AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-155

SITE NAME Duke Spartanburg DATE 10-3-12 TIME OF SAMPLE 1505

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 68°

TOTAL WELL DEPTH (TWD) 20.39 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 10.39-20.39 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.85

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 8.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.4 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 4.2 FIVE STANDING WELL VOLUMES = 7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1444	Initial Reading	11.85	4.63	0.002	18.1	9.51	25.81	323	
1454	1454	12.21	3.89	0.308	12.6	2.59	23.65	384	
	1459	12.25	3.86	0.305	10.3	2.43	23.63	387	
	1504	12.26	3.83	0.302	8.9	2.38	23.63	391	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228.12.0021 MONITORING WELL NUMBER MW-1DR

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 11:05

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy

TOTAL WELL DEPTH (TWD) 62 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 57 - 62 MEASURING POINT FOR DEPTH T.O.C.

DEPTH TO GROUNDWATER (DGW) 7.17

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 54.83

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 8.9 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 26.8 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 2.5 GAL. FLOW RATE 187/100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE ✓ HIGH

COMMENTS

1:22 to fill 255 mL

82 ~~[illegible]~~ / 255 mL = 60 / X = 186.6

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	7.17	6.98	0.261	139.0	0.02	17.67	172	
10 min	10.45	6.99	0.258	201.0	0.00	17.47	160	
15 min	11.35	7.25	0.256	255.0	0.00	17.40	143	
20 min	11.65	7.45	0.256	302.0	0.00	17.35	129	<slow purge rate to 100 mL/min
25 min	11.40	7.63	0.257	312.0	0.00	17.50	51	
30 min	11.31	7.56	0.264	71.5	4.41	17.49	46	Prior to reading empty flowthru cell

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-355

SITE NAME Duke Spartanburg DATE 10-2-12 TIME OF SAMPLE 1120

FIELD PERSONNEL TL H WEATHER CONDITIONS 73° Partly Cloudy

TOTAL WELL DEPTH (TWD) 13.25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL _____ MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.01

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.24

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.85 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.55 FIVE STANDING WELL VOLUMES = 4.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peristaltic

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1055 Initial Reading	8.05	6.03	0.999	84.7	2.90	22.83	381	
1105	8.36	6.16	0.685	57.8	1.89	22.73	240	
1110	8.42	6.18	0.683	27.1	1.92	22.74	175	
1115	8.45	6.15	0.68	9.9	1.89	22.72	170	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-10 S

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 12:00

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy/light rain

TOTAL WELL DEPTH (TWD) 18.54 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8.51 - 18.51 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.58

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 6.96

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.01 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.3 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 1.0 GAL. FLOW RATE 141 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH

COMMENTS

1.48 per 255 mL flow rate

108 sec / 255 mL = 60 sec / X X = 141 mL/min

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1:32 Initial Reading	12.80	5.92	0.444	404.0	0.22	20.93	170	
5 min	12.25	5.74	0.440	187.0	0.00	20.50	185	
10 min	12.50	5.75	0.436	154.0	0.00	20.47	188	
15 min	12.72	5.80	0.435	119.0	0.00	20.42	187	
20 min	13.10	5.87	0.437	72.8	0.00	20.43	172	slow flow rate to appx 100 mL/min
25 min	13.08	5.90	0.453	54.3	0.00	20.77	148	
30 min	13.05	6.03	0.479	34.9	0.00	20.82	116	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW 10 D

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 1245

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P.Cloudy

TOTAL WELL DEPTH (TWD) 39 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 34-39 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.05

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 27.95

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.6 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 13.7 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE 158 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS

$\frac{97 \text{ sec}}{255 \text{ mL}} = \frac{60 \text{ sec}}{x}$ x = 158

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	11.80	6.82	0.269	115.0	0.07	19.42	55	
5min	11.85	6.91	0.267	112.0	0.00	19.17	1	
10	11.92	7.15	0.265	116.0	0.00	19.04	-31	
15min	11.90	7.31	0.264	124.0	0.00	19.17	-65	Empty cell
20min	11.90	7.49	0.263	74.7	1.24	18.65	-110	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-11S

SITE NAME Duke Spartanburg DATE 10/2/12 TIME OF SAMPLE 1130

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS Rain heavily overnight/Sunny

TOTAL WELL DEPTH (TWD) 14.60 FT. (measured / (well tag) / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.6-14.6 MEASURING POINT FOR DEPTH NA

DEPTH TO GROUNDWATER (DGW) 11.40

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 3.2

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 1.5 FIVE STANDING WELL VOLUMES = 2.5

METHOD OF WELL EVACUATION: BAILER / (PUMP) OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 0.5 GAL. FLOW RATE 40 mL/min

WELL TYPE: (FLUSH MOUNT) / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

COMMENTS purged dry @ 1 vol. collect sample reading prior to collecting samples – allowed 1 hr of recharge – purged dry during sampling/collected pad cracked all but VOCs, SVOCs 1500 – collect SVOCs and VOCs (only one SVOC purged dry)

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	11.40	4.60	0.394	888.0	10.15	21.42	229	
5	12.76	3.90	0.517	>1000	0.00	21.41	281	
10	13.45	3.96	0.537	>1000	0.00	21.47	280	Empty flow thru cell
15	14.05	4.35	0.407	605.0	6.07	21.56	249	
20	14.35	4.34	0.434	526.0	5.10	21.87	243	
25	14.40 (dry)	4.34	0.454	472.0	4.98	22.49	243	Purged dry
~~35~~		~~4.73~~	~~0.089~~	~~55.1~~	~~9.91~~	~~24.39~~	~~266~~	RMC 10/2/12
* Sample	DNM	4.41	0.451	32.1	11.61	26.15	233	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-11D

