50	48.4	97	70-130	
Ethanol	ug/L	2000	2140	107	70-130	
Ethyl-tert-butyl ether	ug/L	100	93.1	93	70-130	
Ethylbenzene	ug/L	50	47.2	94	70-130	
Methyl-tert-butyl ether	ug/L	50	49.7	99	70-130	
Naphthalene	ug/L	50	52.3	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1070	107	70-130	
tert-Amylmethyl ether	ug/L	100	99.3	99	70-130	
tert-Butyl Alcohol	ug/L	500	556	111	70-130	
tert-Butyl Formate	ug/L	400	404	101	70-130	
Toluene	ug/L	50	46.6	93	70-130	
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

LABORATORY CONTROL SAMPLE: 3713786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3713787 3713788

Parameter	Units	92616133023		3713787		3713788		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
1,2-Dichloroethane	ug/L	<41.2	400	400	405	419	101	105	70-137	3	30	
3,3-Dimethyl-1-Butanol	ug/L	<1080	8000	8000	8500	8540	106	107	39-157	0	30	
Benzene	ug/L	146	400	400	541	546	99	100	70-151	1	30	
Diisopropyl ether	ug/L	<69.8	400	400	377	378	94	94	63-144	0	30	
Ethanol	ug/L	<2880	16000	16000	16500	15900	103	99	39-176	4	30	
Ethyl-tert-butyl ether	ug/L	<169	800	800	779	799	97	100	66-137	3	30	
Ethylbenzene	ug/L	291	400	400	718	736	107	111	66-153	2	30	
Methyl-tert-butyl ether	ug/L	<62.0	400	400	422	421	106	105	54-156	0	30	
Naphthalene	ug/L	51.4J	400	400	488	460	109	102	61-148	6	30	
tert-Amyl Alcohol	ug/L	<1310	8000	8000	8270	8520	101	104	54-153	3	30	
tert-Amylmethyl ether	ug/L	<60.8	800	800	835	841	104	105	69-139	1	30	
tert-Butyl Alcohol	ug/L	<1820	4000	4000	4530	4410	113	110	43-188	3	30	
tert-Butyl Formate	ug/L	<482	3200	3200	3140	3090	98	97	10-170	1	30	
Toluene	ug/L	2010	400	400	2470	2510	115	123	59-148	1	30	
Xylene (Total)	ug/L	908	1200	1200	2170	2220	105	109	63-158	2	30	
1,2-Dichloroethane-d4 (S)	%						99	101	70-130			
4-Bromofluorobenzene (S)	%						99	99	70-130			
Toluene-d8 (S)	%						97	100	70-130			

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 712672	Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D	Analysis Description: 8260 MSV SC
	Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92616133024, 92616133025

METHOD BLANK: 3715994 Matrix: Water

Associated Lab Samples: 92616133024, 92616133025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	<2.1	5.0	2.1	07/25/22 17:01	
3,3-Dimethyl-1-Butanol	ug/L	<53.9	100	53.9	07/25/22 17:01	
Benzene	ug/L	<1.7	5.0	1.7	07/25/22 17:01	
Diisopropyl ether	ug/L	<3.5	5.0	3.5	07/25/22 17:01	
Ethanol	ug/L	<144	200	144	07/25/22 17:01	
Ethyl-tert-butyl ether	ug/L	<8.5	10.0	8.5	07/25/22 17:01	
Ethylbenzene	ug/L	<1.8	5.0	1.8	07/25/22 17:01	
Methyl-tert-butyl ether	ug/L	<3.1	5.0	3.1	07/25/22 17:01	
Naphthalene	ug/L	<2.1	5.0	2.1	07/25/22 17:01	
tert-Amyl Alcohol	ug/L	<65.6	100	65.6	07/25/22 17:01	
tert-Amylmethyl ether	ug/L	<3.0	10.0	3.0	07/25/22 17:01	
tert-Butyl Alcohol	ug/L	<91.0	100	91.0	07/25/22 17:01	
tert-Butyl Formate	ug/L	<24.1	50.0	24.1	07/25/22 17:01	
Toluene	ug/L	<2.0	5.0	2.0	07/25/22 17:01	
Xylene (Total)	ug/L	<5.0	5.0	5.0	07/25/22 17:01	
1,2-Dichloroethane-d4 (S)	%	103	70-130		07/25/22 17:01	
4-Bromofluorobenzene (S)	%	100	70-130		07/25/22 17:01	
Toluene-d8 (S)	%	100	70-130		07/25/22 17:01	

LABORATORY CONTROL SAMPLE: 3715995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.4	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	964	96	70-130	
Benzene	ug/L	50	46.5	93	70-130	
Diisopropyl ether	ug/L	50	49.0	98	70-130	
Ethanol	ug/L	2000	1920	96	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.0	96	70-130	
Ethylbenzene	ug/L	50	49.0	98	70-130	
Methyl-tert-butyl ether	ug/L	50	48.3	97	70-130	
Naphthalene	ug/L	50	50.8	102	70-130	
tert-Amyl Alcohol	ug/L	1000	968	97	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	445	89	70-130	
tert-Butyl Formate	ug/L	400	405	101	70-130	
Toluene	ug/L	50	48.4	97	70-130	
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

LABORATORY CONTROL SAMPLE: 3715995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3715996 3715997

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92616109017 Result	Spike Conc.	Spike Conc.	Result						
1,2-Dichloroethane	ug/L	ND	8000	8000	8900	9010	111	113	70-137	1	30
3,3-Dimethyl-1-Butanol	ug/L	ND	160000	160000	163000	178000	102	111	39-157	8	30
Benzene	ug/L	21000	8000	8000	30000	29800	112	109	70-151	1	30
Diisopropyl ether	ug/L	ND	8000	8000	8910	8790	108	107	63-144	1	30
Ethanol	ug/L	ND	320000	320000	354000	360000	111	112	39-176	2	30
Ethyl-tert-butyl ether	ug/L	ND	16000	16000	16600	16700	104	104	66-137	0	30
Ethylbenzene	ug/L	ND	8000	8000	10700	10900	113	116	66-153	2	30
Methyl-tert-butyl ether	ug/L	41000	8000	8000	50700	50200	122	116	54-156	1	30
Naphthalene	ug/L	ND	8000	8000	8580	9110	96	103	61-148	6	30
tert-Amyl Alcohol	ug/L	103000	160000	160000	292000	304000	118	126	54-153	4	30
tert-Amylmethyl ether	ug/L	ND	16000	16000	18700	18700	117	117	69-139	0	30
tert-Butyl Alcohol	ug/L	ND	80000	80000	121000	125000	103	108	43-188	3	30
tert-Butyl Formate	ug/L	ND	64000	64000	67600	68400	106	107	10-170	1	30
Toluene	ug/L	26900	8000	8000	35600	35400	108	106	59-148	1	30
Xylene (Total)	ug/L	14700	24000	24000	41800	42300	113	115	63-158	1	30
1,2-Dichloroethane-d4 (S)	%						99	101	70-130		
4-Bromofluorobenzene (S)	%						98	99	70-130		
Toluene-d8 (S)	%						97	98	70-130		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 713071 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92616133001, 92616133002, 92616133003, 92616133004, 92616133005, 92616133006, 92616133007, 92616133008, 92616133009, 92616133010, 92616133011, 92616133012, 92616133013, 92616133014, 92616133015, 92616133016, 92616133017, 92616133018

METHOD BLANK: 3718044 Matrix: Water  
Associated Lab Samples: 92616133001, 92616133002, 92616133003, 92616133004, 92616133005, 92616133006, 92616133007, 92616133008, 92616133009, 92616133010, 92616133011, 92616133012, 92616133013, 92616133014, 92616133015, 92616133016, 92616133017, 92616133018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.020	0.0075	07/27/22 11:53	
1-Chloro-2-bromopropane (S)	%	139	60-140		07/27/22 11:53	

LABORATORY CONTROL SAMPLE & LCSD: 3718045 3718046

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.23	0.22	92	90	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				107	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3718048 3718049

Parameter	Units	92616133002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	<0.0077	0.26	0.26	0.28	0.28	110	110	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						118	121	60-140			

SAMPLE DUPLICATE: 3718047

Parameter	Units	92616133001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.41	0.40	2	20	
1-Chloro-2-bromopropane (S)	%	108	109			

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

QC Batch: 713072 Analysis Method: EPA 8011  
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP  
Laboratory: Pace Analytical Services - Charlotte  
Associated Lab Samples: 92616133019, 92616133020, 92616133021, 92616133022, 92616133023, 92616133024, 92616133025, 92616133026

METHOD BLANK: 3718050 Matrix: Water  
Associated Lab Samples: 92616133019, 92616133020, 92616133021, 92616133022, 92616133023, 92616133024, 92616133025, 92616133026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.020	0.0075	07/27/22 14:44	
1-Chloro-2-bromopropane (S)	%	114	60-140		07/27/22 14:44	

LABORATORY CONTROL SAMPLE & LCSD: 3718051 3718052

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.33	0.35	133	142	60-140	7	20	L1
1-Chloro-2-bromopropane (S)	%				122	131	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3718054 3718055

Parameter	Units	92616133022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	<0.0076	0.25	0.25	0.31	0.32	127	129	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						117	117	60-140			

SAMPLE DUPLICATE: 3718053

Parameter	Units	92616133021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0077	<0.0075		20	
1-Chloro-2-bromopropane (S)	%	115	110			

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

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## QUALIFIERS

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

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

√1 The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92616133001	TW-1	EPA 8011	713071	EPA 8011	713187
92616133002	MW-20	EPA 8011	713071	EPA 8011	713187
92616133003	MW-22	EPA 8011	713071	EPA 8011	713187
92616133004	MW-13	EPA 8011	713071	EPA 8011	713187
92616133005	MW-14	EPA 8011	713071	EPA 8011	713187
92616133006	MW-21	EPA 8011	713071	EPA 8011	713187
92616133007	MW-16	EPA 8011	713071	EPA 8011	713187
92616133008	TW-2	EPA 8011	713071	EPA 8011	713187
92616133009	DUP-1	EPA 8011	713071	EPA 8011	713187
92616133010	FB-1	EPA 8011	713071	EPA 8011	713187
92616133011	MW-10	EPA 8011	713071	EPA 8011	713187
92616133012	MW-11	EPA 8011	713071	EPA 8011	713187
92616133013	MW-12	EPA 8011	713071	EPA 8011	713187
92616133014	MW-17	EPA 8011	713071	EPA 8011	713187
92616133015	MW-23	EPA 8011	713071	EPA 8011	713187
92616133016	MW-26	EPA 8011	713071	EPA 8011	713187
92616133017	MW-3	EPA 8011	713071	EPA 8011	713187
92616133018	MW-4	EPA 8011	713071	EPA 8011	713187
92616133019	MW-6	EPA 8011	713072	EPA 8011	713190
92616133020	FB-2	EPA 8011	713072	EPA 8011	713190
92616133021	MW-15	EPA 8011	713072	EPA 8011	713190
92616133022	MW-8	EPA 8011	713072	EPA 8011	713190
92616133023	MW-18	EPA 8011	713072	EPA 8011	713190
92616133024	MW-24	EPA 8011	713072	EPA 8011	713190
92616133025	DUP-2	EPA 8011	713072	EPA 8011	713190
92616133026	EB-1	EPA 8011	713072	EPA 8011	713190
92616133001	TW-1	EPA 8260D	712174		
92616133002	MW-20	EPA 8260D	712174		
92616133003	MW-22	EPA 8260D	712174		
92616133004	MW-13	EPA 8260D	712174		
92616133005	MW-14	EPA 8260D	712174		
92616133006	MW-21	EPA 8260D	712174		
92616133007	MW-16	EPA 8260D	712174		
92616133008	TW-2	EPA 8260D	712174		
92616133009	DUP-1	EPA 8260D	712174		
92616133010	FB-1	EPA 8260D	712174		
92616133011	MW-10	EPA 8260D	712174		
92616133012	MW-11	EPA 8260D	712176		
92616133013	MW-12	EPA 8260D	712174		
92616133014	MW-17	EPA 8260D	712176		
92616133015	MW-23	EPA 8260D	712177		
92616133016	MW-26	EPA 8260D	712174		
92616133017	MW-3	EPA 8260D	712174		
92616133018	MW-4	EPA 8260D	712177		

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: EFC #3 EDGEFIELD SC  
Pace Project No.: 92616133

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92616133019	MW-6	EPA 8260D	712176		
92616133020	FB-2	EPA 8260D	712174		
92616133021	MW-15	EPA 8260D	712174		
92616133022	MW-8	EPA 8260D	712174		
92616133023	MW-18	EPA 8260D	712177		
92616133024	MW-24	EPA 8260D	712672		
92616133025	DUP-2	EPA 8260D	712672		
92616133026	EB-1	EPA 8260D	712174		
92616133027	TRIP BLANK	EPA 8260D	712174		
92616133028	TRIP BLANK	EPA 8260D	712174		

**REPORT OF LABORATORY ANALYSIS**

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Effective Date: 05/12/202205/12/2022

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition Upon Receipt

Client Name:

ATC

Project #

WO#: 92616133

Courier:

Commercial

Fed Ex

Pace

UPS

USPS

Other:

Client



92616133

Custody Seal Present?  Yes  No

Seals Intact?  Yes  No

Date/Initials Person Examining Contents: LMB 5/21/22

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer:

IR Gun ID: 927064

Type of Ice:  Wet  Blue  None

Biological Tissue Frozen?

Yes  No  N/A

Cooler Temp: 4.6, 5.5, 3.4

Correction Factor:

Add/Subtract (°C) 0

Temp should be above freezing to 6°C

Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.6, 5.5, 3.7

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC

(check maps)?  Yes  No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	<u>1 Dup Broken</u>
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:

Project # **WO#: 92616133**  
 PM: TMC Due Date: 07/28/22  
 CLIENT: 92-ATC

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

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

\*\*Bottom half of box is to list number of bottles

\*\*\*Check all unpreserved Nitrates for chlorine

*PSZ*

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP2U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WG7U-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG9A-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	DG9S-40 mL VOA H2SO4 (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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9	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

Effective Date: 05/12/202205/12/2022

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

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

\*\*Bottom half of box is to list number of bottles

\*\*\*Check all unpreserved Nitrates for chlorine

Project #

WO#: 92616133

PM: TMC

Due Date: 07/28/22

CLIENT: 92-ATC

RG3

Item#	Item Description	1	2	3	4	5	6	7	8	9	10	11	12
BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
BP3U-250 mL Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP2U-500 mL Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP1U-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
BP3N-250 mL plastic HNO3 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)		/	/	/	/	/	/	/	/	/	/	/	/
BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
WGFU-Wide-mouthed Glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
AG1U-1 liter Amber Unpreserved (N/A) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
AG1H-1 liter Amber HCl (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AG3U-250 mL Amber Unpreserved (N/A) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
AG1S-1 liter Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AG3S-250 mL Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
DG94-250 mL Amber NH4Cl (N/A)(Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
DG9H-40 mL VOA HCl (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VG9T-40 mL VOA Na2SO3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VG9U-40 mL VOA Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DG9V-40 mL VOA H3PO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DG9S-40 mL VOA H2SO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V/GK (3 vials per kit)-VPH/Gas kit (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
SP5T-125 mL Sterile Plastic (N/A - lab)		/	/	/	/	/	/	/	/	/	/	/	/
SP2T-250 mL Sterile Plastic (N/A - lab)		/	/	/	/	/	/	/	/	/	/	/	/
BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)		/	/	/	/	/	/	/	/	/	/	/	/
AG0U-100 mL Amber Unpreserved (N/A) (Cl-)		/	/	/	/	/	/	/	/	/	/	/	/
VSGU-20 mL Scintillation vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DG9U-40 mL Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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



Effective Date: 05/12/202205/12/2022

Project **WO#: 92616133**

PM: TMC Due Date: 07/28/22  
CLIENT: 92-ATC

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

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

\*\*Bottom half of box is to list number of bottles

\*\*\*Check all unpreserved Nitrates for chlorine

PS 4

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGJU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	DG9S-40 mL VOA H2SO4 (N/A)	V/Gk (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

**pH Adjustment Log for Preserved Samples**

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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





Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>.