SITE NAME Duke-Spartanburg DATE 10/2/12 TIME OF SAMPLE 1435

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS Rain in AM/Sunny

TOTAL WELL DEPTH (TWD) 31.2 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 26.2-31.2 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.22

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 19.98

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 3.3 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 9.9 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE ✓ HIGH

COMMENTS

- MW-11D located appx 8' towards creek from MW-11S
- Begin sampling @ 1435
- vegetation high initially could not find

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
14:19	Initial Reading	11.35	6.52	0.358	42.8	6.88	20.30	8	
14:24	5 min	12.60	6.69	0.335	37.4	0.00	19.52	39	
14:29	10 min	13.09	6.92	0.330	23.7	0.00	19.36	35	
14:34	15 min	13.39	7.02	0.332	18.4	0.00	19.13	31	Empty flow thru cell after reading
14:39	20 min	13.45	7.17	0.333	16.7	5.30	18.78	19	
14:34	25 min	13.35	7.39	0.330	14.1	0.00	18.93	13	

AMEC E&I, INC.

Dup-1

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-12S

SITE NAME Duke-Spartanburg DATE 10-2-12 TIME OF SAMPLE 1440

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 75°

TOTAL WELL DEPTH (TWD) 15.27 FT (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL _____ MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 4.92

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 10.35

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.7 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 5.1 FIVE STANDING WELL VOLUMES = 8.5

METHOD OF WELL EVACUATION: BAILER PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1358 Initial Reading	4.92	6.31	0.699	155	0	20.07	-70	
1408	5.18	6.16	0.484	114	0	20.54	-38	
1418	5.2	5.16	0.206	109	0	20.92	96	
1428	5.28	5.16	0.206	110	0	20.96	103	
1433	5.28	5.15	0.205	112	0	21.01	105	
1438	5.28	5.16	0.205	118	0	21.04	107	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-12D

SITE NAME Duke-Spartanburg DATE 10-2-12 TIME OF SAMPLE ~~75°F~~ 1345

FIELD PERSONNEL TLH WEATHER CONDITIONS 75° Partly Cloudy

TOTAL WELL DEPTH (TWD) 35.42 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL _____ MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 4.95

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 30.47

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.99 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 15 FIVE STANDING WELL VOLUMES = 25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1325 Initial Reading	4.95	6.24	0.999	6.7	7.93	21.22	236	
1330	5.98	5.98	0.478	8.9	0.04	18.85	203	
1335	6.15	5.96	0.476	7.2	0.0	18.90	201	
1340	6.7	5.92	0.474	4.8	0.0	18.86	199	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228.12-0021 MONITORING WELL NUMBER MW-13 S

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 1445

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy

TOTAL WELL DEPTH (TWD) 15.02 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5.02-15.02 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.38

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.64

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.3 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.9 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 0.5 GAL. FLOW RATE 145 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

COMMENTS groundwater contains sheen and petroleum like odor - product on tubing

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1416 Initial Reading	7.41	6.20	0.595	98.7	0.84	20.77	4	
5 min	7.56	5.52	0.594	73.8	0.00	20.54	32	
10 min	7.62	5.76	0.614	63.7	0.00	20.40	12	
15 min	7.62	6.05	0.669	70.6	0.00	20.39	-1	
20 min	7.62	6.08	0.675	70.9	0.00	20.41	-2	slow purge rate to 100 mL/min

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AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13D

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 1540

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy

TOTAL WELL DEPTH (TWD) 35.4 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 30.4-35.4 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.88

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 26.52

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.2 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 12.6 FIVE STANDING WELL VOLUMES = N/A

METHOD OF WELL EVACUATION: BAILER PUMP OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 3.0 GAL. FLOW RATE 168 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

COMMENTS ~~Stabilized pump~~ ISOC and fitted in well/removed pump & tubing - large ant nest adjacent to well

$\frac{255 mL}{91} = \frac{x}{60}$ x = 168

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	9.95	6.92	0.415	34.5	5.72	18.89	86	
5 min	11.12	6.44	0.414	35.7	5.43	18.85	94	
10 min	12.58	6.25	0.412	38.9	5.09	18.81	110	
15 min	14.30	6.40	0.412	48.9	5.02	18.80	107	
20 min	15.50	6.62	0.412	75.3	5.18	18.72	102	Slow purge rate to approx 100 mL/min
25 min	18.75	6.68	0.413	93.5	5.23	19.31	106	~~Stabilized~~
30 min	22.53	6.64	0.411	126.0	5.44	18.44	115	Slow purge rate to 60 mL/min
35 min	24.50	6.71	0.412	112.0	5.13	19.67	117	
40 min	DNM	DNM	DNM	23.6	DNM	DNM	DNM	

Stabilized @ 25' ~~bgs~~ btc

Recalibrate U-22 U-22 reading 43.6 on Cal S/N Autcal S/N Recal = 0.0

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13 ISOL

SITE NAME Duke-Spartanburg DATE 10-3-12 TIME OF SAMPLE 1600

FIELD PERSONNEL TLH WEATHER CONDITIONS 68° Cloudy

TOTAL WELL DEPTH (TWD) 21.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 6.5 - 21.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.0

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.5

CASING DIAMETER 4 IN.

ONE STANDING WELL VOLUME = 9.4 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 28.2 FIVE STANDING WELL VOLUMES = 47

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1536 Initial Reading	7.0	6.43	0.945	32.7	1.07	22.13	-13	
1546	7.4	6.16	0.981	11.2	0.19	21.86	-21	
1551	7.43	6.2	0.990	8.9	0.02	21.79	-26	
1556	7.49	6.23	0.989	5.5	0	21.75	-30	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-14S

SITE NAME Duke Spartanburg DATE 10/7/12 TIME OF SAMPLE 16:25

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy / Rain in AM

TOTAL WELL DEPTH (TWD) 14.88 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.88 - 14.88 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.78

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.1

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.2 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.6 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic

TOTAL VOLUME OF WATER REMOVED: 1.0 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE ✓ HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
3:50 Initial Reading	~~14.88~~ 7.78 BMC	5.73	0.367	>1000	1.13	21.59	42	
5	8.15	4.60	0.291	>1000	0.00	20.82	107	After reading empty f.t. cell
10	8.23	4.50	0.176	216.0	5.96	20.54	152	
15	8.44	4.34	0.163	57.1	0.00	20.53	210	After reading empty f.t. cell
20	8.49	4.95	0.162	160.0	5.31	20.49	169	
25	8.50	4.79	0.157	28.5	0.00	20.48	197	
30	8.49	4.74	0.155	27.7	0.00	20.46	209	After reading empty f.t. cell
35	8.53	4.92	0.153	14.5	5.21	20.40	175	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-14D

SITE NAME Duke Spartanburg DATE 10/3/12 TIME OF SAMPLE 9:20

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS P. Cloudy

TOTAL WELL DEPTH (TWD) 34.61 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 29.61 - 34.61 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.41

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 26.2

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.3 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 12.8 FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE [redacted] 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS – bailer in well/tied to cap.

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
8:40 Initial Reading	9.01	6.81	0.375	42.6	2.13	18.11	36	
5	10.35	6.92	0.372	63.9	0.00	17.67	47	
10	12.90	6.95	0.366	147.0	0.00	17.52	94	
15	15.34	7.01	0.363	168.0	0.00	17.54	94	
20	17.40	6.97	0.359	216.0	0.00	17.57	101	
25	19.18	7.00	0.357	233.0	0.00	17.51	90	
30	22.25	6.88	0.347	240.0	1.13	17.62	107	empty w/ f.t. cell slow purge rate to 50 mL/min
35	23.55	6.82	0.362	51.1	2.65	17.71	111	
40	23.48	6.85	0.359	33.5	1.01	17.72	114	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-15s

SITE NAME Duke-Spartanburg DATE 10-3-12 TIME OF SAMPLE 925

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 66

TOTAL WELL DEPTH (TWD) 15.15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5 – 15 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.9

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.25

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.19 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.57 FIVE STANDING WELL VOLUMES = 5.95

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS Noticeable Sheen + Odor

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
9.02 Initial Reading	7.09	6.37	0.551	29.1	3.95	19.65	-18	
912	7.15	6.10	0.458	17.9	0	19.63	-9	
917	7.09	6.08	0.451	12.4	0	19.68	-9	
922	7.10	6.06	0.449	7.6	0	19.72	-9	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-15D
SITE NAME Duke Spartanburg DATE 10-3-12 TIME OF SAMPLE 840
FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 66

TOTAL WELL DEPTH (TWD) 34.60 FT. (measured / well tag / drillers log/ previous report – **circle one**)
SCREENED INTERVAL 29.6-34.6' MEASURING POINT FOR DEPTH TOC
DEPTH TO GROUNDWATER (DGW) 8.28
LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 26.32
CASING DIAMETER 2 IN.
ONE STANDING WELL VOLUME = 4.31 gal.
(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)
THREE STANDING WELL VOLUMES = 12.93 FIVE STANDING WELL VOLUMES = 21.55
METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri
TOTAL VOLUME OF WATER REMOVED: 1.5g GAL. FLOW RATE _____ mL/min
WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS Noticeable Odor
LOCKING CAP YES ✓ NO
PROTECTIVE POST/ABUTMENT YES NO ✓
NONPOTABLE LABEL YES ✓ NO
ID PLATE YES ✓ NO
WELL INTEGRITY SATISFACTORY YES ✓ NO
WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
822 Initial Reading	8.28	6.64	0.615	14.1	1.23	18.08	-30	
832	9.79	6.62	0.600	7.9	0	17.94	-72	
835	10.05	6.62	0.599	7.8	0	17.92	-75	
838	10.34	6.62	0.599	8.4	0	17.92	-79	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-16s

SITE NAME Duke-Spartanburg DATE 10-3-12 TIME OF SAMPLE 1200

FIELD PERSONNEL TLH WEATHER CONDITIONS 68° cloudy

TOTAL WELL DEPTH (TWD) 18.35 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8.35-18.35 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 15.29

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 3.06

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .50 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 1.5 FIVE STANDING WELL VOLUMES = 2.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1135 Initial Reading	15.29	5.59	0.232	39.6	3.67	22.22	231	
1145	15.62	5.59	0.327	23.3	1.18	21.78	262	
1150	15.59	5.62	0.333	9.3	0.9	21.78	258	
1155	15.59	5.64	0.334	7.8	0.9	21.83	255	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-16D

SITE NAME Duke-Spartanburg DATE 10-3-12 TIME OF SAMPLE 1235

FIELD PERSONNEL TLH WEATHER CONDITIONS 68° Cloudy

TOTAL WELL DEPTH (TWD) 31.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 26.5 - 31.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 15.72

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.78

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.58 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.74 FIVE STANDING WELL VOLUMES = 12.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1218 Initial Reading	15.72	6.86	0.341	63.6	1.71	20.72	97	
1223	15.3	6.86	0.336	16.5	0.26	20.5	-0	
1228	15.3	6.83	0.335	11.3	0.25	20.46	-11	
1233	15.31	6.81	0.335	8.6	0.1	20.49	-15	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-175