### CHAIN-OF-CUSTODY / Analytical Request Document

**Section A** Required Client Information:  
 Company: ATC Group Services, LLC - Charlotte  
 Address: 7608 Whitehall Exe Center Dr  
 Suite 800, Charlotte, NC 28273  
 Email: Noelle.France@atcgs.com  
 Phone: (704)529-3200 Fax  
 Requested Due Date:

**Section B** Required Project Information:  
 Report To: France, Noelle  
 Copy To:  
 Purchase Order #:  
 Project Name: EFC #3 Edgerfield SC  
 Project #:

**Section C** Invoice Information:  
 Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: taylor.cannon@pacelabs.com  
 Pace Profile #: 9215

Regulatory Agency: \_\_\_\_\_ State / Location: SC

Page: 1 Of 3

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , - ) Sample IDs must be unique	MATRIX Drinking Water Waste Water Product Soil/Solid Oil W/Be Other Tissue	CODE DW WT WW P SL OL WP AT OT TS	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS							Request Analysis Filtered (Y/N)	Residual Chlorine (Y/N)					
				DATE	TIME		START	END	Unpreserved	H2SO4	HNO3	HCl	NaOH			Na2S2O3	Methanol	Other	Analyses Test	
1	TW-1																			
2	MW-20																			
3	MW-22																			
4	MW-13																			
5	MW-14																			
6	MW-21																			
7	MW-16																			
8	TW-2																			
9	DVP-1																			
10	FB-1																			
11	MW-10																			
12	MW-11																			

ADDITIONAL COMMENTS: REPORT 15 VALVES

RELINQUISHED BY / AFFILIATION: [Signature] / ATC DATE: 7/12/12 TIME: 7:00 AM

ACCEPTED BY / AFFILIATION: [Signature] / Pace DATE: 7/12/12 TIME: 05:45 PM

TEMP in C: 55

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): N

Samples Intact (Y/N): Y

DATE Signed: 7/19/12



**ALL BOLD OUTLINED AREAS are for LAB USE ONLY**

Company: **Arc Group**  
 Address: **7606 Whitehall Exe Corner Dr**  
 Report To: **Nelle France**  
 Copy To: **Nelle France**  
 Billing Information:  
 Email To: **Nelle.France@arcgs.com**  
 Site Collection Info/Address: **311 Maria Street Effingham, SC**  
 Customer Project Name/Number: **SC 1 Edgerville**  
 State: **SC** County/City: **Edgerville** Time Zone Collected: **ET**  
 Phone: **704 899-3200** Site/Facility ID #: **1** JPR **1** JMT **1** JCT **1** JET  
 InMail: **1** Yes **1** No Compliance Monitoring? **1** Yes **1** No  
 Collected By (print): **Walter Reel** Purchase Order #: **Standard 5-day**  
 Collected By (signature): **[Signature]** Turnaround Date Required: **Standard 5-day**  
 Sample Disposal: **Standard 5-day** Rush: (Expedite Charges Apply)  
 Same Day  Next Day  Field Filtered (if applicable):  
 12 Day  3 Day  Yes  No  
 Archive:  14 Day  5 Day  No  
 Hold: **Analysis:**

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OI), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)  
 Customer Sample ID Matrix \* Comp / Grab Collected (or Composite Start) Composite End Res CI # of Cms  
 MW-12 GW G 7/18/12 1358 6  
 MW-17 1238 6  
 MW-23 1113 6  
 MW-26 1455 6  
 MW-3 7/19/12 939 6  
 MW-4 1043 6  
 MW-6 V 1003 6  
 FB-2 DT 1057 6  
 MW-15 GW 735 6  
 MW-8 GW 820 6

VOC 8260  
 EPD 8011

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Composite End Date	Res CI	# of Cms	Container Type: Plastic (P) or Glass (G)
MW-12	GW	G	7/18/12	1358	6	6	VOC 8260
MW-17				1238	6	6	EPD 8011
MW-23				1113	6	6	
MW-26				1455	6	6	
MW-3			7/19/12	939	6	6	
MW-4				1043	6	6	
MW-6	V			1003	6	6	
FB-2	DT			1057	6	6	
MW-15	GW			735	6	6	
MW-8	GW			820	6	6	

Customer Remarks / Special Conditions / Possible Hazards:  
**REPORT 115' VALUES**

Type of Ice Used: **Wet Blue Dry None**  
 Packing Material Used:  
 Radchem sample(s) screened (<500 cpm): **Y N NA**

SHORT HOLDS PRESENT (<72 hours): **Y N N/A**  
 Lab Tracking #: **92616133**

LAB Sample Temperature Info:  
 Temp Blank Received: **Y N NA**  
 Therm ID#: **012**  
 Cooler 1 Temp Upon Receipt: **OC**  
 Cooler 1 Therm Cor. Factor: **OC**  
 Cooler 1 Corrected Temp: **OC**  
 Comments:

Signature: **[Signature]** Date/Time: **7/18/12 7:00**  
 Signature: **[Signature]** Date/Time: **7/18/12 7:20**  
 Signature: **[Signature]** Date/Time: **7/18/12 13:20**

Container Preservative Type: **3 3**  
 Lab Project Manager:  
 Lab Profile/Line:  
 Lab Sample Receipt Checklist:  
 Custody seals Present/Intact **Y N NA**  
 Custody signatures Present **Y N NA**  
 Collector Signature Present **Y N NA**  
 Bottles intact **Y N NA**  
 Correct Bottles **Y N NA**  
 Sufficient Volume **Y N NA**  
 Samples Received on Ice **Y N NA**  
 VOA - Headspace Acceptable **Y N NA**  
 USDA Regulated Soils **Y N NA**  
 Samples in Holding Time **Y N NA**  
 Residual Chlorine Present **Y N NA**  
 CI Strips: **Y N NA**  
 Sample pH Acceptable **Y N NA**  
 pH Strips: **Y N NA**  
 Sulfide Present **Y N NA**  
 Lead Acetate Strips: **Y N NA**  
 Lab Sample # / Comment s:  
**92616133**  
 Trip Blank Received: **Y N NA**  
 HCL MeOH SP Other  
 Non Conformance(s): **YES / NO** Page: **1** of: **1**



# CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>  
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTIL Log-in Number Here

## ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: **ATE GROUP**  
Address: **7606 Whittall Lane Cedar Dr**  
Report To: **Verelle France**

Billing Information:  
Email To: **Verelle France**  
Site Collection Info/Address: **311 main street Edgefield, SC**  
State: **SC** County/City: **Edgefield**

Container Preservative Type \*\*  
Lab Project Manager:  
Analyses

Customer Project Name/Number:  
Phone: **705-579-3200**  
Site/Facility ID #:  
Purchase Order #:  
Quote #:  
Turnaround Date Required:  
Rush: (Expedite Charges Apply)  
Field Filtered (if applicable):  
Archival:  14 Day  15 Day

Time Zone Collected:  
Compliance Monitoring?  
DW PWS ID #:  
DW Location Code:  
Immediately Packed on Ice:  
Analysis:

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Lab Sample Receipt Checklist:  
Custody Seals Present/Intact  
Custody Signatures Present  
Collector Signatures Present  
Correct Bottles  
Sufficient Volume  
Samples Received on Ice  
VOC - Headspace Acceptable  
USDA Regulated Soils  
Residual Chlorine Present  
CI Strips:  
Sample pH Acceptable  
pH Strips:  
Sulfide Present  
Lead Acetate Strips:

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)
			Date	Time	Date	Time			
MW-18	GW	G	7/19/12	955					VOC 8260
MW-24	↓	↓		1035					EDB 8011
DUP-2	DF	G		1130					
FB-1									
Trip Blank									
Trip Blank									

SHORT HOLDS PRESENT (<72 hours):	Y	N	N/A
Lab Tracking #:			
Samples received via:			
FEDEX			
UPS			
Client			
Courier			
Pace Courier			

LAB Sample Temperature Info:  
Temp Blank Received: Y N NA  
Therm ID#:  
Cooler 1 Temp Upon Receipt: \_\_\_ °C  
Cooler 1 Therm Corr. Factor: \_\_\_ °C  
Cooler 1 Corrected Temp: \_\_\_ °C  
Comments:

Customer Remarks / Special Conditions / Possible Hazards:  
**RFRORT 115" Vehicles**

LAB Sample Temperature Info:  
Temp Blank Received: Y N NA  
Therm ID#:  
Cooler 1 Temp Upon Receipt: \_\_\_ °C  
Cooler 1 Therm Corr. Factor: \_\_\_ °C  
Cooler 1 Corrected Temp: \_\_\_ °C  
Comments:  
Trip Blank Received: Y N NA  
HCL MeOH TSP Other  
Non Conformance(s): YES / NO  
Page: \_\_\_ of \_\_\_

Relinquished by/Company: (Signature)  
Relinquished by/Company: (Signature)  
Relinquished by/Company: (Signature)

Date/Time: 7/19/12 700  
Date/Time: 7/19/12 1320  
Date/Time: 7/19/12 1320

Received by/Company: (Signature)  
Received by/Company: (Signature)  
Received by/Company: (Signature)



**APPENDIX B**  
**QUALITY ASSURANCE AND QUALITY CONTROL EVALUATION**  
**LABORATORY ACCURACY - PACE ANALYTICAL SERVICES**

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene
RBSL/AL		5	1000	700	10000	40	25
EB-1	07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1
FB-1	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1
FB-2	07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1
TRIP BLANK	07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene
RBSL/AL		5	1000	700	10000	40	25
MW-16	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1
DUP-1	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1
<b>Relative Percent Difference</b>		<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Average Relative Percent Difference</b>							<b>NA</b>

Sample ID	Constituent of Concern	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl-tert-butyl ether	Naphthalene
RBSL/AL		5	1000	700	10000	40	25
MW-18	07/19/2022	<b>146</b>	<b>2010</b>	291	908	<62.0	<b>51.4 J</b>
DUP-2	07/19/2022	<b>226</b>	<b>3380</b>	474	1420	<77.5	<b>82.7 J</b>
<b>Relative Percent Difference</b>		<b>43.01%</b>	<b>50.83%</b>	<b>47.84%</b>	<b>43.99%</b>	<b>NA</b>	<b>NA</b>
<b>Average Relative Percent Difference</b>							<b>46.42%</b>

FB - Field Blank

Results in micrograms per liter ug/L

J qualifiers left out for calculation purposes

**APPENDIX G**  
Disposal Manifest

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**NON-HAZARDOUS WASTE MANIFEST**

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

5. Generator's Name and Mailing Address: **Edgefield Fuel and Convience PO Box 388 Edgefield, SC 29824**  
 Generator's Site Address (if different than mailing address): **Edgefield Fuel and Convience 311 Main St 3**

Generator's Phone: **Edgefield, SC 29824**      U.S. EPA ID Number

6. Transporter 1 Company Name: **Atlas Technical Consultants**      U.S. EPA ID Number

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

8. Designated Facility Name and Site Address: **ATLAS 6904 NORTH MAIN ST. COLUMBIA, SC 29203**      U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. <b>Petroleum <del>water</del> CONTACT WATER</b>	<b>1</b>	<b>DRUM</b>	<b>45 gal</b>	
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offlor's Printed/Typed Name: **[Signature]**      Signature: **[Signature]**      Month Day Year: **8 5 22**

15. International Shipments       Import to U.S.       Export from U.S.      Port of entry/exit:      Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: **JAMES HART JR.**      Signature: **[Signature]**      Month Day Year: **8 5 22**

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

17. Discrepancy

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

Manifest Reference Number:

17b. Alternate Facility (or Generator)      U.S. EPA ID Number

Facility's Phone:

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

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

Printed/Typed Name      Signature      Month Day Year

GENERATOR

TRANSPORTER INT'L

DESIGNATED FACILITY



**APPENDIX K**

Data Verification Checklist

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### Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements?	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements?			✓
47	Have the soil boring/field screening logs been provided? (Appendix			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data	✓		

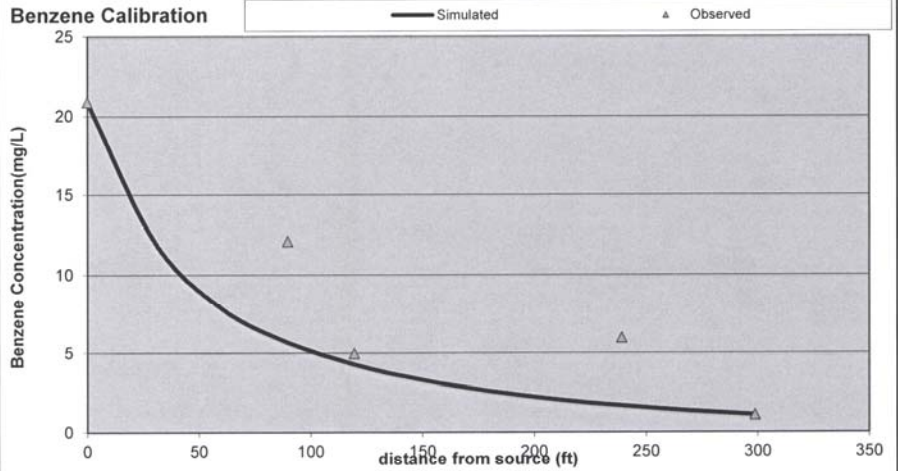
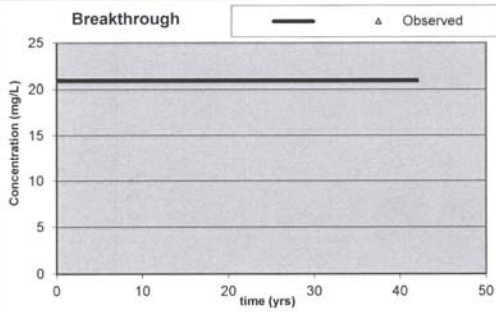
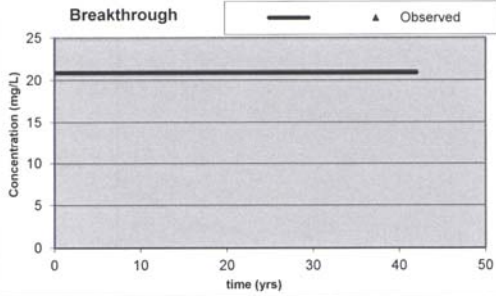


Domenico Model			Transport Parameters			Simulation Time			
UST # 12175 Site Name: Split Stop 311 Modeler: Stephanie Hackett Date: 10/31/2022			$x_{max}$ 298.93 ft $y_{max/2}$ 3.58 ft $z$ 0 ft Source Width 17.9 ft Source Thickness 23.27 ft			$t_{sim}$ 42 yrs			
Groundwater Flow Parameters			Plume Length			Aquifer Characteristics			
$K$ 1360 ft/yr $dh/dx$ 0.021456 $\theta_{eff}$ 0.25 dec. % $v_x$ 116.72064 ft/yr			298.93 ft $\alpha_x$ 13.8132315 ft $\alpha_y$ 1.38132315 ft $\alpha_z$ 1.00E-99 ft			$\rho_a$ 1.62 kg/L $f_{oc}$ 0.0002			
Source Area CoC Data			Retarded Velocity (ft/yr)			Simulation Points for Breakthrough Curves			
CoC	$C_{source}$ (mg/L)	$K_{oc}$ (L/kg)	CoC	R	$v_R$	x	ft	x	ft
Benzene	20.9	81	Benzene	1.105	105.63	y	ft	y	ft
Toluene		133	Toluene	1.172	99.56	z	ft	z	ft
Ethylbenzene		176	Ethylbenzene	1.228	95.04				
Xylenes		639	Xylenes	1.828	63.85				
Naphthalene		1543	Naphthalene	3.000	38.91				
MtBE	11.4	11	MtBE	1.014	115.08				
EDB	0.00093	28	EDB	1.036	112.63				
1,2-DCA	0.0217	17.5	1,2-DCA	1.023	114.13				

$$C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1 - \sqrt{1 + \frac{4\lambda\alpha_x}{v}}\right)\right] \operatorname{erfc}\left[\frac{x - vt\sqrt{1 + \frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right] \left\{ \operatorname{erf}\left[\frac{y + \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] - \operatorname{erf}\left[\frac{y - \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] \right\} \left\{ \operatorname{erf}\left[\frac{z + Z}{2\sqrt{\alpha_z x}}\right] - \operatorname{erf}\left[\frac{z - Z}{2\sqrt{\alpha_z x}}\right] \right\}$$



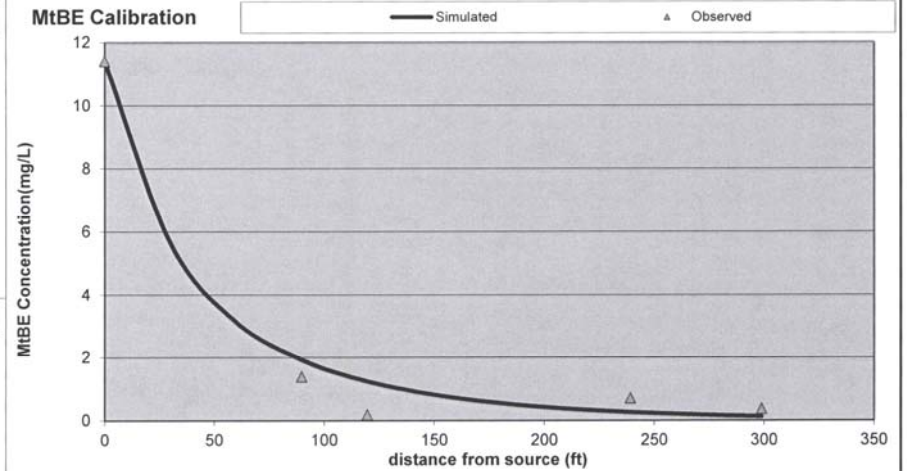
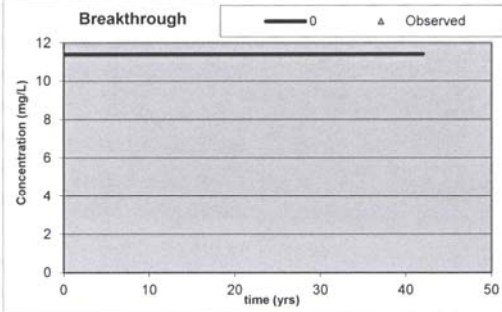
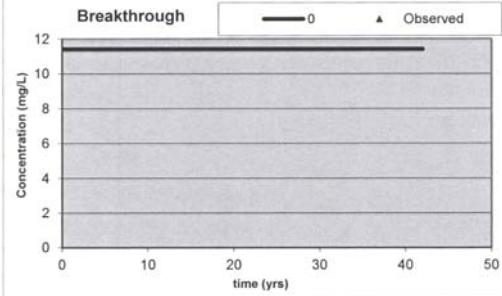
Benzene Calibration									
Spatial Calibration Data (centerline)			Temporal Calibration Data					Site ID 12175	
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Site Name	Split Stop 311
0	20.9	20.9	0		20.9		20.9	Model Calibration Parameters	
29.893		12.116	4.2		20.900		20.900	t <sub>1/2</sub>	1.2 yrs
59.786		7.913	8.4		20.900		20.900	v <sub>x</sub>	116.7206 ft/yr
89.679	12.1	5.690	12.6		20.900		20.900	R	1.105
119.57	4.97	4.285	16.8		20.900		20.900	v <sub>R</sub>	105.632 ft/yr
149.47		3.316	21		20.900		20.900	L <sub>p</sub>	298.93 ft
179.36		2.612	25.2		20.900		20.900	α <sub>x</sub>	13.81323 ft
209.25		2.084	29.4		20.900		20.900	α <sub>y</sub>	1.381323 ft
239.14	5.99	1.678	33.6		20.900		20.900	α <sub>z</sub>	1E-99 ft
269.04		1.361	37.8		20.900		20.900	C <sub>source</sub>	20.9 mg/L
298.93	1.11	1.110	42		20.900		20.900	t <sub>sim</sub>	42 yrs