SITE NAME Duke-Spartanburg DATE 10-2-12 TIME OF SAMPLE 1605

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 79°

TOTAL WELL DEPTH (TWD) 15.15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5-15' MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 3.45

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 11.70

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.92 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 5.76 FIVE STANDING WELL VOLUMES = 9.6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
15.40 Initial Reading	3.45	6.22	0.522	30.8	0.54	22.34	121	
1550		5.84	0.507	25.2	0.47	23.15	150	
1555	4.52	5.87	0.498	12.7	1.47	23.03	178	
1600	4.6	5.91	0.491	8.3	1.48	23.1	179	

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AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-18S

SITE NAME Duke Spartanburg DATE 10/2/17 TIME OF SAMPLE 1230

FIELD PERSONNEL Rodney Clark WEATHER CONDITIONS Rain in morning / Sunny

TOTAL WELL DEPTH (TWD) 14.88 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.88 - 14.88 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 4.13

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 10.75

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 5.25 FIVE STANDING WELL VOLUMES = 8.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE peristaltic (low flow)

TOTAL VOLUME OF WATER REMOVED: 0.75 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH

COMMENTS

* Sample SVOCs first, then collect sample reading below prior to collecting (Fe, Mn) metals, VOCs, and NO_3, SO_4, Alk.

WL meter contains free product

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
12:04	Initial Reading	4.13	4.63	0.101	195.0	3.12	21.59	253	
12:15	10	~~DNM~~ 4.30	~~299~~ 4.96	0.087	150.0	0.00	21.57	299	
12:19	16	4.30	4.11	0.087	149.0	0.00	21.87	296	Emptly flow thru cell
12:26	23	4.30	4.24	0.085	149.0	0.00	21.67	294	Emptly flow thru cell
1230	25	4.30	4.39	0.083	123.0	6.23	21.67	290	
	35	DNM	4.73	0.089	55.1	9.91	24.39	266	*

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-18D

SITE NAME Duke Spartanburg DATE 10-2-12 TIME OF SAMPLE

FIELD PERSONNEL TLH WEATHER CONDITIONS 73° Cloudy

TOTAL WELL DEPTH (TWD) 35.05 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 5.5

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 30.05

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.99 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 14.97 FIVE STANDING WELL VOLUMES = 24.95

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 3 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1208 Initial Reading	5.5	5.87	0.424	66.4	2.26	19.24	129	
1218	6.15	5.32	0.405	116.0	2.12	18.96	132	
1228	6.2	5.39	0.396	138.0	1.72	19.06	128	
1238	6.22	5.4	0.394	32.1	1.39	18.98	115	
1243	6.25	5.4	0.391	17.2	1.12	18.96	109	
1248	6.26	5.4	0.390	8.7	1.09	18.94	108	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-19s

SITE NAME Duke Spartanburg DATE 10-3-12 TIME OF SAMPLE 1040

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 68°

TOTAL WELL DEPTH (TWD) 15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5-15 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.53

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 6.47

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.06 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.18 FIVE STANDING WELL VOLUMES = 5.3

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Slight Odor

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1005 Initial Reading	8.53	6.26	0.927	309	4.83	20.83	112	
1015	8.92	6.23	0.878	126	1.46	20.87	93	
1025	8.98	6.23	0.979	47.7	0.17	20.81	48	
1030	8.98	6.23	0.974	25.2	0	20.76	44	
1035	8.98	6.24	0.975	9.1	0	20.79	41	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR35

SITE NAME Duke-Spartanburg DATE 10-4-12 TIME OF SAMPLE 1305

FIELD PERSONNEL TLH WEATHER CONDITIONS Partly Cloudy 75°

TOTAL WELL DEPTH (TWD) 24.5 FT (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19.5-24.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.47

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.03

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.46 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.38 FIVE STANDING WELL VOLUMES = 12.3

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1230 Initial Reading	9.47	6.47	0.685	79.8	4.48	22.46	-452	
1240	10.2	5.85	0.683	31.9	0.49	21.88	-438	
1250	9.9	5.87	0.688	15.5	0.08	21.89	-435	
1255	9.9	5.9	0.688	9.3	0	21.93	-431	
1300	9.9	5.93	0.688	8.7	0	21.96	-427	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR3W
SITE NAME Duke Spartanburg DATE 10-4-12 TIME OF SAMPLE 1120
FIELD PERSONNEL Troy Holzschuh WEATHER CONDITIONS Cloudy 70°

TOTAL WELL DEPTH (TWD) 23 FT. (measured / well tag / drillers log/ previous report – **circle one**)
SCREENED INTERVAL 18-23 MEASURING POINT FOR DEPTH TOC
DEPTH TO GROUNDWATER (DGW) 9.56
LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 13.44
CASING DIAMETER 2 IN.
ONE STANDING WELL VOLUME = 2.2 gal.
(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)
THREE STANDING WELL VOLUMES = 6.6 FIVE STANDING WELL VOLUMES = 11
METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri
TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min
WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____
PROTECTIVE POST/ABUTMENT YES _____ NO ✓
NONPOTABLE LABEL YES ✓ NO _____
ID PLATE YES ✓ NO _____
WELL INTEGRITY SATISFACTORY YES ✓ NO _____
WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1055 Initial Reading	9.56	6.38	0.682	35.4	2.0	21.53	-432	
1105	11.00	5.97	0.663	27.1	0.13	21.08	-452	
1110	11.02	6.02	0.670	17.6	0.15	21.14	-451	
1115	11.03	6.03	0.671	9.9	0.16	21.09	-453	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR53
SITE NAME Duke-Spartanburg DATE 10-4-12 TIME OF SAMPLE 1445
FIELD PERSONNEL TLH WEATHER CONDITIONS 75° Partly Cloudy