Source	29.893	59.786	89.679	119.572	149.465	179.358	209.251	239.144	269.037	298.93
3.58	11.4595629	7.65705065	5.5593796	4.20920022	3.26817566	2.5804525	2.061989	1.662549	1.349872	1.102132
1.79	11.9484343	7.84851618	5.65695019	4.26603129	3.30401432	2.6042713	2.07842	1.674203	1.358318	1.108359
0	12.1157254	7.91338323	5.68985083	4.2851445	3.31604751	2.6122596	2.083926	1.678106	1.361145	1.110443
1.79	11.9484343	7.84851618	5.65695019	4.26603129	3.30401432	2.6042713	2.07842	1.674203	1.358318	1.108359
3.58	11.4595629	7.65705065	5.5593796	4.20920022	3.26817566	2.5804525	2.061989	1.662549	1.349872	1.102132

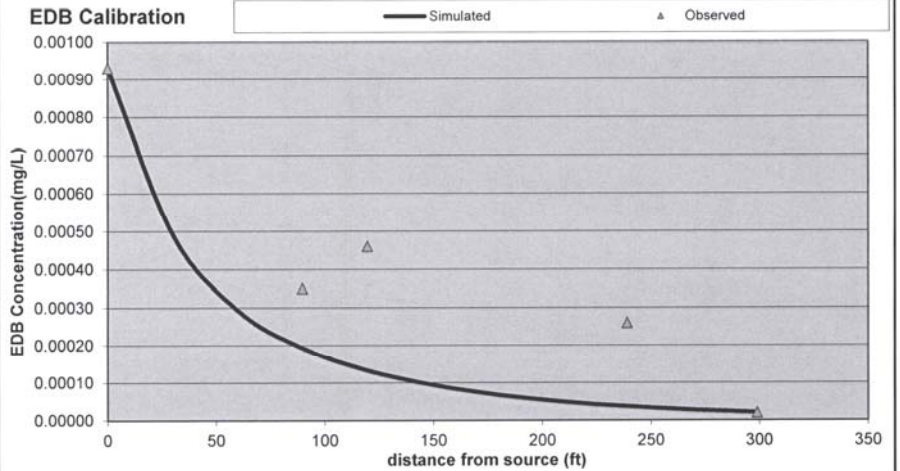
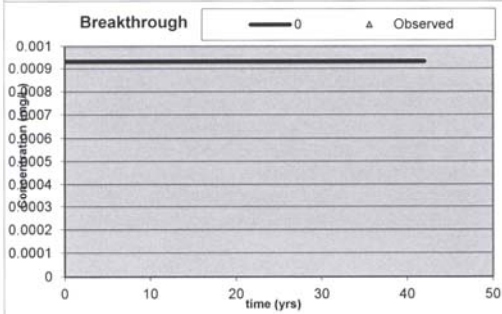
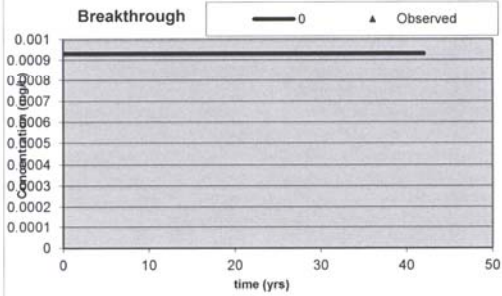


Spatial Calibration Data (centerline)			Temporal Calibration Data					Site ID 12175 Site Name Split Stop 311			
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Model Calibration Parameters			
0	11.4	11.4	0		11.4		11.4	t <sub>1/2</sub>	0.5 yrs	λ	1.386 yr <sup>-1</sup>
29.893		5.644	4.2		11.400		11.400	v <sub>x</sub>	116.7206 ft/yr		
59.786		3.148	8.4		11.400		11.400	R	1.000		
89.679	1.39	1.933	12.6		11.400		11.400	v <sub>R</sub>	116.721 ft/yr	C <sub>source</sub>	11.4 mg/L
119.57	0.183	1.243	16.8		11.400		11.400	L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
149.47		0.822	21		11.400		11.400	α <sub>x</sub>	13.81323 ft		
179.36		0.553	25.2		11.400		11.400	α <sub>y</sub>	1.381323 ft		
209.25		0.377	29.4		11.400		11.400	α <sub>z</sub>	1E-99 ft		
239.14	0.707	0.259	33.6		11.400		11.400				
269.04		0.179	37.8		11.400		11.400				
298.93	0.373	0.125	42		11.400		11.400				



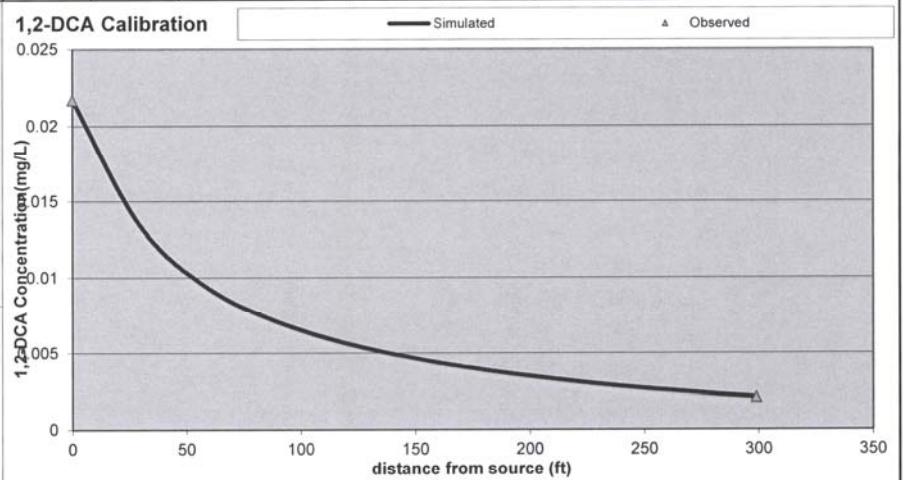
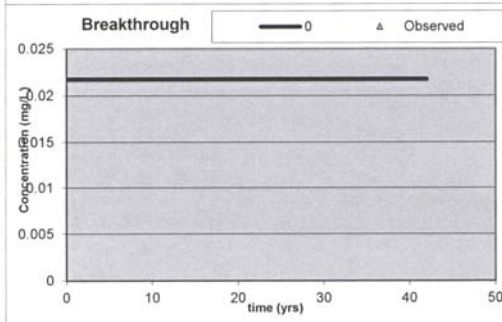
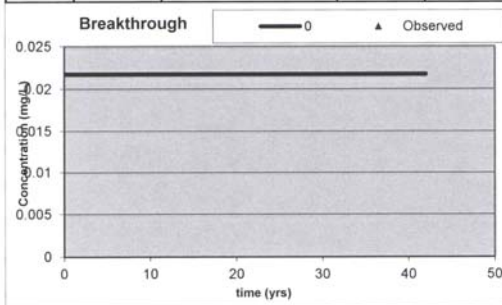
Source	29.893	59.786	89.679	119.572	149.465	179.358	209.251	239.144	269.037	298.93
3.58	5.33833808	3.04634438	1.88896218	1.22145079	0.80995565	0.5461742	0.372736	0.256666	0.177978	0.124104
1.79	5.56607457	3.12251861	1.92211465	1.23794237	0.81883758	0.5512156	0.375706	0.258465	0.179092	0.124805
0	5.64400567	3.14832585	1.9332936	1.24348875	0.82181978	0.5529064	0.376701	0.259068	0.179464	0.12504
1.79	5.56607457	3.12251861	1.92211465	1.23794237	0.81883758	0.5512156	0.375706	0.258465	0.179092	0.124805
3.58	5.33833808	3.04634438	1.88896218	1.22145079	0.80995565	0.5461742	0.372736	0.256666	0.177978	0.124104

EDB Calibration								
Spatial Calibration Data (centerline)			Temporal Calibration Data				Site ID 12175	
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Site Name Split Stop 311
0	0.00093	0.00093	0		0.00093		0.00093	Model Calibration Parameters  $t_{1/2}$ 0.68 yrs $\lambda$ 1.01912 yr <sup>-1</sup> $v_x$ 116.7206 ft/yr $R$ 1.036 $v_R$ 112.633 ft/yr      C <sub>source</sub> 0.00093 mg/L $L_p$ 298.93 ft      t <sub>sim</sub> 42 yrs $\alpha_x$ 13.81323 ft $\alpha_y$ 1.381323 ft $\alpha_z$ 1E-99 ft
29.893		0.00049	4.2		0.00093		0.00093	
59.786		0.00029	8.4		0.00093		0.00093	
89.679	0.00035	0.00019	12.6		0.00093		0.00093	
119.57	0.00046	0.00013	16.8		0.00093		0.00093	
149.47		0.00009	21		0.00093		0.00093	
179.36		0.00007	25.2		0.00093		0.00093	
209.25		0.00005	29.4		0.00093		0.00093	
239.14	0.00026	0.00004	33.6		0.00093		0.00093	
269.04		0.00003	37.8		0.00093		0.00093	
298.93	0.00002	0.00002	42		0.00093		0.00093	



Source	29.893	59.786	89.679	119.572	149.465	179.358	209.251	239.144	269.037	298.93
3.58	0.0004658	0.00028431	0.00018856	0.00013042	9.2499E-05	6.672E-05	4.87E-05	3.59E-05	2.66E-05	1.98E-05
1.79	0.00048568	0.00029142	0.00019187	0.00013218	9.3513E-05	6.733E-05	4.91E-05	3.61E-05	2.68E-05	2E-05
0	0.00049248	0.00029383	0.00019299	0.00013277	9.3853E-05	6.754E-05	4.92E-05	3.62E-05	2.68E-05	2E-05
1.79	0.00048568	0.00029142	0.00019187	0.00013218	9.3513E-05	6.733E-05	4.91E-05	3.61E-05	2.68E-05	2E-05
3.58	0.0004658	0.00028431	0.00018856	0.00013042	9.2499E-05	6.672E-05	4.87E-05	3.59E-05	2.66E-05	1.98E-05

1,2-DCA Calibration								
Spatial Calibration Data (centerline)			Temporal Calibration Data					Site ID 12175
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Site Name Split Stop 311
0	0.0217	0.0217	0	0.0217	0.0217	0	0.0217	<b>Model Calibration Parameters</b>  $t_{1/2}$ 1.88 yrs $\lambda$ 0.36862 yr <sup>-1</sup> $v_x$ 116.7206 ft/yr $R$ 1.023 $v_R$ 114.132 ft/yr      C <sub>source</sub> 0.0217 mg/L $L_p$ 298.93 ft $\alpha_x$ 13.81323 ft      t <sub>sim</sub> 42 yrs $\alpha_y$ 1.381323 ft $\alpha_z$ 1E-99 ft
29.893		0.013	4.2		0.022		0.022	
59.786		0.009	8.4		0.022		0.022	
89.679		0.007	12.6		0.022		0.022	
119.57		0.006	16.8		0.022		0.022	
149.47		0.005	21		0.022		0.022	
179.36		0.004	25.2		0.022		0.022	
209.25		0.003	29.4		0.022		0.022	
239.14		0.003	33.6		0.022		0.022	
269.04		0.002	37.8		0.022		0.022	
298.93	0.0021	0.002	42		0.022		0.022	



Source	29.893	59.786	89.679	119.572	149.465	179.358	209.251	239.144	269.037	298.93
3.58	0.01263488	0.00896508	0.00691208	0.0055574	0.00458213	0.0038419	0.00326	0.002791	0.002407	0.002087
1.79	0.01317389	0.00918926	0.00703339	0.00563243	0.00463237	0.0038774	0.003286	0.002811	0.002422	0.002098
0	0.01335834	0.0092652	0.0070743	0.00565767	0.00464925	0.0038893	0.003295	0.002817	0.002427	0.002102
1.79	0.01317389	0.00918926	0.00703339	0.00563243	0.00463237	0.0038774	0.003286	0.002811	0.002422	0.002098
3.58	0.01263488	0.00896508	0.00691208	0.0055574	0.00458213	0.0038419	0.00326	0.002791	0.002407	0.002087

SSTLs

t 1000 yrs

UST Permit # 12175  
Site Name: Split Stop 311

MW #	RBSLs (mg/L):			0.005				0.040			0.00005	0.005
	x (ft)	y (ft)	z (ft)	Benzene SSSL				MtBE SSSL			EDB SSSL	1,2-DCA SSSL
MW-1	573	0	0	0.524				86.290			0.02970	0.166
MW-2	465	0	0	0.273				25.373			0.01114	0.107
MW-4	569	0	0	0.512				82.494			0.02865	0.163
MW-5	580	0	0	0.546				93.352			0.03163	0.170
MW-6	544	0	0	0.441				62.242			0.02287	0.148
MW-11	345	0	0	0.128				6.308			0.00363	0.064
MW-17	376	0	0	0.156				9.076			0.00487	0.073
MW-18	462	0	0	0.268				24.516			0.01083	0.106
MW-23	279	0	0	0.082				2.868			0.00191	0.047
MW-24	498	0	0	0.334				36.965			0.01506	0.123
MW-25	492	0	0	0.322				34.526			0.01426	0.120
MW-26	499	0	0	0.336				37.387			0.01520	0.123
TW-1	515	0	0	0.370				44.834			0.01758	0.131
RW-1	575	0	0	0.530				88.252			0.03024	0.167
RW-2	510	0	0	0.359				42.362			0.01680	0.129
RW-3	465	0	0	0.273				25.373			0.01114	0.107
RW-4	496	0	0	0.330				36.134			0.01479	0.122
			$\lambda$ (yr <sup>-1</sup> ):	0.578				1.386			1.019	0.369
			R:	1.105				1.000			1.036	1.023
			Pure Substance Solubility:	1750				5110			4321	8520
			Effective Solubility:	44.39				173			1.9	3.7