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)
SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH
DEPTH TO GROUNDWATER (DGW) 10.05
LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.95
CASING DIAMETER 2 IN.
ONE STANDING WELL VOLUME = 2.45 gal.
(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)
THREE STANDING WELL VOLUMES = 7.35 FIVE STANDING WELL VOLUMES = 12.27
METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri
TOTAL VOLUME OF WATER REMOVED: GAL. FLOW RATE mL/min
WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS
LOCKING CAP YES ✓ NO
PROTECTIVE POST/ABUTMENT YES NO ✓
NONPOTABLE LABEL YES ✓ NO
ID PLATE YES ✓ NO
WELL INTEGRITY SATISFACTORY YES ✓ NO
WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1412 Initial Reading	10.05	6.46	0.668	72.6	7.32	21.28	161	
~~1422~~ 1422	11.55	5.83	0.656	95.7	5.52	21.93	222	
1432	11.58	5.89	0.648	31.8	5.42	21.96	229	
1437	11.58	6.0	0.645	15.0	5.41	21.92	222	
1442	11.64	6.03	0.640	9.6	5.5	21.92	221	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR5W

SITE NAME Duke Spartanburg DATE 10-4-12 TIME OF SAMPLE 930

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 66°

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.6

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.4

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.36 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.08 FIVE STANDING WELL VOLUMES = 11.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
905 Initial Reading	9.6	6.49	0.695	21	5.21	20.95	-157	
915	10.72	6.45	0.689	15.2	4.82	20.84	-173	
920	11.38	6.45	0.689	9.4	4.79	20.83	-175	
925	11.53	6.45	0.689	8.4	4.71	20.83	-176	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-055N

SITE NAME Duke Spartanburg DATE 10-5-12 TIME OF SAMPLE 1530

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 85°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.41

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.59

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1500 Initial Reading	8.41	6.7	0.964	39.1	2.18	23.62	-53	
1510	8.45	6.19	0.963	14.2	0.16	23.42	-38	
1515	8.47	6.21	0.964	11.5	0.04	23.41	-43	
1520	8.48	6.22	0.964	6.7	0	23.42	-45	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-05 5s

SITE NAME Duke Spartanburg DATE 10-5-12 TIME OF SAMPLE 1305

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 85°

TOTAL WELL DEPTH (TWD) 13 FT (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.65

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.35

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.71 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.13 FIVE STANDING WELL VOLUMES = 3.55

METHOD OF WELL EVACUATION: BAILER PUMP OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: ✓ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1244 Initial Reading	8.78	6.62	0.804	77.9	3.92	23.61	-10	
1254	8.79	6.13	0.785	28.2	0.54	22.58	-4	
1259	8.79	6.10	0.784	14.3	0.56	22.67	-16	
1304	8.79	6.11	0.784	7.7	0.56	22.63	-18	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-055E

SITE NAME Duke Spartanburg DATE 10-5-12 TIME OF SAMPLE 1355

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 85

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.28

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.72

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .77 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.31 FIVE STANDING WELL VOLUMES = 3.85

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1335 Initial Reading	8.28	6.73	0.739	42.3	4.86	24.34	25	
1240	8.30	6.09	0.741	13.1	1.54	23.84	68	
1245	8.31	6.08	0.741	8.7	1.52	23.83	69	
1250	8.31	6.08	0.742	6.2	1.52	23.88	70	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR 10s

SITE NAME Duke - Spartanburg DATE 10-4-12 TIME OF SAMPLE 1630

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 83°

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 10.05

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.95

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.45 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.35 FIVE STANDING WELL VOLUMES = 12.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1600	Initial Reading	10.05	6.41	0.781	356	11.07	22.23	5	
1610		10.15	6.11	0.761	44	9.12	21.43	6	
1615		10.16	6.11	0.760	13.8	9.12	21.42	6	
1620		10.16	6.09	0.758	8.7	8.98	21.37	7	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-OR10W

SITE NAME Duke Spartanburg DATE 10-4-12 TIME OF SAMPLE 825

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 66°

TOTAL WELL DEPTH (TWD) 22.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 18.5 - 22.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.15

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 13.35

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.18 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 6.54 FIVE STANDING WELL VOLUMES = 10.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
800 Initial Reading	9.15	6.46	0.625	9.3	2.78	19.15	-74	
810 810	9.35	6.36	0.603	11.7	0.02	18.95	-146	
815	9.37	6.35	0.603	10.4	0.03	18.93	-150	
820	9.40	6.35	0.603	8.7	0.05	19.01	-153	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-05 10s

SITE NAME Duke-Spartanburg DATE 10-5-12 TIME OF SAMPLE 1215

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 83°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.68

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.32

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.2 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.6 FIVE STANDING WELL VOLUMES = 6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1155 Initial Reading	8.68	6.35	0.594	49.8	7.37	23.60	-33	
1200	8.82	5.80	0.590	23.9	0.40	22.46	-46	
1205	8.84	5.80	0.591	11.8	0.36	22.43	-52	
1210	8.84	5.81	0.593	8.4	0.35	22.46	-56	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-0510E

SITE NAME Duke Spartanburg DATE 10-5-12 TIME OF SAMPLE 1440

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 85°

TOTAL WELL DEPTH (TWD) 13 FT (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.82

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.18

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .85 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.55 FIVE STANDING WELL VOLUMES = 4.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1416 Initial Reading	7.82	6.78	0.560	50.1	3.1	23.94	3	
1426	7.85	6.47	0.569	16.1	0.56	23.64	-38	
1431	7.85	6.39	0.572	9.3	0.22	23.53	-41	
1436	7.85	6.36	0.575	9.8	0.18	23.58	-44	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-05 15s