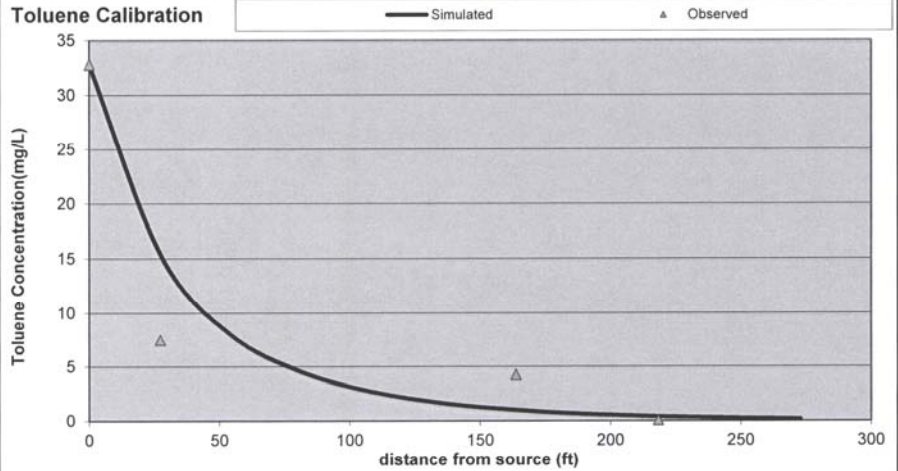
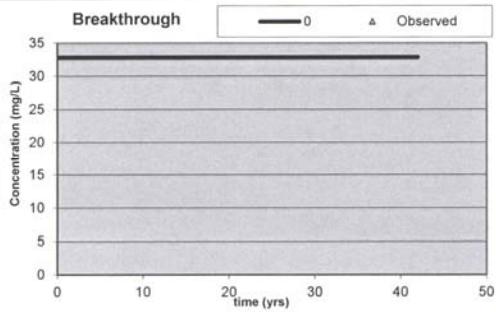
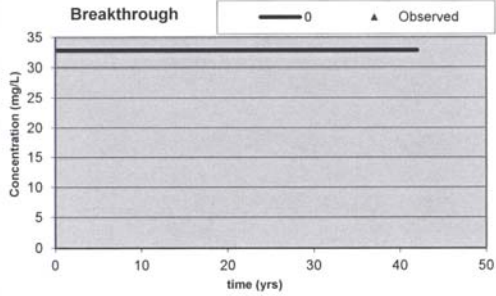
<b>Domenico Model</b>			<b>Transport Parameters</b>			<b>Simulation Time</b>																																																																		
UST # 12175 Site Name: Split Stop 311 Modeler: Stephanie Hackett Date: 10/31/2022			<table style="width:100%; border-collapse: collapse;"> <tr><td style="text-align: right; padding-right: 5px;"><math>x_{max}</math></td><td style="border: 1px solid black; width: 50px; text-align: center;">273</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>y_{max/2}</math></td><td style="border: 1px solid black; text-align: center;">3.58</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>z</math></td><td style="border: 1px solid black; text-align: center;">0</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;">Source Width</td><td style="border: 1px solid black; text-align: center;">17.9</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;">Source Thickness</td><td style="border: 1px solid black; text-align: center;">23.27</td><td style="padding-left: 5px;">ft</td></tr> <tr><td colspan="3" style="padding: 5px 0 0 0;">Plume Length</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>\alpha_x</math></td><td style="border: 1px solid black; text-align: center;">298.93</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>\alpha_y</math></td><td style="border: 1px solid black; text-align: center;">13.8132315</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>\alpha_y</math></td><td style="border: 1px solid black; text-align: center;">1.38132315</td><td style="padding-left: 5px;">ft</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>\alpha_z</math></td><td style="border: 1px solid black; text-align: center;">1.00E-99</td><td style="padding-left: 5px;">ft</td></tr> </table>			$x_{max}$	273	ft	$y_{max/2}$	3.58	ft	$z$	0	ft	Source Width	17.9	ft	Source Thickness	23.27	ft	Plume Length			$\alpha_x$	298.93	ft	$\alpha_y$	13.8132315	ft	$\alpha_y$	1.38132315	ft	$\alpha_z$	1.00E-99	ft	<table style="width:100%; border-collapse: collapse;"> <tr><td style="text-align: right; padding-right: 10px;"><math>t_{sim}</math></td><td style="border: 1px solid black; width: 50px; text-align: center;">42</td><td style="padding-left: 10px;">yrs</td></tr> </table>			$t_{sim}$	42	yrs																															
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<b>Groundwater Flow Parameters</b>			<b>Aquifer Characteristics</b>																																																																					
<table style="width:100%; border-collapse: collapse;"> <tr><td style="text-align: right; padding-right: 5px;"><math>K</math></td><td style="border: 1px solid black; width: 50px; text-align: center;">1360</td><td style="padding-left: 5px;">ft/yr</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>dh/dx</math></td><td style="border: 1px solid black; text-align: center;">0.021456</td><td></td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>\theta_{eff}</math></td><td style="border: 1px solid black; text-align: center;">0.25</td><td style="padding-left: 5px;">dec. %</td></tr> <tr><td style="text-align: right; padding-right: 5px;"><math>v_x</math></td><td style="border: 1px solid black; text-align: center;">116.72064</td><td style="padding-left: 5px;">ft/yr</td></tr> </table>			$K$	1360	ft/yr	$dh/dx$	0.021456		$\theta_{eff}$	0.25	dec. %	$v_x$	116.72064	ft/yr	<table style="width:100%; border-collapse: collapse;"> <tr><td style="text-align: right; padding-right: 10px;"><math>\rho_d</math></td><td style="border: 1px solid black; width: 50px; text-align: center;">1.62</td><td style="padding-left: 10px;">kg/L</td></tr> <tr><td style="text-align: right; padding-right: 10px;"><math>f_{oc}</math></td><td style="border: 1px solid black; text-align: center;">0.0002</td><td></td></tr> </table>			$\rho_d$	1.62	kg/L	$f_{oc}$	0.0002																																																		
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<b>Source Area CoC Data</b>			<b>Retarded Velocity (ft/yr)</b>			<b>Simulation Points for Breakthrough Curves</b>																																																																		
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$C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1 - \sqrt{1 + \frac{4\lambda\alpha_x}{v}}\right)\right] \operatorname{erfc}\left[\frac{x - vt\sqrt{1 + \frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right] \left\{ \operatorname{erf}\left[\frac{y + \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] - \operatorname{erf}\left[\frac{y - \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] \right\} \left\{ \operatorname{erf}\left[\frac{z + Z}{2\sqrt{\alpha_z x}}\right] - \operatorname{erf}\left[\frac{z - Z}{2\sqrt{\alpha_z x}}\right] \right\}$																																																																								



Toluene Calibration								
Spatial Calibration Data (centerline)			Temporal Calibration Data				Site ID	12175
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	
0	32.8	32.8	0	32.8	32.8	32.8	32.8	
27.3	7.47	15.395	4.2		32.800		32.800	
54.6		7.934	8.4		32.800		32.800	
81.9		4.484	12.6		32.800		32.800	
109.2		2.651	16.8		32.800		32.800	
136.5		1.610	21		32.800		32.800	
163.8	4.24	0.995	25.2		32.800		32.800	
191.1		0.623	29.4		32.800		32.800	
218.4	0.045	0.393	33.6		32.800		32.800	
245.7		0.250	37.8		32.800		32.800	
273		0.160	42		32.800		32.800	

Model Calibration Parameters			
t <sub>1/2</sub>	0.4 yrs	λ	1.7325 yr <sup>-1</sup>
v <sub>x</sub>	116.7206 ft/yr		
R	1.172		
v <sub>R</sub>	99.560 ft/yr	C <sub>source</sub>	32.8 mg/L
L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
α <sub>x</sub>	13.81323 ft		
α <sub>y</sub>	1.381323 ft		
α <sub>z</sub>	1E-99 ft		



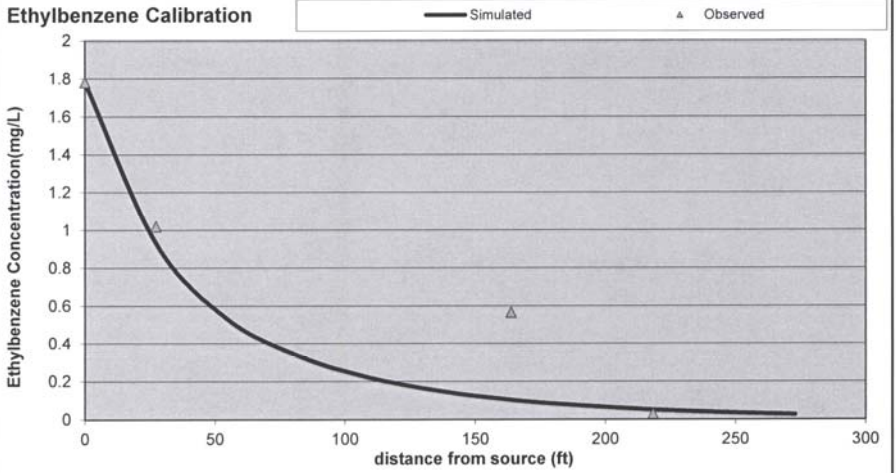
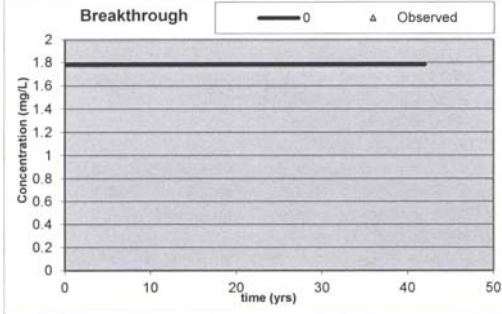
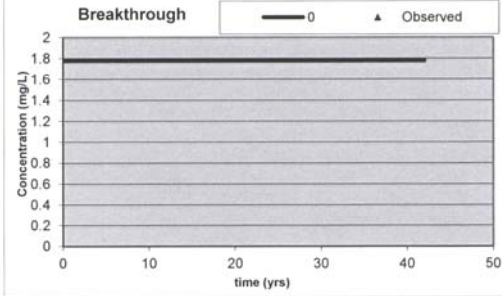
Source	27.3	54.6	81.9	109.2	136.5	163.8	191.1	218.4	245.7	273
3.58	14.5122957	7.65732557	4.3722816	2.5999833	1.58456526	0.9817466	0.615473	0.389282	0.247922	0.158769
1.79	15.16962	7.86390009	4.45549437	2.63814523	1.6034831	0.9916221	0.620821	0.39226	0.249616	0.159748
0	15.3948269	7.93397114	4.48358024	2.65098952	1.609839	0.994936	0.622614	0.393257	0.250183	0.160076
1.79	15.16962	7.86390009	4.45549437	2.63814523	1.6034831	0.9916221	0.620821	0.39226	0.249616	0.159748
3.58	14.5122957	7.65732557	4.3722816	2.5999833	1.58456526	0.9817466	0.615473	0.389282	0.247922	0.158769



Ethylbenzene Calibration									
Spatial Calibration Data (centerline)			Temporal Calibration Data				Site ID 12175 Site Name Split Stop 311		
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)		
0	1.78	1.78	0		1.78		1.78		
27.3	1.02	0.929	4.2		1.780		1.780		
54.6		0.533	8.4		1.780		1.780		
81.9		0.335	12.6		1.780		1.780		
109.2		0.220	16.8		1.780		1.780		
136.5		0.149	21		1.780		1.780		
163.8	0.566	0.102	25.2		1.780		1.780		
191.1		0.071	29.4		1.780		1.780		
218.4	0.029	0.050	33.6		1.780		1.780		
245.7		0.035	37.8		1.780		1.780		
273		0.025	42		1.780		1.780		

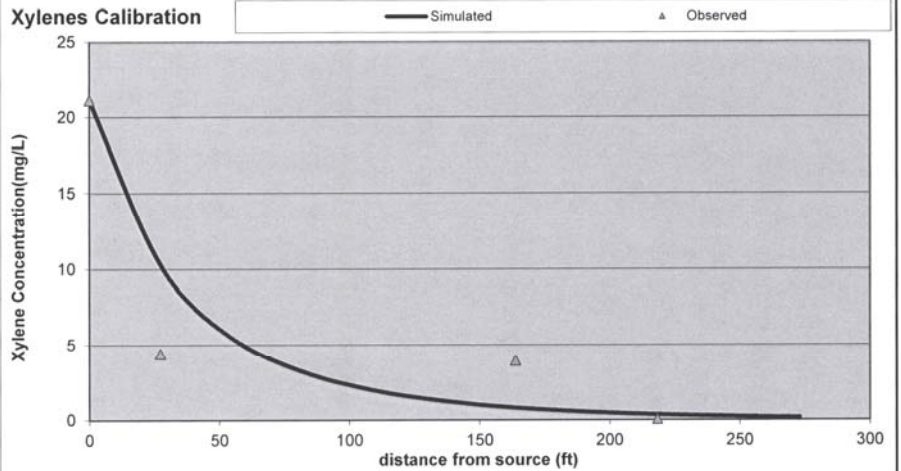
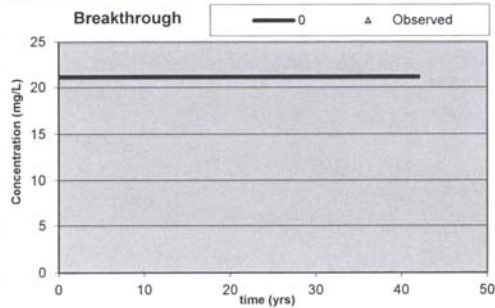
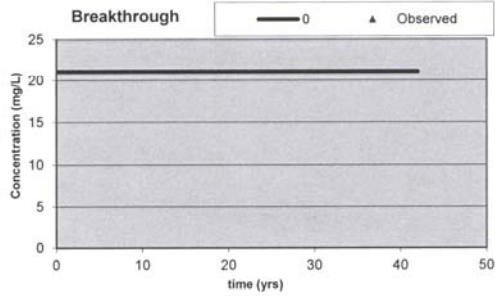
  

Model Calibration Parameters			
t <sub>1/2</sub>	0.6 yrs	λ	1.155 yr <sup>-1</sup>
v <sub>x</sub>	116.7206 ft/yr		
R	1.228		
v <sub>R</sub>	95.042 ft/yr	C <sub>source</sub>	1.78 mg/L
L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
α <sub>x</sub>	13.81323 ft		
α <sub>y</sub>	1.381323 ft		
α <sub>z</sub>	1E-99 ft		



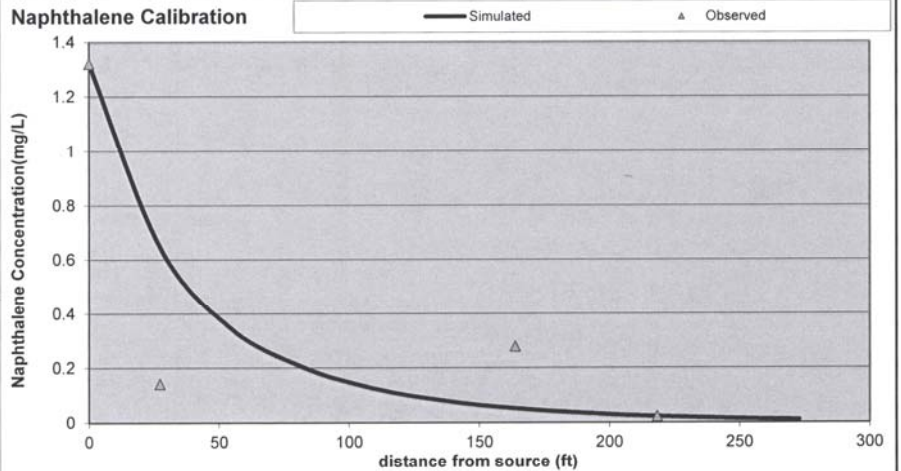
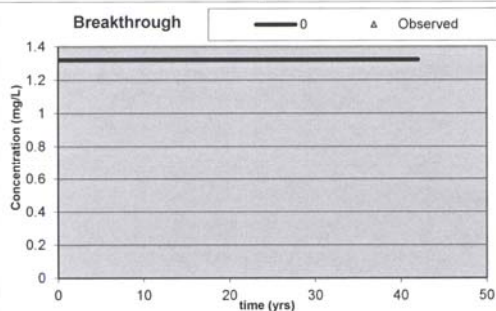
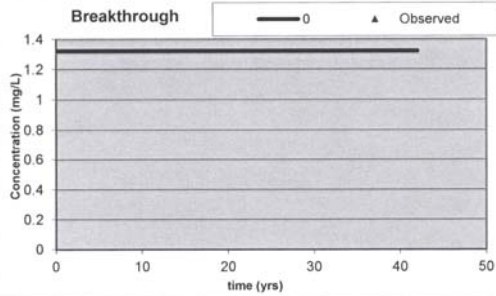
Source	27.3	54.6	81.9	109.2	136.5	163.8	191.1	218.4	245.7	273
3.58	0.87598185	0.51410157	0.32650721	0.21595738	0.14639305	0.1008841	0.070347	0.04949	0.035057	0.024971
1.79	0.91565884	0.52797068	0.33272126	0.21912715	0.14814081	0.1018989	0.070958	0.049868	0.035297	0.025125
0	0.92925263	0.53267515	0.33481862	0.22019401	0.14872801	0.1022394	0.071163	0.049995	0.035377	0.025177
1.79	0.91565884	0.52797068	0.33272126	0.21912715	0.14814081	0.1018989	0.070958	0.049868	0.035297	0.025125
3.58	0.87598185	0.51410157	0.32650721	0.21595738	0.14639305	0.1008841	0.070347	0.04949	0.035057	0.024971

Xylenes Calibration											
Spatial Calibration Data (centerline)					Temporal Calibration Data					Site ID 12175 Site Name Split Stop 311	
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)				
0	21.1	21.1	0		21.1		21.1	Model Calibration Parameters			
27.3	4.4	10.281	4.2		21.100		21.100	t <sub>1/2</sub>	0.7 yrs	λ	0.99 yr <sup>-1</sup>
54.6		5.501	8.4		21.100		21.100	v <sub>x</sub>	116.7206 ft/yr		
81.9		3.227	12.6		21.100		21.100	R	1.828		
109.2		1.981	16.8		21.100		21.100	v <sub>R</sub>	63.847 ft/yr	C <sub>source</sub>	21.1 mg/L
136.5		1.249	21		21.100		21.100	L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
163.8	3.95	0.801	25.2		21.100		21.100	α <sub>x</sub>	13.81323 ft		
191.1		0.521	29.4		21.100		21.100	α <sub>y</sub>	1.381323 ft		
218.4	0.0516	0.341	33.6		21.100		21.100	α <sub>z</sub>	1E-99 ft		
245.7		0.225	37.8		21.100		21.100				
273		0.150	42		21.100		21.100				



Source	27.3	54.6	81.9	109.2	136.5	163.8	191.1	218.4	245.7	273
3.58	9.69198676	5.30911202	3.14717566	1.9429047	1.2293036	0.7907087	0.514629	0.337923	0.223428	0.148544
1.79	10.1309785	5.45233791	3.20707236	1.97142219	1.24398004	0.7986626	0.519101	0.340508	0.224954	0.14946
0	10.2813822	5.50092081	3.22728861	1.98102042	1.24891094	0.8013316	0.5206	0.341374	0.225465	0.149767
1.79	10.1309785	5.45233791	3.20707236	1.97142219	1.24398004	0.7986626	0.519101	0.340508	0.224954	0.14946
3.58	9.69198676	5.30911202	3.14717566	1.9429047	1.2293036	0.7907087	0.514629	0.337923	0.223428	0.148544

Naphthalene Calibration									
Spatial Calibration Data (centerline)			Temporal Calibration Data				Site ID 12175		
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Site Name	Split Stop 311
0	1.32	1.32	0		1.32		1.32	Model Calibration Parameters	
27.3	0.142	0.645	4.2		1.320		1.320	t <sub>1/2</sub>	1.16 yrs
54.6		0.346	8.4		1.320		1.320	v <sub>x</sub>	116.7206 ft/yr
81.9		0.204	12.6		1.320		1.320	R	3.000
109.2		0.125	16.8		1.320		1.320	v <sub>R</sub>	38.910 ft/yr
136.5		0.079	21		1.320		1.320	L <sub>p</sub>	298.93 ft
163.8	0.279	0.051	25.2		1.320		1.320	α <sub>x</sub>	13.81323 ft
191.1		0.033	29.4		1.320		1.320	α <sub>y</sub>	1.381323 ft
218.4	0.0221	0.022	33.6		1.320		1.320	α <sub>z</sub>	1E-99 ft
245.7		0.014	37.8		1.320		1.320	C <sub>source</sub>	1.32 mg/L
273		0.010	42		1.320		1.320	t <sub>sim</sub>	42 yrs