SITE NAME Duke Spartanburg DATE 10-4-12 TIME OF SAMPLE 1540

FIELD PERSONNEL TLH WEATHER CONDITIONS Partly Cloudy 80°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.7

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.3

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.7 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.1 FIVE STANDING WELL VOLUMES = 3.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1518 Initial Reading	8.7	6.5	0.630	635	4.09	23.34	75	
1528	9.09	5.81	0.569	66.5	0.31	22.98	87	
1533	9.15	5.79	0.565	21.9	0.22	22.96	90	
1538	9.16	5.78	0.565	9.5	0.21	24.91	93	

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MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-05 20s
SITE NAME Duke-Spartanburg DATE 10-5-12 TIME OF SAMPLE 1035
FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 83°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)
SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC
DEPTH TO GROUNDWATER (DGW) 8.78
LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.22
CASING DIAMETER 2 IN.
ONE STANDING WELL VOLUME = 0.64 gal.
(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)
THREE STANDING WELL VOLUMES = 2.07 FIVE STANDING WELL VOLUMES = 3.45
METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri
TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE _____ mL/min
WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____
PROTECTIVE POST/ABUTMENT YES _____ NO ✓
NONPOTABLE LABEL YES ✓ NO _____
ID PLATE YES ✓ NO _____
WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1005 Initial Reading	8.78	6.45	0.622	178	1.7	20.16	-24	
1015	8.83	6.34	0.599	67.1	0.23	20.62	-48	
1020	8.83	6.31	0.596	26.1	0.09	20.69	-68	
1025	8.82	6.30	0.591	16.8	0.02	20.66	-72	
1030	8.83	6.30	0.59	4.7	0.02	20.66	-74	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-05 25 s

SITE NAME Duke-Spartanburg DATE 10-5-17 TIME OF SAMPLE 1120

FIELD PERSONNEL TCH WEATHER CONDITIONS Sunny 80°

TOTAL WELL DEPTH (TWD) 13 FT (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.82

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.18

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.68 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.04 FIVE STANDING WELL VOLUMES = 3.4

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1105 Initial Reading	8.82	6.56	0.499	21.6	9.95	21.23	-35	
1110	8.85	6.24	0.511	16.8	2.71	20.59	-44	
1115	8.84	6.23	0.509	12.6	2.22	20.54	-48	
1120	8.84	6.22	0.508	7.7	2.18	20.57	-51	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR3W

SITE NAME Duke Energy – Spartanburg DATE 1-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 40°

TOTAL WELL DEPTH (TWD) 23 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 18-23 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.26

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.74

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.41 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.23 FIVE STANDING WELL VOLUMES = 12.05

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

COMMENTS

Visual – Clear

Odor – Not Noticeable

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1108	Initial Reading	8.26	7.28	388.6	9.5	3.55	18-	128	
1113	1113	9.16	7.46	384.3	10.4	4.54	18-	110	
1118	1118	9.41	7.54	385.1	10.4	4.50	18.05	111	
	1123	9.68	7.58	385.8	10.4	4.51	18.06	114	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR 35

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny

TOTAL WELL DEPTH (TWD) 24.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 14.5-24.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.96

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.54

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.71 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.13 FIVE STANDING WELL VOLUMES = 13.55

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW ✓ to MODERATE ✓ HIGH _____

COMMENTS

Visual – Clear

Odor – Not Noticeable

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1052 Initial Reading	7.96	6.82	490.3	7.2	1.3	18.50	54	
1057	8.79	6.89	657.8	9.4	0.49	18.51	61	
1102	8.89	6.92	737.5	9.9	0.45	18.51	90	
1107	8.93	6.93	770.9	6.2	0.43	18.55	105	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR55

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 38°

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.13

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.87

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.28 FIVE STANDING WELL VOLUMES = 13.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO @ TLH

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW ✓ MODERATE _____ HIGH _____

COMMENTS

Visual - Looks clear

odor - not noticeable

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1036 Initial Reading	8.13	6.77	405.1	17.2	1.57	18.20	80	
1041	9.25	6.68	406.3	17.0	1.0	18.40	87	
1046	9.73	6.69	406.2	17.2	0.76	18.10	91	
1051	10.21	6.69	406.1	16.9	0.71	18.19	93	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS 5 N

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 54°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.05

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.95

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .98 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.94 FIVE STANDING WELL VOLUMES = 4.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS Turbid w/ yellow hue. no noticeable odor

Ceric acid used: 5 - 4 = 1 mL
44 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1417 Initial Reading	7.05	9.44	26,150	267	8.57	20.51	204	
1422	7.08	9.56	25,990	273	4.03	21.32	267	
1427	7.08	9.64	26,390	265	4.10	20.77	213	
1432	7.08	9.68	26,250	257	4.12	21.14	221	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05 25 5

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 46°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.86

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.14

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .84 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.52 FIVE STANDING WELL VOLUMES = 4.2

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

Slightly turbid becomes clear - no noticeable odor

Cerr acid used: 12 - 4 = 8 mL

2.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1208 Initial Reading	7.86	4.34	8727	33.1	2.12	16.24	336	
1213	7.89	4.08	8325	120.7	0.74	16.28	330	
1218	7.89	4.01	7982	43.5	0.45	16.27	337	
1223	7.89	3.95	8003	29.8	0.43	16.29	343	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05205

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 48°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.85

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.15

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .84 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.52 FIVE STANDING WELL VOLUMES = 5.2

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS slightly turbid becomes clear no noticeable odor