Source	27.3	54.6	81.9	109.2	136.5	163.8	191.1	218.4	245.7	273
3.58	0.6081791	0.33417024	0.19869826	0.12304155	0.07808842	0.0503815	0.032891	0.021663	0.014367	0.009581
1.79	0.63572615	0.34318528	0.20247987	0.12484752	0.07902071	0.0508883	0.033177	0.021829	0.014465	0.00964
0	0.64516409	0.34624322	0.20375623	0.12545537	0.07933393	0.0510584	0.033273	0.021885	0.014498	0.00966
1.79	0.63572615	0.34318528	0.20247987	0.12484752	0.07902071	0.0508883	0.033177	0.021829	0.014465	0.00964
3.58	0.6081791	0.33417024	0.19869826	0.12304155	0.07808842	0.0503815	0.032891	0.021663	0.014367	0.009581

SSTLs

t 1000 yrs

UST Permit # 12175  
Site Name: Split Stop 311

MW #	x (ft)	y (ft)	z (ft)	RBSLs (mg/L):			
				1.000	0.700	10.000	0.025
				Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	Naphthalene SSTL
MW-1	573	0	0	22777.068	1708.576	>99999	243.293
MW-2	465	0	0	4295.105	490.829	22692.381	53.853
MW-4	569	0	0	21419.847	1632.014	98118.074	230.158
MW-5	580	0	0	25360.966	1851.198	>99999	268.094
MW-6	544	0	0	14581.982	1224.739	69126.842	162.607
MW-11	345	0	0	651.833	118.912	4060.231	9.766
MW-17	376	0	0	1065.405	172.238	6359.988	15.245
MW-18	462	0	0	4099.284	473.961	21747.131	51.628
MW-23	279	0	0	225.883	53.296	1540.379	3.733
MW-24	498	0	0	7167.182	720.183	36190.117	85.570
MW-25	492	0	0	6531.133	671.800	33251.062	78.673
MW-26	499	0	0	7279.006	728.575	36704.369	86.776
TW-1	515	0	0	9322.644	876.711	45988.618	108.531
RW-1	575	0	0	23487.386	1748.178	>99999	250.137
RW-2	510	0	0	8629.347	827.484	42861.632	101.208
RW-3	465	0	0	4295.105	490.829	22692.381	53.853
RW-4	496	0	0	6948.619	703.686	35182.922	83.207
$\lambda$ (yr <sup>-1</sup> ):				1.733	1.155	0.990	0.597
R:				1.172	1.228	1.828	3.000
Pure Substance Solubility:				526	169	175	31
Effective Solubility:				26.54	3.7	21.68	6.7

SSTL set at effective solubility limits:

Toluene 26,540 ug/l  
Ethylbenzer 3,700 ug/l  
Xylene 21,680 ug/l  
Naphthalene 6,700 ug/l

**Domenico Model (Oxygenates)**

UST # 12175  
 Site Name: Split Stop 311  
 Modeler: Stephanie Hackett  
 Date: 10/31/2022

**Transport Parameters**

x <sub>max</sub>	304	ft
y <sub>max</sub>	3.58	ft
z	0	ft
Source Width	17.9	ft
Source Thickness	23.27	ft
Plume Length	298.93	ft
α <sub>x</sub>	13.81323	ft
α <sub>y</sub>	1.381323	ft
α <sub>z</sub>	1.00E-99	ft

**Simulation Time**

t<sub>sim</sub> 42 yrs

**Groundwater Flow Parameters**

K	1360	ft/yr
dh/dx	0.021456	
θ	0.25	dec. %
v <sub>x</sub>	116.72064	ft/yr

**Aquifer Characteristics**

ρ <sub>d</sub>	1.62	kg/L
f <sub>oc</sub>	0.0002	

**Retarded Velocity (ft/yr)**

**Source Area CoC Data**

CoC	C <sub>source</sub> (mg/L)	K <sub>oc</sub> (L/kg)
tBA	5.24	1
tAA	77.3	1
DIPE		1.5
tAME		1.5
EtBE		1.5
Ethanol		0.5

CoC	R	v <sub>R</sub>
tBA	1.001	116.57
tAA	1.001	116.57
DIPE	1.002	116.49
tAME	1.002	116.49
EtBE	1.002	116.49
Ethanol	1.001	116.65

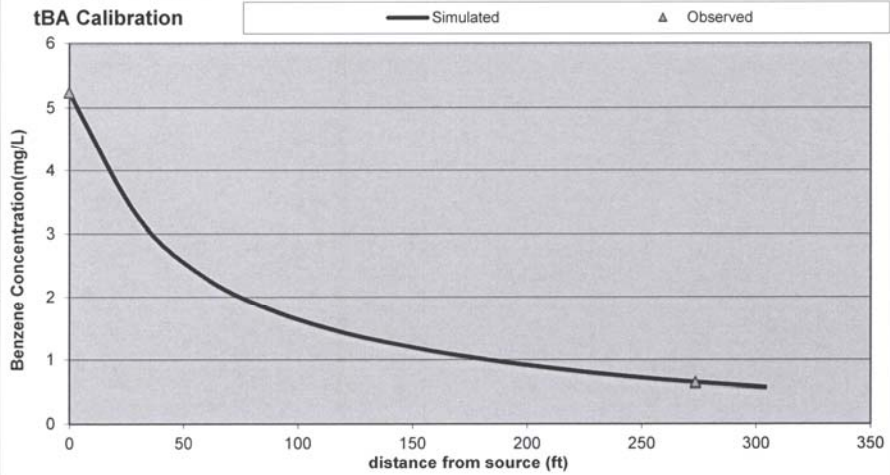
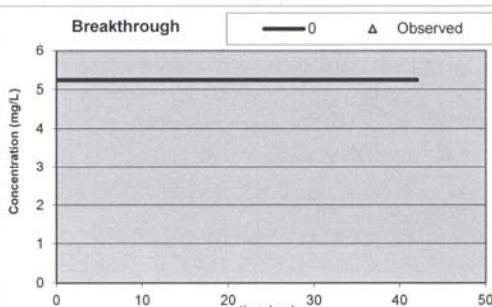
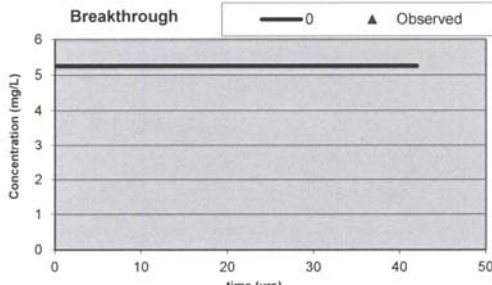
**Simulation Points for Breakthrough Curves**

x		ft
y		ft
z		ft

$$C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1 - \sqrt{1 + \frac{4\lambda\alpha_x}{v}}\right)\right] \operatorname{erfc}\left[\frac{x - vt\sqrt{1 + \frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right] \left\{ \operatorname{erf}\left[\frac{y + Y}{2\sqrt{\alpha_y x}}\right] - \operatorname{erf}\left[\frac{y - Y}{2\sqrt{\alpha_y x}}\right] \right\} \left\{ \operatorname{erf}\left[\frac{z + Z}{2\sqrt{\alpha_z x}}\right] - \operatorname{erf}\left[\frac{z - Z}{2\sqrt{\alpha_z x}}\right] \right\}$$



tBA Calibration									
Spatial Calibration Data (centerline)			Temporal Calibration Data					Site ID 12175 Site Name Split Stop 311	
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	Model Calibration Parameters	
0	5.24	5.24	0		5.24		5.24	t <sub>1/2</sub>	2.16 yrs
30.4		3.245	4.2		5.240		5.240	v <sub>x</sub>	116.7206 ft/yr
60.8		2.275	8.4		5.240		5.240	R	1.001
91.2		1.757	12.6		5.240		5.240	v <sub>R</sub>	116.570 ft/yr
121.6		1.422	16.8		5.240		5.240	L <sub>p</sub>	298.93 ft
152		1.182	21		5.240		5.240	α <sub>x</sub>	13.81323 ft
182.4		1.001	25.2		5.240		5.240	α <sub>y</sub>	1.381323 ft
212.8		0.858	29.4		5.240		5.240	α <sub>z</sub>	1E-99 ft
243.2		0.742	33.6		5.240		5.240	C <sub>source</sub>	5.24 mg/L
273.6	0.644	0.647	37.8		5.240		5.240	t <sub>sim</sub>	42 yrs
304		0.567	42		5.240		5.240		



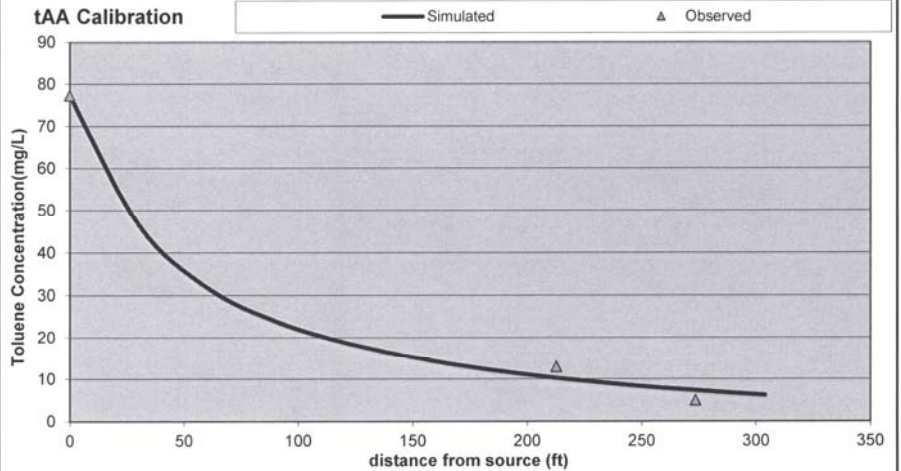
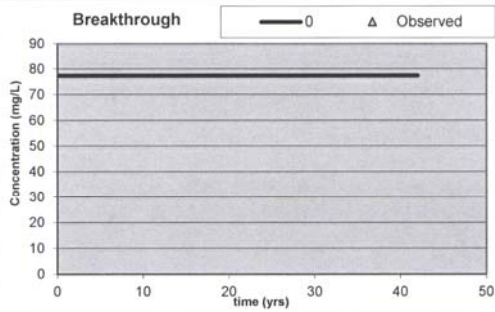
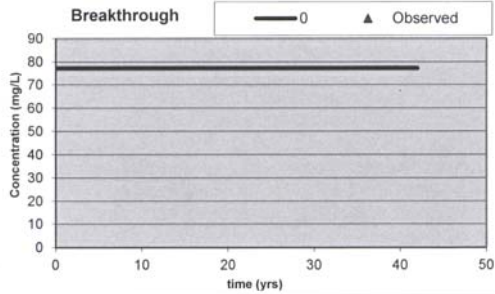
Source	30.4	60.8	91.2	121.6	152	182.4	212.8	243.2	273.6	304
3.58	3.07075276	2.20210094	1.71721516	1.39676706	1.16520218	0.988524	0.848765	0.73535	0.64156	0.562869
1.79	3.20026489	2.25638713	1.7469012	1.41533465	1.17777928	0.9975039	0.85542	0.740422	0.645509	0.565998
0	3.24457337	2.27477484	1.75690959	1.42157839	1.18200169	1.0005152	0.85765	0.74212	0.646831	0.567044
1.79	3.20026489	2.25638713	1.7469012	1.41533465	1.17777928	0.9975039	0.85542	0.740422	0.645509	0.565998
3.58	3.07075276	2.20210094	1.71721516	1.39676706	1.16520218	0.988524	0.848765	0.73535	0.64156	0.562869



tAA Calibration							
Spatial Calibration Data (centerline)			Temporal Calibration Data				Site ID 12175
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)
0	77.3	77.3	0	77.3	77.3	77.3	77.3
30.4		46.436	4.2		77.300		77.300
60.8		31.585	8.4		77.300		77.300
91.2		23.666	12.6		77.300		77.300
121.6		18.578	16.8		77.300		77.300
152		14.986	21		77.300		77.300
182.4		12.307	25.2		77.300		77.300
212.8	13	10.235	29.4		77.300		77.300
243.2		8.592	33.6		77.300		77.300
273.6	4.99	7.265	37.8		77.300		77.300
304		6.179	42		77.300		77.300

Model Calibration Parameters			
t <sub>1/2</sub>	1.55 yrs	λ	0.4471 yr <sup>-1</sup>
v <sub>x</sub>	116.7206 ft/yr		
R	1.001		
v <sub>R</sub>	116.570 ft/yr	C <sub>source</sub>	77.3 mg/L
L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
α <sub>x</sub>	13.81323 ft		
α <sub>y</sub>	1.381323 ft		
α <sub>z</sub>	1E-99 ft		



Source	30.4	60.8	91.2	121.6	152	182.4	212.8	243.2	273.6	304
3.58	43.947935	30.5756895	23.131786	18.2538238	14.7732679	12.159282	10.12869	8.51345	7.205995	6.133518
1.79	45.801484	31.3294414	23.5316726	18.4964766	14.9327294	12.269738	10.20811	8.572169	7.250355	6.16761
0	46.4356172	31.5847508	23.6664908	18.5780737	14.9862641	12.306779	10.23473	8.591832	7.265202	6.179017
1.79	45.801484	31.3294414	23.5316726	18.4964766	14.9327294	12.269738	10.20811	8.572169	7.250355	6.16761
3.58	43.947935	30.5756895	23.131786	18.2538238	14.7732679	12.159282	10.12869	8.51345	7.205995	6.133518

SSTLs

t 1000 yrs

UST Permit # 12175  
Site Name: Split Stop 311

SSTLs in mg/L		RBSLs (mg/L):			1.400	0.240				
MW #	x (ft)	y (ft)	z (ft)	tBA SSTL	tAA SSTL					
MW-1	573	0	0	36.011	10.926					
MW-2	465	0	0	24.401	6.648					
MW-4	569	0	0	35.508	10.731					
MW-5	580	0	0	36.906	11.276					
MW-6	544	0	0	32.502	9.581					
MW-11	345	0	0	15.338	3.708					
MW-17	376	0	0	17.366	4.330					
MW-18	462	0	0	24.131	6.555					
MW-23	279	0	0	11.614	2.629					
MW-24	498	0	0	27.545	7.756					
MW-25	492	0	0	26.949	7.543					
MW-26	499	0	0	27.645	7.792					
TW-1	515	0	0	29.295	8.389					
RW-1	575	0	0	36.265	11.025					
RW-2	510	0	0	28.771	8.198					
RW-3	465	0	0	24.401	6.648					
RW-4	496	0	0	27.345	7.684					
				$\lambda$ (yr <sup>-1</sup> ):	0.321	0.447				
				R:	1.001	1.001				

**Domenico Model (Oxygenates)**

UST # 12175  
 Site Name: Split Stop 311  
 Modeler: Stephanie Hackett  
 Date: 10/31/2022

**Transport Parameters**

X <sub>max</sub>	298.93	ft
Y <sub>max</sub>	8.95	ft
z	0	ft
Source Width	17.9	ft
Source Thickness	23.27	ft
Plume Length	298.93	ft
α <sub>x</sub>	13.81323	ft
α <sub>y</sub>	1.381323	ft
α <sub>z</sub>	1.00E-99	ft

**Simulation Time**

t<sub>sim</sub> 42 yrs

**Groundwater Flow Parameters**

K	1360	ft/yr
dh/dx	0.021456	
θ	0.25	dec. %
v <sub>x</sub>	116.72064	ft/yr

**Aquifer Characteristics**

ρ <sub>d</sub>	1.62	kg/L
f <sub>oc</sub>	0.0002	

**Retarded Velocity (ft/yr)**

**Source Area CoC Data**

CoC	C <sub>source</sub> (mg/L)	K <sub>oc</sub> (L/kg)
tBA	1.62	1
tAA		1
DIPE		1.5
tAME		1.5
EtBE		1.5
Ethanol		0.5

CoC	R	v <sub>R</sub>
tBA	1.001	116.57
tAA	1.001	116.57
DIPE	1.002	116.49
tAME	1.002	116.49
EtBE	1.002	116.49
Ethanol	1.001	116.65