Ceric acid used = 12 - 4 = 8

2.5 g/L Klozure Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1235 Initial Reading	7.85	4.67	3948	35.6	4.36	15.86	247	
1240	7.89	6.28	798.5	7.2	4.36	16.24	135	
1245	7.88	6.41	511.6	10.1	5.6	16.40	158	
1250	7.88	6.48	502.7	9.8	5.51	16.49	153	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05155

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 48°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.85

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.85

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .85 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.52 FIVE STANDING WELL VOLUMES = 5.2

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE ✓ HIGH

COMMENTS Turbid then cleared, no noticable odor

Ceric acid used: 12 - 4 = 8 mL

2.5 gL Klozure Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1258 Initial Reading	7.85	6.59	624.8	263.4	2.95	17.75	82	
1303	8.21	6.61	463.5	25.5	1.08	18.0	88	
1308	8.24	6.63	565.8	24.3	0.51	18.56	82	
1313	8.27	6.62	557.0	19.8	0.48	18.52	76	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05 10 5

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.73

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.27

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .86 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.58 FIVE STANDING WELL VOLUMES = 4.3

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

Turbid, becoming clear
no noticeable odor
but sheen on probe
ceric acid used = 11.5 – 4 = 7.5 mL
5.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1320 Initial Reading	7.73	6.64	582.1	234	5.31	18.4	74	
1325	7.74	6.61	592.8	57.1	4.82	18.74	88	
1330	7.74	6.60	596.0	60.2	4.9	19.05	88	
1335	7.74	6.60	597.2	49.6	5.1	19.10	91	
					TLH			

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS 5E

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 54°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8 - 13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.31

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.69

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .93 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.79 FIVE STANDING WELL VOLUMES = 4.65

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Turbid no noticeable odor

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

ceric acid used = 5 - 4 = 1 mL

44 g/L Klozur Persulfate

WELL YIELD LOW ✓ MODERATE ✓ HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1436 Initial Reading	7.31	11.26	27,560	191.8	26.60	18.92	46	
1441	7.48	12.18	27,590	67.2	22.8	18.92	59	
1446	7.52	12.31	27,670	3.8	23.8	18.87	59	
1451	7.59	12.39	27,390	3.7	23.2	18.93	60	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS10E

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 54°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.85

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 6.15

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3 FIVE STANDING WELL VOLUMES = 5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS slightly turbid then clear no noticeable odor

ceric acid used = 11 - 4 = 7 mL
8.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1455 Initial Reading	6.85	11.27	10,290	76.5	20.39	17.42	141	
1500	6.85	10.08	1,086	11.5	2.85	16.97	356	
1505	6.85	9.28	932	9.8	2.51	16.83	399	
1510	6.85	9.19	928	6.1	2.37	16.85	408	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0555

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.10

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.9

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .80 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.4 FIVE STANDING WELL VOLUMES = 4.0

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

clear w/ yellow hue
slight odor present. sheen on probe
Citric acid used = 5 - 4 = 1 mL
44 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1350 Initial Reading	8.10	9.47	25,570	84.2	7.1	23.22	342	
1355	8.22	9.59	25,200	93.7	5.95	23.40	293	
1400	8.22	9.58	25,170	91.8	7.15	23.27	282	
1405	8.22	9.56	25,030	86.8	8.13	23.35	239	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR5W

SITE NAME Duke Energy – Spartanburg DATE 1-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.21

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.79

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.59 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.77 FIVE STANDING WELL VOLUMES = 12.95

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

COMMENTS

Clear

no noticeable odor

Cerric sulfate used = 12 - 4 = 8 mL

2.5 Klozure Persulfate g/L

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1124 Initial Reading	8.21	7.58	423.8	13.4	5.14	17.02	106	
1129	9.45	7.50	422.0	2.7	4.58	17.39	105	
1134	9.82	7.49	422.6	2.9	4.58	17.32	101	
1139	10.25	7.48	423.0	2.8	4.57	17.31	98	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR3S

SITE NAME Burke DATE 1-28-12 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH

DEPTH TO GROUNDWATER (DGW) 8.82

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.18

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.48 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.44 FIVE STANDING WELL VOLUMES = 12.4

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS clear no noticeable odor

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1355 Initial Reading	8.65	6.84	0.492	10.5	6.07	16.05	22	
1405	9.06	6.98	0.452	8.1	2.65	16.61	21	
1405	9.39	6.68	0.699	7.45	0.45	16.82	21	
1410	9.57	6.54	0.701	7.0	0	16.90	20	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR 55

SITE NAME ~~EA~~ Duke DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy

TOTAL WELL DEPTH (TWD) 25 FT. (measured/ well tag/ drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.7

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.3

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.67 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.01 FIVE STANDING WELL VOLUMES = 13.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS clear no noticeable odor

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1328 Initial Reading	9.18	6.27	0.909	47.5	4.69	15.03	10	
1343	9.59	6.57	0.637	33.0	5.65	15.62	16	
1348	9.45	6.74	0.527	28.9	5.92	15.85	22	
1353	10.32	6.77	0.499	23.3	6.03	15.94	27	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05255

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.53

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.47

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.73 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.19 FIVE STANDING WELL VOLUMES = 3.65

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

Clear

no noticeable odor

Ceric Acid = 12 ÷ 4 = 8 mL

2.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1310 Initial Reading	8.59	6.45	0.618	18.0	10.43	14.82	261	
1315	8.62	5.76	1.79	14.4	2.82	14.48	78	
1320	8.63	5.17	2.13	13.2	2.70	14.36	61	
1325	8.63	5.15	2.15	11.8	2.69	14.42	59	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05205

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.53

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.47

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.73 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.19 FIVE STANDING WELL VOLUMES = 3.65