**Simulation Points for Breakthrough Curves**

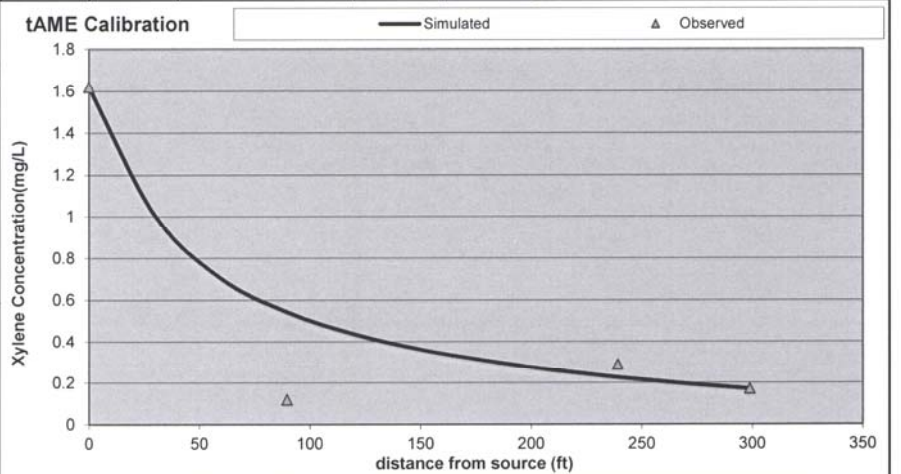
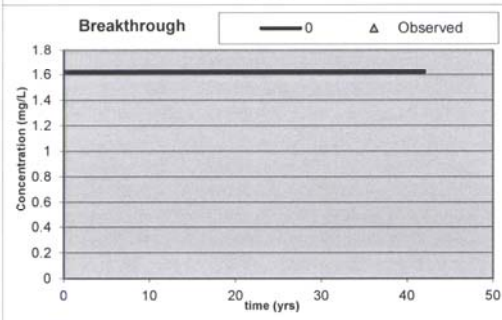
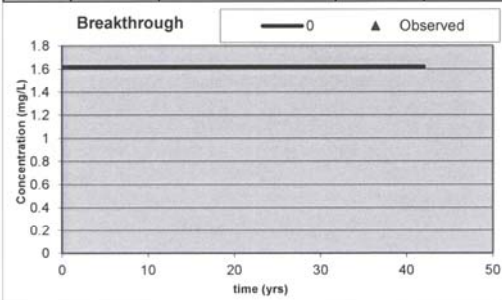
x		ft	x		ft
y		ft	y		ft
z		ft	z		ft

$$C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1 - \sqrt{1 + \frac{4\lambda\alpha_x}{v}}\right)\right] \operatorname{erfc}\left[\frac{x - vt\sqrt{1 + \frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right] \left\{ \operatorname{erf}\left[\frac{y + \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] - \operatorname{erf}\left[\frac{y - \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] \right\} \left\{ \operatorname{erf}\left[\frac{z + Z}{2\sqrt{\alpha_z x}}\right] - \operatorname{erf}\left[\frac{z - Z}{2\sqrt{\alpha_z x}}\right] \right\}$$

tAME Calibration											
Spatial Calibration Data (centerline)					Temporal Calibration Data					Site ID 12175 Site Name Split Stop 311	
x	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	t (yrs)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)	C <sub>obs</sub> (mg/L)	C <sub>sim</sub> (mg/L)				
0	1.62	1.62	0		1.62		1.62				
29.893		1.006	4.2		1.620		1.620				
59.786		0.704	8.4		1.620		1.620				
89.679	0.119	0.542	12.6		1.620		1.620				
119.57		0.437	16.8		1.620		1.620				
149.47		0.362	21		1.620		1.620				
179.36		0.306	25.2		1.620		1.620				
209.25		0.261	29.4		1.620		1.620				
239.14	0.289	0.225	33.6		1.620		1.620				
269.04		0.196	37.8		1.620		1.620				
298.93	0.171	0.171	42		1.620		1.620				

Model Calibration Parameters			
t <sub>1/2</sub>	2.04 yrs	λ	0.3397 yr <sup>-1</sup>
v <sub>s</sub>	116.7206 ft/yr		
R	1.002		
v <sub>R</sub>	116.494 ft/yr	C <sub>source</sub>	1.62 mg/L
L <sub>p</sub>	298.93 ft	t <sub>sim</sub>	42 yrs
α <sub>x</sub>	13.81323 ft		
α <sub>y</sub>	1.381323 ft		
α <sub>z</sub>	1E-99 ft		



Source	29.893	59.786	89.679	119.572	149.465	179.358	209.25	239.14	269.04	298.93
8.95	0.70840332	0.57275589	0.46886548	0.39102967	0.33097043	0.283308	0.244629	0.212689	0.185948	0.163313
4.475	0.92205603	0.66848702	0.52274707	0.42522472	0.35431946	0.3000543	0.257071	0.22218	0.19334	0.169166
0	1.00594171	0.70378541	0.54204284	0.43727321	0.36246227	0.3058532	0.261357	0.225437	0.195869	0.171164
4.475	0.92205603	0.66848702	0.52274707	0.42522472	0.35431946	0.3000543	0.257071	0.22218	0.19334	0.169166
8.95	0.70840332	0.57275589	0.46886548	0.39102967	0.33097043	0.283308	0.244629	0.212689	0.185948	0.163313

SSTLs

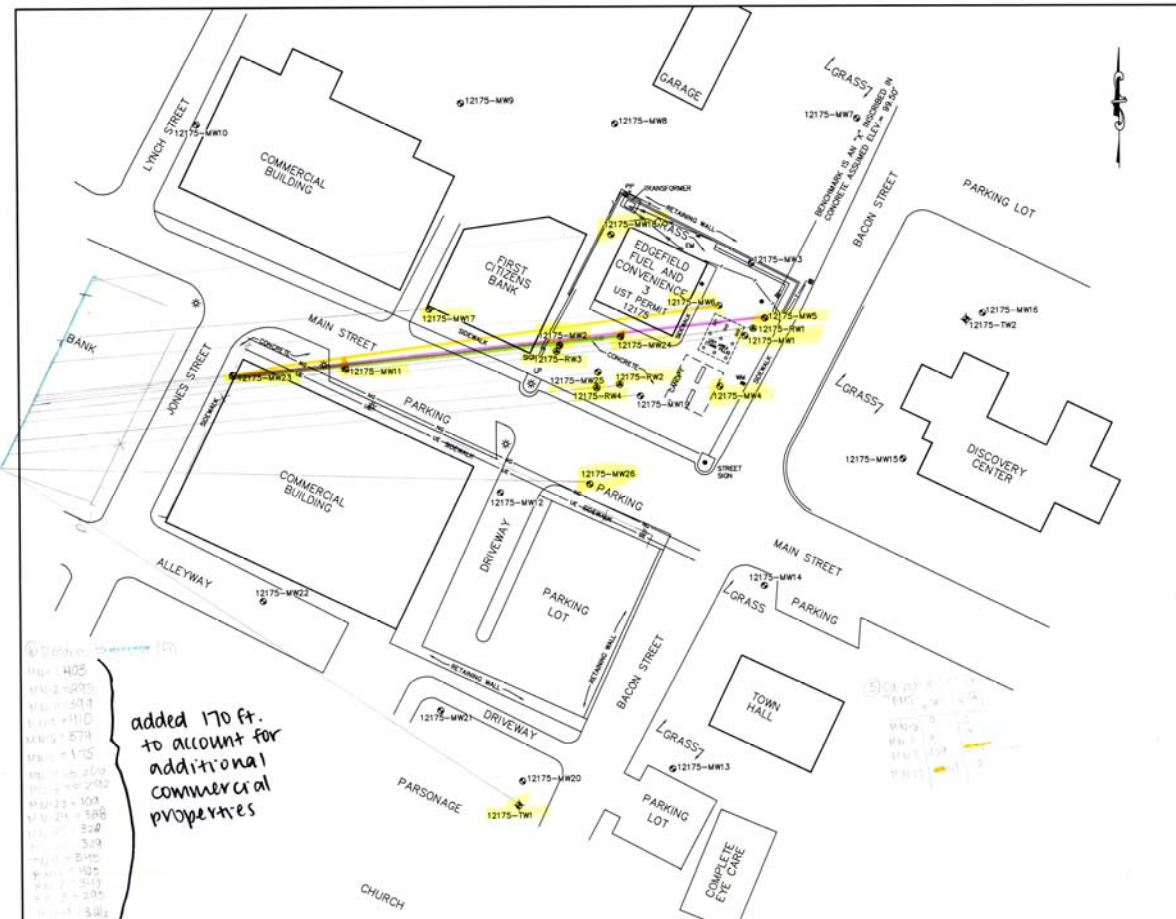
t  yrs

UST Permit # 12175  
Site Name: Split Stop 311

SSTLs in mg/L		RBSLs (mg/L):			0.128				
MW #	x (ft)	y (ft)	z (ft)				tAME SSTL		
MW-1	573	0	0				3.593		
MW-2	465	0	0				2.395		
MW-4	569	0	0				3.540		
MW-5	580	0	0				3.686		
MW-6	544	0	0				3.228		
MW-11	345	0	0				1.478		
MW-17	376	0	0				1.681		
MW-18	462	0	0				2.367		
MW-23	279	0	0				1.108		
MW-24	498	0	0				2.717		
MW-25	492	0	0				2.656		
MW-26	499	0	0				2.727		
TW-1	515	0	0				2.897		
RW-1	575	0	0				3.619		
RW-2	510	0	0				2.843		
RW-3	465	0	0				2.395		
RW-4	496	0	0				2.696		
			$\lambda$ (yr <sup>-1</sup> ):				0.340		
			R:				1.002		



12175  
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added 170 ft.  
 to account for  
 additional  
 commercial  
 properties

**Legend**

- UE — Underground Electric Line
- X — Wood Fence Line
- T — Underground Telephone Line
- ☐ Sanitary Sewer Clean Out
- ☐ Grate Top Drop Inlet
- ☐ Light Pole
- ☐ Light Pole
- 12175-MW1 Shallow (Water Table) Monitoring Well
- 12175-RW1 Recovery Well
- 12175-TW1 Telescoping Well

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**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

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**ATLAS**  
 7806 Whitehall Executive Center Drive, Suite 800  
 Durham, NC 27705  
 Phone (760)680-0711 Fax (760)680-0744

**PROJECT:**  
 Edgefield Fuel & Convenience 3  
 311 Main Street  
 Edgefield, South Carolina

**TITLE:**  
 Site Plan

**CLIENT:**  
 Edgefield Fuel & Convenience, LLC

GRAPHIC SCALE	0	25	50	75	100
DESIGNED BY:	[Signature]				
DRAWN BY:	[Signature]				
CHECKED BY:	[Signature]				
APPROVED BY:	[Signature]				
DATE:	6/10/19	FIGURE NO.:	2		





JAN 27 2023

EDGEFIELD FUEL & CONVENIENCE LLC  
943 HWY 25 N  
EDGEFIELD SC 29824-1373

Re: **Notification of Site Specific Target Levels and Plan Request**  
Split Stop #311, 311 Main St., Edgefield, SC  
UST Permit #12175  
Release reported December 31, 2008  
Monitoring Report received August 10, 2022  
Edgefield County

To Whom It May Concern:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has established Site-Specific Target Levels (SSTLs) for the above reported release. The SSTLs are being provided to you and your contractor to help you better plan the investigative and remedial activities that may be required.

Based upon the data submitted in the reference report, the concentrations were above the SSTLs. Therefore, the recommended course of action for the release is active cleanup. Please reference the Site Rehabilitation Section of the UST Quality Assurance Program Plan for required information to submit to the UST Management Division. Additional work directives and approvals will be issued based on the site's risk priority classification and recommendations from your selected environmental contractor.

On all correspondence concerning this site, please reference UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by email at [hofferqm@dhec.sc.gov](mailto:hofferqm@dhec.sc.gov).

Sincerely,

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

enc: SSTL Table

cc: Atlas Technical, 7606 Whitehall Executive CTR Dr., STE 800, Charlotte, NC 28273 (w/ enc)



Technical file (w/ enc)

6

UST #12175\_SSTLs

Well ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	EDB	1,2-DCA	TAA	TBA	TAME
MW-1	524	26540	3700	21680	86290	6700	29.70	166	10926	36011	3593
MW-2	273	26540	3700	21680	25373	6700	11.14	107	6648	24401	2395
MW-4	512	26540	3700	21680	82494	6700	28.65	163	10731	35508	3540
MW-5	546	26540	3700	21680	93352	6700	31.63	170	11276	36906	3686
MW-6	441	26540	3700	21680	62242	6700	22.87	148	9581	32502	3228
MW-11	128	26540	3700	21680	6308	6700	3.63	64	3708	15338	1478
MW-17	156	26540	3700	21680	9076	6700	4.87	73	4330	17366	1681
MW-18	268	26540	3700	21680	24516	6700	10.83	106	6555	24131	2367
MW-23	82	26540	3700	21680	2868	3733	1.91	47	2629	11614	1108
MW-24	334	26540	3700	21680	36965	6700	15.06	123	7756	27545	2717
MW-25	322	26540	3700	21680	34526	6700	14.26	120	7543	26949	2656
MW-26	336	26540	3700	21680	37387	6700	15.20	123	7792	27645	2727
TW-1	370	26540	3700	21680	44834	6700	17.58	131	8389	29295	2897
RW-1	530	26540	3700	21680	88252	6700	30.24	167	11025	36265	3619
RW-2	359	26540	3700	21680	42362	6700	16.80	129	8198	28771	2843
RW-3	273	26540	3700	21680	25373	6700	11.14	107	6648	24401	2395
RW-4	330	26540	3700	21680	36134	6700	14.79	122	7684	27345	2696

\*Concentrations are in ug/L.



EDGEFIELD FUEL & CONVENIENCE LLC  
943 HWY 25 N  
EDGEFIELD SC 29824-13173

FEB 01 2023

Re: Enhanced Aggressive Fluid and Vapor Recovery Corrective Action Plan Request  
Split Stop 311, 311 Main St., Edgefield, SC  
UST Permit #12175  
Release reported December 31, 2008  
Monitoring Report received August 10, 2022  
Edgefield County

To Whom It May Concern :

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced report submitted by your contractor. The report documents petroleum chemicals in the groundwater above Risk-Based Screening Levels and established Site-Specific Target Levels (SSTLs). After discussions with your contractor, the next appropriate scope of work is the development of a Corrective Action Plan for subsurface chemical injections in conjunction with an Aggressive Fluid Vapor Recovery (AFVR) event.

Under state and federal regulations, as the underground storage tank (UST) owner/operator at the time of the referenced release, you are ultimately responsible for cleanup actions taken in response to this release. Pursuant to S.C. Code Ann. Section 44-2-40(D), funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Site Rehabilitation Fund Account and SUPERB Financial Responsibility Fund provide combined coverage for site rehabilitation activities and third party claims not to exceed one million dollars. The maximum allowable corrective action cost DHEC can establish is dependent on the remaining SUPERB Account balance for the individual release. According to UST Division records, approximately \$406,042.61 has been expended from the SUPERB Account to date.

In accordance with South Carolina Underground Storage Tank Control Regulations (USTCR R.61-92 S 208.66) DHEC is requesting the submission of a CAP for subsurface chemical injections in conjunction with an Aggressive Fluid Vapor Recovery (AFVR) event, as recommended by your contractor. **The CAP should be submitted within 45 days of this correspondence.** The CAP must be completed in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP) and all applicable regulations. The QAPP is available at [scdhec.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance](http://scdhec.gov/Environment/Land-Waste/Underground-Storage-Tanks/Release-Assessment-Clean/Quality-Assurance).

The CAP must define the methods, injectates, anticipated number of injection/extraction/recovery wells, injection/extraction/recovery locations and construction details, injectate volumes, well abandonment methods, and safety protocols that will address the Area of Concern. The injection and recovery methods and technologies should be designed to prevent vapors from entering onsite or adjacent structures. It must be shown, by use of scientific models, computations, or discussion, how Chemicals of Concern concentrations will be reduced by each method and technology proposed. Any assumptions used in a model will be listed or shown, as well as appropriate references.

**Note that the use of monitoring wells for injection and/or recovery purposes is not allowed.**

Accordingly, the CAP may propose installation of additional injection/extraction and recovery wells. General construction details must be included (e.g., install four additional recovery wells, construct a compliance point etc.) as well as details of well abandonment and component removal. In accordance with the SC Well Standards and Regulations R.61-71, all temporary injection points are to be abandoned within 5 days of borehole completion. Abandonment activities should be done in compliance with the current revision of the UST Quality Assurance Program Plan (QAPP) and all applicable regulations. A corrective action timetable must be provided in the CAP.

The contractor must ensure that access to the area being treated is restricted to anyone not involved in the project. All individuals working with the injectates must be familiar with the applicable MS/DS information (available from the manufacturer). Further, the Contractor must consider and comply with the manufacturer's instructions for the Safe Handling, Use, and Storage of the injectates.

A description of secondary parameters, such as nitrate, Oxidation Reduction Potential (ORP), sulfate, ferrous iron, dissolved oxygen, etc. to be used to evaluate the suitability of the product and its effectiveness. These measurements shall be documented in the Reports. The UST Management Division will review the CAP and initiate a public notice period in accordance with R.61-92 and the UST QAPP. The contractor should consult you and any other affected property owners for approval of the location where injections are to be performed.

Your contractor must complete and submit all applications for permits (injection, NPDES, BAQC modeling form, etc.) with the CAP to the appropriate DHEC program area. All submitted applications must comply with the requirements of the respective permitting program. Any required permit changes or corrections should be submitted within 15 days of notification by DHEC.

After the CAP and all permit applications are reviewed and approved, the UST Management Division will issue a notice to proceed with CAP implementation. **Implementation of the CAP is not authorized until the contractor receives a notice to proceed from the UST Management Division.**

The contractor must, at all times, keep the site free from waste materials and rubbish related to the corrective action. All contaminated soil and construction debris, contaminated water, and FP generated on-site will be removed from the site promptly. Manifests documenting the proper disposal of the contaminated soil, construction debris, contaminated water, and FP must be included in the appropriate report.

All site rehabilitation activities associated with the UST releases must be performed by a DHEC Certified Class I UST Site Rehabilitation Contractor as required by the SUPERB Site Rehabilitation and Fund Access Regulation, R.61-98. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied.

On all correspondence concerning this site, please reference UST Permit number above. Should you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by email at [hofferqm@dhec.sc.gov](mailto:hofferqm@dhec.sc.gov).

Sincerely,



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

Enc: Table with Site-Specific Target Levels for Permit #12175  
Limited CAP Response Form

Cc: Atlas Technical, 7606 Whitehall Executive CTR. Dr., STE 800, Charlotte, NC 28273 (w/ enc.)  
Sandhu Properties LLC, 52 Dogwood Rd., Adel, GA, 31620 (w/o enc.)  
Quincy Hoffer, UST Management Division (w/o enc.)  
Technical File



**LIMITED CORRECTIVE ACTION PLAN RESPONSE FORM: SPLIT STOP 311, UST #012175**

**A. ACCEPTANCE and DELIVERY STATEMENT**

The UST Site Rehabilitation Contractor agrees to complete the Enhanced AFVR as specified at the price set forth for the site as stated below.

For the purpose of possible acceptance of financial approval, I certify that this company

- Has reviewed the technical file for the release and understands the nature of the release(s) and the geologic conditions at the site as documented in the technical file. Any quantities listed below are estimates and changes to those quantities or to the listed method(s) will not affect the financial approval amount.
- Has conducted a site visit and understands the physical layout of the property, the location(s) of any identified receptors, and any limitations that may exist on or off property as it may relate to the possible implementation.
- Understands that acceptance is based on total cost to treat the area of concern, as depicted in the Corrective Action Plan (CAP).

\_\_\_\_\_  
UST Site Rehabilitation Contractor (Print)

\_\_\_\_\_  
UST Site Rehabilitation Contractor Certification #

\_\_\_\_\_  
Registered Professional Name (Print)

\_\_\_\_\_  
Registered Professional Signature (required)

P.G.  P.E.  (Check appropriate box)

Professional Certification # \_\_\_\_\_

For the purpose of possible acceptance of financial approval, I (the UST tank owner) certify that:

- Has discussed the proposed remedial plan with the UST Site Rehabilitation Contractor and agree with the proposal as put forth.
- Understands that costs up to \$1 million SUPERB coverage may be utilized and the UST Management Division reserves the right to set aside fund for the purpose of verifying achievement of remedial goals.
- Understands that cost in excess of the \$1 million SUPERB coverage are my responsibility as the UST owner.

\_\_\_\_\_  
UST Owner (Print)

\_\_\_\_\_  
UST Owner Signature

**B. CORRECTIVE ACTION RESPONSE**

**Please respond to the following questions:**

1. Please provide detailed information as to how the proposed treatment technique(s) that will be discussed in the CAP will effectively remove free phase product and/or reduce dissolved concentrations to reach target Site Specific Target Levels. Please include the number of proposed injection points, proposed number of extraction points, proposed volume of excavated material, proposed volume of injected material, etc. Only method(s) and/or technology(ies) that will be implemented on site should be included.

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2. The Cost, in whole dollars is \_\_\_\_\_, to treat the area of concern shown in the CAP; prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon and/or remove any remedial components.
3. Please provide how the corrective action costs stated in #2 will be allocated for the corrective action activities discussed in item #1 to include but not limited to, corrective action system planning & installation (including the installation of any remediation wells), system operation & maintenance, expendables (e.g. injectates), sampling/analyses to verify effectiveness of proposed method(s), corrective action system installation, etc. **(See Example Chart Below)**
4. Please provide an estimated timetable for implementation of all proposed techniques discussed in #1. **(See Example Chart Below)**

**CHART IS AN EXAMPLE ONLY**

Item	Cost	Time (date)
<b>Preconstruction Cost</b>		
CAP Design	\$10,000	August 2020
<b>Construction Cost</b>		
Well Installation/Drilling Services	Allowable Rates	October 2020
Drill Cuttings/Disposal	Allowable Rates	October 2020
Surfactant Cost	\$40,000	September 2020
Chemical Injection Cost	\$25,000	September 2020
Soil Excavation	\$45,000	November 2020
Soil Disposal Costs	Allowable Rates	November 2020
Soil amendments & Backfill costs	\$20,000	November 2020
AFVR w/ off gas (1 events/96 hours)	\$85,000	December 2020
AFVR Wastewater/Product Disposal (20,000 gallons)	Allowable Rates	December 2020
Skimmers/Socks	Allowable Rates	January 2021
Analytical/Groundwater Sampling (2 quarterly events-post injection)	Allowable Rates	April 2021 /July 2021
<b>Total</b>	<b>\$ (Provide Total Cost)</b>	

**Please note, the table is for example purposes only and not inclusive, actual line items to be included may vary depending on the technology and costs that will be incurred. All anticipated costs should be accounted for in the table along with the appropriate time for completion.**

UST #12175\_SSTLs

Well ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	EDB	1,2-DCA	TAA	TBA	TAME
MW-1	524	26540	3700	21680	86290	6700	29.70	166	10926	36011	3593
MW-2	273	26540	3700	21680	25373	6700	11.14	107	6648	24401	2395
MW-4	512	26540	3700	21680	82494	6700	28.65	163	10731	35508	3540
MW-5	546	26540	3700	21680	93352	6700	31.63	170	11276	36906	3686
MW-6	441	26540	3700	21680	62242	6700	22.87	148	9581	32502	3228
MW-11	128	26540	3700	21680	6308	6700	3.63	64	3708	15338	1478
MW-17	156	26540	3700	21680	9076	6700	4.87	73	4330	17366	1681
MW-18	268	26540	3700	21680	24516	6700	10.83	106	6555	24131	2367
MW-23	82	26540	3700	21680	2868	3733	1.91	47	2629	11614	1108
MW-24	334	26540	3700	21680	36965	6700	15.06	123	7756	27545	2717
MW-25	322	26540	3700	21680	34526	6700	14.26	120	7543	26949	2656
MW-26	336	26540	3700	21680	37387	6700	15.20	123	7792	27645	2727
TW-1	370	26540	3700	21680	44834	6700	17.58	131	8389	29295	2897
RW-1	530	26540	3700	21680	88252	6700	30.24	167	11025	36265	3619
RW-2	359	26540	3700	21680	42362	6700	16.80	129	8198	28771	2843
RW-3	273	26540	3700	21680	25373	6700	11.14	107	6648	24401	2395
RW-4	330	26540	3700	21680	36134	6700	14.79	122	7684	27345	2696

\*Concentrations are in ug/L.



Healthy People. Healthy Communities.

EDGEFIELD METHODIST CHURCH  
PO BOX 25  
EDGEFIELD, SC 29824



September 20, 2023

**Re: Site History Summary**

Split Stop 311, 311 Main St, Edgefield, SC  
Edgefield County  
UST Permit #12175  
Adjacent property belonging to Methodist Church  
Tax map # 137-07-05-024-000  
Request for Site History Summary received September 14, 2023

To Whom It May Concern:

In response to your request for information about the compliance status and environmental conditions associated with the referenced facility, the following is provided.

The Underground Storage Tank (UST) Management Division (Division) records indicate three (3) USTs were registered with the South Carolina Department of Health and Environmental Control (DHEC) by Sandhu Properties LLC. USTs 1 and 2 are Currently-In-Use and UST-3 is in Extended Out-of-Use status. The UST system was last inspected on October 5, 2022. Violations were corrected and the UST system returned to compliance on December 2, 2022.

On November 1, 1991, a petroleum release was reported at the facility assigned the UST permit number referenced above. Division records indicate that Edgefield Fuel and Convenience LLC, the tank owner at the time of the above referenced release, complied with the regulatory requirements and performed the initial response actions outlined in R.61-92, Section 280.61. Edgefield Fuel and Convenience LLC is monitoring the petroleum chemicals of concern.

The release of petroleum products from the facility assigned the UST permit number referenced above is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. This means that reasonable costs can be paid by the SUPERB Account for a combined coverage of \$1,000,000 for site rehabilitation actions and third-party claims associated with the release. Edgefield Fuel and Convenience LLC, as the tank owner at the time of the above referenced release, currently retains responsibility under state and federal law for any additional actions and associated costs for the release should site rehabilitation cost exceed \$1,000,000.

As part of the assessment investigation of the release of petroleum products from the facility assigned the UST Permit number referenced above, monitoring wells (MW) 12, 20, 21, and telescoping well (TW) 1 were installed on the property owned by Methodist Church. The wells were installed as monitoring wells and are not a source of drinking water. Groundwater samples were collected from the monitoring wells in July 2022 and analyzed for dissolved petroleum constituents. The laboratory data for the above-mentioned wells is enclosed. A site map with the monitoring well locations is also enclosed for your information.

According to the above referenced analytical data, petroleum chemical concentrations that exceed the Risk-Based Screening Levels (RBSLs) were detected in TW-1.

The SUPERB Act does not preclude or restrict the use or redevelopment of property that has been impacted by an offsite petroleum release. However, DHEC advises against installing a water supply well for drinking, cooking, or bathing purposes until rehabilitation activities are completed to achieve no further action status or as otherwise approved by DHEC.

To obtain a better understanding of the statutory and regulatory framework regarding releases and/or UST systems, please use the following links:

**South Carolina UST Control Regulations R.61-92**

[https://scdhec.gov/sites/default/files/media/document/R.61-92\\_0.pdf](https://scdhec.gov/sites/default/files/media/document/R.61-92_0.pdf)

**State Underground Petroleum Environmental Response Bank Act**

<https://www.scstatehouse.gov/code/t44c002.php>

If you have any questions, please contact me at (803) 898-9418. I can also be reached by email at [ariaird@dhec.sc.gov](mailto:ariaird@dhec.sc.gov) or by fax at 803-898-0673.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ryan D. Ariail', with a large, stylized 'O' at the end.

Ryan D. Ariail, Customer Service Liaison  
Underground Storage Tank Management Division  
Bureau of Land and Waste Management

cc: Technical File

enc: Monitoring Report – August 2022



# ATLAS

## GROUNDWATER SAMPLING REPORT

EDGEFIELD FUEL & CONVENIENCE 3  
311 MAIN STREET  
EDGEFIELD, EDGEFIELD COUNTY

UST PERMIT NO. 12175  
ATLAS PROJECT NO. EFC3005

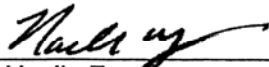
Prepared For:

Edgefield Fuel & Convenience, LLC  
Post Office Box 388  
Edgefield, South Carolina 29824-0388


Prepared By:

Atlas Technical Consultants  
7606 Whitehall Executive Center Drive, Suite 800  
Charlotte, North Carolina 28273

August 9, 2022



Noelle Franice  
Project Manager



Michael D. Shaw, P.  
SC Licensed Professional Geologist  
#2052



TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenze ne (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl- 1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW1	03/04/09	FREE PHASE PRODUCT																
	05/10/10	FREE PHASE PRODUCT																
	10/20/10	FREE PHASE PRODUCT																
	09/12/11	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
07/18/22	FREE PHASE PRODUCT																	
12175-MW2	03/04/09	4,970	7,470	1,020	4,400	183	142	0.46	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	FREE PHASE PRODUCT																
	10/20/10	FREE PHASE PRODUCT																
	09/12/11	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/11/16	FREE PHASE PRODUCT																
	05/20/19	FREE PHASE PRODUCT																
	06/14/21	FREE PHASE PRODUCT																
07/18/22	FREE PHASE PRODUCT																	
12175-MW3	03/04/09	7.9	33.9	<5.0	12.8	<5.0	<5.0	<0.019	NR	<5.0	NR	NR	NR	NR	NR	NR	NR	NR
	05/10/10	<5.0	4.5J	<5.0	5.7J	<5.0	<5.0	<0.020	<5.0	<5.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/21/10	7.5	<5.0	<5.0	4.7J	<5.0	3.6J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	21.4	<1	<0.5	3.5	<1	<5	<0.0189	<0.5	NR	<20	<1	2.6 I	<160	<1	<800	<1	<40
	12/23/14	43.1	1.7 J	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	3.1 J	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/12/2016	8.5	<1.8	<1.8	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	3.0 J	<1.8	<5.0	<3.1	3.0 J	0.13	<2.1	NR	<85.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<85.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<85.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW4	05/10/10	411	29.8	8.3	31.9J	256	<5.0	<0.020	<5.0	17.6	3,120	11.8	322	<50.0	<5.0	<200	<10.0	<100
	10/21/10	1,360	87.5	108	121.6	630	15.2	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	626	10.6	9.5	19.2	862	<25	<0.019	<2.5	NR	7,600	30	350	<800	4.4 I	<4,000	<5	<200
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/12/2016	415	3210	1630	7070	464	526	<0.019	<45.0	NR	20000	<85.0	2760	<182	<42.5	<3280	<90.0	<802
	05/22/2019	<74.8	1030	1560	7140	101 J	722	<0.011	<70.5	NR	6760	<139	1510 J	<585	<65.0	<3200	<134	<1640
	06/15/2021	<8.7	268	564	2210	27.2	261	<0.010	<10.3	NR	2640	<15.2	<455	<120	<17.4	<720	<42.3	<270
	07/19/2022	<8.7	75.0	657	2470	<15.5	360	<0.0078	<10.3	NR	<328	<15.2	<455	<120	<17.4	<720	<42.3	<270
12175-MW5	05/10/10	20,900	30,900	1,090	12,100	11,400	316	0.93	<5.0	21.7	25,300	1,620	<100	<50.0	131	<200	47.1	<100
	10/20/10	FREE PHASE PRODUCT																
	09/12/11	FREE PHASE PRODUCT																
	12/22/14	FREE PHASE PRODUCT																
	09/15/15	FREE PHASE PRODUCT																
	10/12/2016	26000	41800	3100	17000	660 J	819 J	2.1	<450	NR	<19200	1376 J	<14400	<1820	<425	<32800	<900	<8020
	05/22/2019	22600	37700	3260	16700	<524	723 J	1.4	<564	NR	<12400	<1110	<5880	<4680	<520	<25600	<1070	<13100
06/14/21	FREE PHASE PRODUCT																	
07/18/22	FREE PHASE PRODUCT																	
12175-MW6	05/10/10	270	200	20.1	213.3	69.4	<5.0	<0.019	<5.0	9.4	757	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/21/10	1,830	1,140	110	677	186	9.1J	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	1,500	351	19.5	353	155	<50	<0.0187	<5	NR	<200	6.7 I	<200	<1,800	<10	<8,000	<10	<400
	12/23/14	2,350	183	483	263	459	26.6	<0.019	<25.0	NR	13,600	<50.0	1,050	<250	<25.0	<1,000	<50.0	<500
	09/15/15	1890	<100	708	<200	905	<100	<0.020	<100	NR	28300	<200	2020	<1000	<100	<4000	<200	<2000
	10/12/2016	1660	595	497	842	770	43.5 J	<0.020	<36.0	NR	34800	<68.0	2870	<146	<34.0	<2620	<72.0	<642
	05/22/2019	3480	562	932	2120	1190	115 J	<0.011	<113	NR	62100	<223	4340	<936	<104	<5120	<215	<2620
	06/15/2021	3510	564	965	1540	1530	111 J	<0.0099	<51.5	NR	68500	<76.0	6040	<802	<87.2	<3600	<212	<1350
	07/19/2022	862	<50.2	253	<125	1920	<52.2	<0.0078	<51.5	NR	77300	<76.0	6240	<602	<87.2	<3600	<212	<1350

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW7	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	59.3	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0187	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2018	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/2/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
07/19/2022	Paved Over																		
05/10/10	<5.0	3.7J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	57.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11	<0.5	<1	<0.5	<2	<1	1.9J	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40		
12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/12/2018	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1		
05/2/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
05/10/10	<5.0	3.1J	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	34.4	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0185	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40		
12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	2.8J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/12/2018	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1		
05/2/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.018J	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
07/19/2022	Not Located																		
05/10/10	<5.0	1.8J	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	41.8	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40		
12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/12/2018	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1		
05/2/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
05/10/10	1,820	522	33.1	522	125	31.9	0.097	<5.0	40.5	310	100	<100	<50.0	4.7J	<200	<10.0	<100		
10/20/10	<5.0	<5.0	<5.0	<15.0	4.4J	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
09/12/11	1,110	1,140	155	3,610	<10	<50	<0.0191	<5	NR	<200	19.3	<200	<1,600	<10	<8,000	<10	<400		
12/22/14	1,990	519	62.7	2,470	161	251	<0.020	<5.0	NR	1,340	84.0	200	<50.0	5.9	<200	<10.0	<100		
09/15/15	673	637	<62.5	3620	<62.5	260	<0.020	<62.5	NR	<1250	<125	<1250	<625	<62.5	<2500	<125	<1250		
10/12/2018	1340	451	50.4 J	3950	25.3 J	279	<0.020	<22.5	NR	<960	<42.5	<721	<91.2	<21.2	<1640	<45.0	<401		
05/2/2019	4850	850	155	916	480	218	0.26	<70.5	NR	5360	207 J	<735	<585	<65.0	<3200	<134	<1640		
06/15/2021	5990	4240	566	2290	707	229	<0.0096	<82.4	NR	10000	289 J	<3640	<964	<140	<5760	<338	<2160		
07/19/2022	4930	4030	514	2110	544	160 J	<0.0077	<82.4	NR	13000	244 J	<3640	<964	<140	<5760	<338	<2160		
05/10/10	75.7	3.5J	9.4	34.0J	<5.0	12.0	<0.020	<5.0	61.5	157	<10.0	570	<50.0	<5.0	<200	<10.0	<100		
10/20/10	58.0	2.6J	8.5	19.5	<5.0	14.6	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
09/12/11	53.6	2.1	2.6	1.11	<1	5.9	<0.0188	<0.5	NR	343	<1	88.2	<160	<1	<800	<1	<40		
12/23/14	44.7	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	1,120	<10.0	75.6 J	<50.0	<5.0	<200	<10.0	<100		
09/15/15	24.7	<5.0	11.3	<10.0	<5.0	14.5	<0.019	<5.0	NR	715	<10.0	<100	<50.0	<5.0	<200	<10.0	<100		
10/12/2018	29.1	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	979	<3.4	87.4 J	<7.3	<1.7	<131	<3.6	<32.1		
05/2/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	<0.011	<2.8	NR	186	<5.6	54.7 J	<23.4	<2.6	<128	<5.4	<65.6		
06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
07/19/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175-MW13	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.021	<5.0	96.0	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.019	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	3.5 J	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	12175-MW14	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	<5.0	7.2	<100	<10.0	<100	<50.0	<5.0	<200	<10.0
10/20/10		<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
09/12/11		<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
12/22/14		<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
09/15/15		<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
10/11/2016		<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.044	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
06/14/2021		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
07/18/2022		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0074	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW15		05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	128	<100	<10.0	<100	<50.0	<5.0	<200	<10.0
	10/20/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
	05/21/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.031	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	12175-MW16	05/10/10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.019	<5.0	146	<100	<10.0	<100	<50.0	<5.0	<200	<10.0
10/20/10		<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<0.020	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
09/12/11		<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
12/22/14		<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
09/15/15		<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
10/11/2016		<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1
05/21/2019		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
06/14/2021		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0099	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
07/18/2022		<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0079	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-MW17		10/21/10	15,900	31,400	2,820	12,970	564	623	0.69	<5.0	NR	13,600	633J	<100	<50.0	24.5	<200	8.5J
	09/12/11	9,220	19,500	1,530	7,480	<100	272 J	0.13	<5.0	NR	9,580	260	<2,000	<16,000	<100	<80,000	<100	<4,000
	12/23/14	15,600	40,400	3,430	18,500	645 J	843	0.23	<625	NR	18,000	490 J	<12,500	<6,250	<625	<25,000	<1,250	<12,500
	09/15/15	15,900	33,000	2,820	17,000	<1000	1880	0.70	<1000	NR	15700 J	<2000	<20000	<10000	<1000	<40000	<2000	<20000
	10/12/2016	19100	38100	3180	16200	<340	613 J	0.64	<360	NR	29100	<680	<11500	<1480	<340	<26200	<720	<6420
	05/21/2019	13690	36900	3120	16990	<1050	<1070	0.74	<1150	NR	<24800	<2230	<11800	<9360	<1940	<51200	<2150	<26200
	06/15/2021	11090	39190	3390	16200	<775	588 J	0.33	<515	NR	<16400	<760	<22800	<6020	<872	<36000	<2120	<13500
	07/18/2022	7610	35600	2760	13590	<775	<522	<0.0080	<515	NR	<16400	<760	<22800	<6020	<872	<36000	<2120	<13500
	10/21/10	26.8	101	9.3	42.7	2.8J	3.1J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40
12175-MW18	12/23/14	7,030	17,400	1,430	8,170	18.7	228	<0.019	<10.0	NR	1,540	94.3	<200	<100	<10.0	<400	<20.0	<200
	09/15/15	3350	9620	898	6070	<25.0	208	0.056	<25.0	NR	740	31.8 J	<500	<250	<25.0	<1000	<50.0	<500
	10/12/2016	5070	13300	1630	5810	<170	276 J	0.11	<180	NR	<7680	<340	<5770	<730	<170	<13100	<360	<3210
	05/22/2019	2450	13300	1690	7050	<328	388 J	0.096	<352	NR	<7740	<696	<3680	<2920	<325	<16000	<671	<8200
	06/15/2021	1510	14000	1780	7260	<388	375 J	<0.0097	<258	NR	<8200	<380	<11400	<3010	<436	<18000	<1060	<6740
	07/18/2022	146	2010	291	908	<62.0	51.4 J	<0.0074	<41.2	NR	<1310	<60.8	<1820	<482	<69.8	<2880	<169	<1080

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVENIENCE 3

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)	
RBSL/Action Level		5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE	
12175-MW19	10/20/10	FREE PHASE PRODUCT																	
	09/12/11	FREE PHASE PRODUCT																	
	12/22/14	FREE PHASE PRODUCT																	
	09/15/15	FREE PHASE PRODUCT																	
	10/12/2016	910	6950	1460	9810	<85.0	360	<0.020	<90.0	NR	7780	<170	<2880	<365	<85.0	<6550	<180	<1600	
	5/20/2019	FREE PHASE PRODUCT																	
	06/14/21	FREE PHASE PRODUCT																	
12175-MW20	10/21/10	5.6	7.0	1.1J	9.1J	9.5	2.9J	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	0.17I	<0.5	<2	5	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/20/2019	<3.0	<2.9	<2.9	<5.0	<2.6	<2.7	0.096	<2.8	NR	<61.9	<5.6	<29.4	<23.4	<2.6	<128	<5.4	<65.6	
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0098	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW21	10/21/10	2.5J	10.5	1.8J	8.2J	<5.0	5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0188	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/23/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	9.9	<0.019	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/20/2019	No Access																	
	06/14/2021	<1.7	<2.0	<1.8	8.0	<3.1	24.2	<0.0090	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	16.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW22	10/21/10	<0.5	4.5J	<0.5	<15.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	<1	<5	<0.0191	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	10/11/2016	<1.7	<1.6	<1.6	<2.7	<1.7	<2.0	<0.020	<1.8	NR	<76.8	<3.4	<57.7	<7.3	<1.7	<131	<3.6	<32.1	
	05/21/2019	<1.7	2.9 J	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
	06/15/2021	<1.7	<2.0	<1.8	<5.0	<3.1	2.2 J	<0.0097	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9	
07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0077	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9		
12175-MW23	10/21/10	<5.0	4.5J	<5.0	<15.0	3.8J	<5.0	<0.020	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/12/11	<0.5	<1	<0.5	<2	0.66I	<5	<0.0189	<0.5	NR	<20	<1	<20	<160	<1	<800	<1	<40	
	12/22/14	18.9	<5.0	<5.0	<10.0	6.4	<5.0	<0.019	<5.0	NR	<100	<10.0	<100	<50.0	<5.0	<200	<10.0	<100	
	09/15/15	18.7	<5.0	<5.0	<10.0	10.1	3.6 J	<0.020	<5.0	NR	<100	3.5 J	<100	<50.0	<5.0	<200	<10.0	<100	
	10/12/2016	1110	<16.0	<16.0	51.6 J	117	22.1 J	<0.020	<18.0	NR	<768	65.4 J	<57.7	<73.0	<17.0	<1310	<36.0	<321	
	05/21/2019	998	<28.7	<29.0	<50.0	262	<26.7	<0.011	<28.2	NR	<266	115	447 J	<234	<120.0	<1280	<53.7	<656	
	06/15/2021	167	<5.0	<4.6	43.5	373	11.2 J	<0.010	<5.2	NR	4990	171	237 J	<60.2	9.3 J	<360	<21.2	<135	
07/18/2022	16.3	<2.0	<1.8	<5.0	161	<2.1	<0.0076	<2.1	NR	1280	61.3	94.7 J	<24.1	4.3 J	<144	<8.5	<53.9		
12175-MW24	12/23/14	12,100	32,800	1,780	21,100	75.5	469	<0.020	<50.0	NR	17,400	119	644 J	<500	<50.0	<2,000	<100	<1,000	
	09/15/15	4720	17000	2600	14600	<625	1320	<0.020	<625	NR	15800	<1250	<12500	<6250	<625	<25000	<1250	<12500	
	10/12/2016	4320	13600	2170	11300	<170	493 J	0.35	<180	NR	18700	<340	<5770	<730	<170	<13100	<360	<3210	
	05/22/2019	5290	16300	2470	12000	<262	684	<0.011	<282	NR	18700	<557	<2940	<2340	<260	<12800	<537	<6560	
	06/15/2021	5600	18100	2650	12700	<310	567	<0.0098	<206	NR	23800	<304	<9100	<2410	<349	<14400	<846	<5390	
	07/19/2022	6860	15700	2430	11800	1390	479 J	<0.0077	<258	NR	31600	<380	<11400	<3010	<436	<18000	<1060	<6740	
	12/22/14	FREE PHASE PRODUCT																	
09/15/15	FREE PHASE PRODUCT																		
10/11/16	FREE PHASE PRODUCT																		
05/20/19	FREE PHASE PRODUCT																		
06/14/21	FREE PHASE PRODUCT																		
07/19/2022	FREE PHASE PRODUCT																		
12175-MW26	12/22/14	967	41.8	<25.0	<50.0	84.6	25.6	<0.019	13.9 J	NR	1,310	44.7 J	306 J	<250	16.0 J	<1,000	<50.0	161 J	
	09/15/15	583	<25.0	<25.0	<50.0	64.4	47.6	<0.020	12.1 J	NR	1200	27.4 J	<500	<250	18.6 J	<1000	<50.0	<500	
	10/12/2016	238	<4.0	<4.0	<6.8	37.2	<5.0	<0.019	7.8 J	NR	1100	30.6	249 J	<18.2	10.0 J	<328	<9.0	<80.2	
	05/22/2019	62.1	<2.0	<1.8	<5.0	29.7	<2.1	<0.011	6.8	NR	1920	57.4	194	<24.1	10.2	<144	<8.5	<53.9	
	06/15/2021	3.1 J	<2.0	<1.8	<5.0	63.8	<2.1	<0.0096	6.2	NR	3330	94.8	282	<24.1	14.7	<144	<8.5	<53.9	
	07/18/2022	13.2	<2.0	<1.8	<5.0	47.5	<2.1	<0.0079	5.6	NR	3470	83.6	251	<24.1	15.5	<144	<8.5	<53.9	

TABLE 3  
GROUNDWATER ANALYTICAL DATA  
EDGEFIELD FUEL & CONVIENCE 3

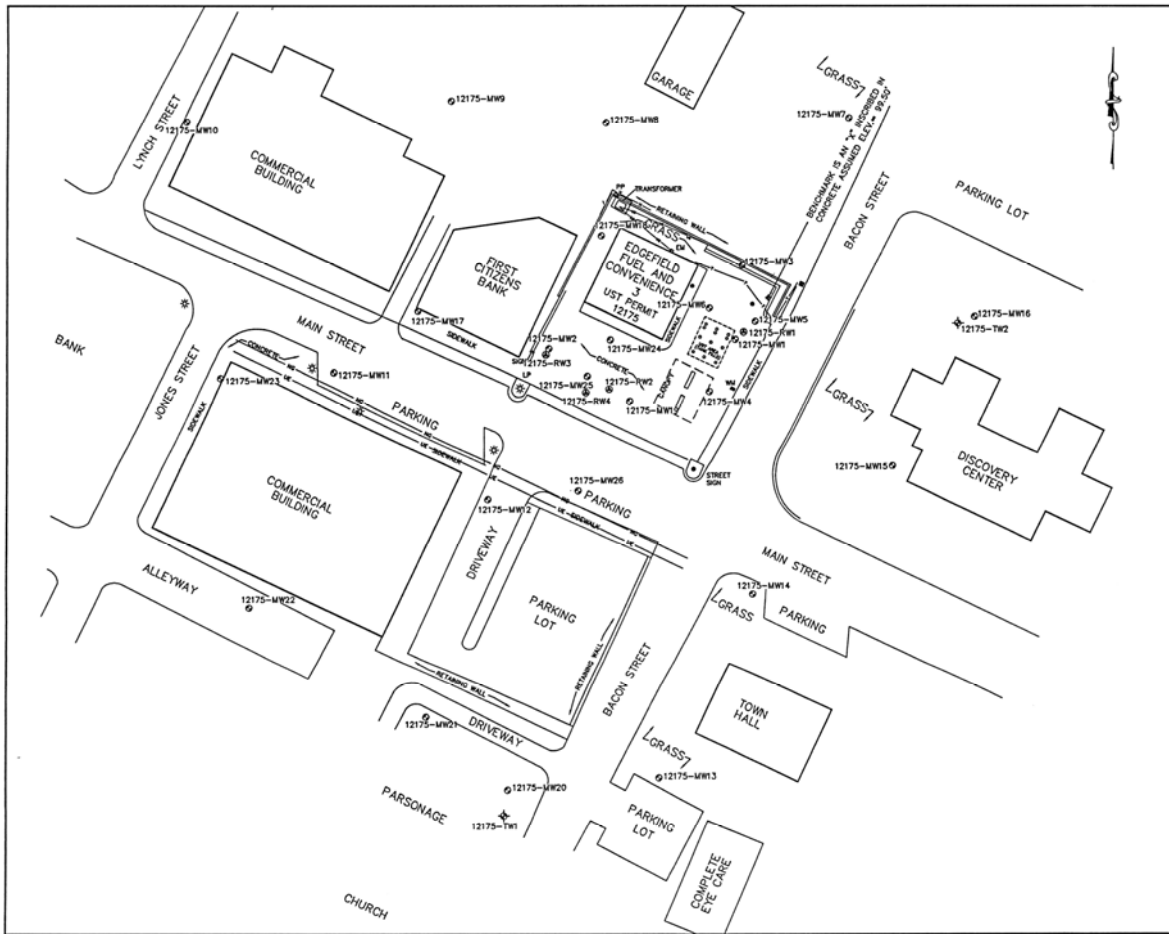
Well ID	Sample Date	Benzen e (µg/L)	Toluene (µg/L)	Ethylbenze ne (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalen e (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	Total Lead (µg/L)	TAA (µg/L)	TAME (µg/L)	TBA (µg/L)	TBF (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	3,3-Dimethyl-1-butanol (µg/L)
	RBSL/Action Level	5	1,000	700	10,000	40	25	0.05	5	15	240	128	1,400	NE	150	10,000	47	NE
12175- TW1	05/20/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	0.41	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175- TW2	05/22/2019	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.011	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	06/14/2021	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0096	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
	07/18/2022	<1.7	<2.0	<1.8	<5.0	<3.1	<2.1	<0.0076	<2.1	NR	<65.6	<3.0	<91.0	<24.1	<3.5	<144	<8.5	<53.9
12175-RW1	12/23/14	27,900	44,800	2,900	17,000	4,540	525	1.2	<100	NR	15,100	2,010	1,550 J	<1,000	145	<4,000	<200	<2,000
	09/16/15	26800	51700	3630	21600	2330	3120	0.39	<2000	NR	41800	1570 J	<40000	<20000	<2000	<80000	<4000	<40000
	10/11/16																	
	05/20/19																	
	06/14/21																	
12175-RW2	07/19/2022																	
	12/23/14																	
	09/15/15																	
	10/11/16																	
	05/20/19																	
12175-RW3	06/14/21																	
	07/19/2022																	
	12/23/14	13,300	36,200	3,140	15,700	<2,500	<2,500	0.028	<2,500	NR	<50,000	<5,000	<50,000	<25,000	<2,500	<100,000	<5,000	<50,000
	09/16/15	8210	29800	2410	16000	<125	705	<0.019	<125	NR	19600	<250	<2500	<1250	<125	<5000	<250	<2500
	10/12/2016	11200	34900	3280	17100	<425	602 J	0.21	<450	NR	39000	<850	<14400	<1820	<425	<32800	<900	<8020
	05/20/19																	
12175-RW4	06/14/21																	
	05/20/19																	
	07/19/2022																	

Risk-Based Screening Level (RBSL) as defined in Appendix B of SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, May South Carolina Risk-Based Corrective Action for Petroleum Releases Action Level (AL) as defined in SCDHEC, Department of Health and Environmental Control, Bureau of Land and Waste Management, Underground Storage Tank Program, October 22, 2008, Certification of the C

Concentrations in bold face type exceeded the RBSL / Action Level  
 < = less than the reporting limit specified in the laboratory report  
 NR = analysis not requested  
 NS = not sampled  
 J value = an estimated value between the laboratory reporting limit and the method detection limit  
 I value = an estimated value between the laboratory method detection limit and the laboratory practical quantitation limit  
 NE = not established  
 NF = well not found

EDB = 1,2-Dibromoethane  
 TBF = *tert*-Butyl Formate  
 TAA = *tert*-Amyl Alcohol  
 1,2-DCA = 1,2-Dichloroethane  
 TBA = *tert*-Butyl Alcohol  
 MTBE = Methyl-*tert*-butyl ether  
 TAME = *tert*-Amyl methyl ether  
 DIPE = Diisopropyl ether  
 ETBE = Ethyl-*tert*-butyl ether





**Legend**

—UE—	Underground Electric Line
—X—	Wood Fence Line
—T—	Underground Telephone Line
⊙	Sanitary Sewer Clean Out
⊕	Grate Top Drop Inlet
⊙	Light Pole
⊙	Light Pole
⊙	12175-MW1 Shallow (Water Table) Monitoring Well
⊙	12175-RW1 Recovery Well
⊙	12175-TW1 Telescoping Well

**General Notes:**  
 All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

**ATLAS**  
 7606 Whitehall Executive Center Drive, Suite 800  
 Columbia, SC 29225  
 Phone (803)881-8711 Fax (803)881-8744

**PROJECT:** Edgfield Fuel & Convenience 3  
 311 Main Street  
 Edgfield, South Carolina

**TITLE:** Site Plan

**CLIENT:** Edgfield Fuel & Convenience, LLC

**DATE:** 6/10/19

SCALE	1"=50'
DATE	6/10/19
DESIGNED BY	EFC/3
CHECKED BY	NF
APPROVED BY	NF
FIGURE NO.	2