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Acid Acid = 12 - 4 = 8 mL
2.5 g/L Kbzu: Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1240 Initial Reading	8.55	6.41	1.72	41.8	8.90	15.46	277	
1245	8.56	6.46	0.826	21.3	8.59	15.47	266	
1250	8.56	6.47	0.822	17.6	8.36	15.45	265	
1255	8.56	6.47	0.821	14.3	8.27	15.48	263	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05 155

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.43

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.57

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

WELL YIELD LOW ✓ to MODERATE ✓ HIGH _____

Cerid Acid = 11.5 - 4 = 7.5 mL
5.5 g/L Ammon Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1220 Initial Reading	8.71	6.07	10.5	35.7	4.46	16.42	368	
1225	9.05	6.38	2.85	42.7	0.10	15.95	277	
1230	9.11	6.41	2.35	43.2	0	15.89	277	
1235	9.15	6.42	2.21	42.9	0	15.92	276	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER ~~6228-12-0021~~ 6228-12-0021 MONITORING WELL NUMBER 05105

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH

DEPTH TO GROUNDWATER (DGW) 8.38

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.62

CASING DIAMETER 8 IN.

ONE STANDING WELL VOLUME = 0.75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

clear

no noticeable odor

Ceric Acid = 7.5-4=3.5mL

29.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1200 Initial Reading	8.52	6.25	22.8	12.2	7.25	16.73	408	
1205	8.55	5.95	18.6	12.3	7.13	16.22	385	
1210	8.55	5.95	14.4	12.3	7.12	16.25	382	
1215	8.55	5.95	12.9	12.2	7.12	16.31	379	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0555

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TL H WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.61

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.39

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .72 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.16 FIVE STANDING WELL VOLUMES = 3.6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Yellow hue clear not treable odor

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____

WELL INTEGRITY SATISFACTORY YES ✓ NO _____

Ceric acid used = 4.5-4.5 mL
47 g/L Klozur persulfate

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1140 Initial Reading	8.73	5.67	7.58	17.2	7.79	15.92	265	
1145	8.79	6.11	35.4	16.2	7.25	15.89	269	
1150	8.81	6.45	43.6	15.7	6.08	15.92	395	
1155	8.82	6.53	47.2	14.6	6.13	16.08	397	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 055N

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.49

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .90 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.7 FIVE STANDING WELL VOLUMES = 4.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES ✓ NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO ✓

NONPOTABLE LABEL YES ✓ NO _____

ID PLATE YES ✓ NO _____ Ceric Acid = 11-4 = 7 mL

WELL INTEGRITY SATISFACTORY YES ✓ NO _____ 8.5 g/L Kbzur Persulfate

WELL YIELD LOW ✓ MODERATE _____ HIGH _____ TLH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1120 Initial Reading	7.73	6.39	8.98	15.4	7.64	15.39	208	
1125	7.85	5.78	7.87	16.90	5.49	15.73	244	
1130	7.86	5.57	7.86	17.0	3.75	16.02	260	
1135	7.87	5.55	7.87	16.89	2.69	16.09	278	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 055E

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) ~~0556~~ TLH 13 FT. (measured / well tag / drillers log / previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.95

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.05

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.82 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.46 FIVE STANDING WELL VOLUMES = 4.1

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW ✓ MODERATE ✓ HIGH

COMMENTS

Clear

no noticeable odor

Ceric acid = 10 - 4 = 6 mL

14.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1102 Initial Reading	8.13	6.74	0.691	29.4	0.48	14.63	117	
1107	8.15	10.06	9.33	26.0	36.6	14.31	4	
1112	8.15	10.20	9.29	23.9	37.4	14.98	42	
1117	8.15	10.22	9.24	18.1	37.49	15.01	48	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0510E

SITE NAME Duke Energy DATE 1-28-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 42°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.49

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .90 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.7 FIVE STANDING WELL VOLUMES = 4.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES ✓ NO

PROTECTIVE POST/ABUTMENT YES NO ✓

NONPOTABLE LABEL YES ✓ NO

ID PLATE YES ✓ NO

WELL INTEGRITY SATISFACTORY YES ✓ NO

WELL YIELD LOW MODERATE HIGH ✓

COMMENTS

clear

no noticeable odor

Citric acid = 12-4 = 8 mL

2.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1045 Initial Reading	8.51	6.65	0.650	17.6	1.65	14.92	107	
1050	8.79	6.7	0.665	15.7	1.15	15.42	108	
1055	8.79	6.72	0.682	14.3	0.67	14.96	110	Turn Flow down
1100	8.79	6.72	0.682	14.6	0.59	14.93	111	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05 5 N

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 50° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.50

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.5

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.9 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.7 FIVE STANDING WELL VOLUMES = 4.5

METHOD OF WELL EVACUATION: BAILER/ PUMP/ OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW ✓ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1500 Initial Reading	7.75	5.45	8.20	443	5.24	15.79	205	
1505	7.79	5.45	8.27	488	1.61	15.91	215	
1510	7.80	5.46	8.53	409	0.46	16.06	218	
1515	7.80	5.46	8.67	372	0.22	16.13	223	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0510E

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1440

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 50

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.41

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.59

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.92 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.76 FIVE STANDING WELL VOLUMES = 4.6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1423 Initial Reading	7.6	8.05	1.91	115	2.25	15.74	160	
1428	7.6	7.41	1.23	58.3	0.97	15.42	170	
1433	7.6	7.14	0.751	43.7	0.23	15.33	175	
1438	7.6	7.07	0.730	22.1	0	15.31	179	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0555

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1325

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Partly Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.57

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.43

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.72 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.16 FIVE STANDING WELL VOLUMES = 3.6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X Yellow hue / Odor Present

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1305 Initial Reading	8.65	6.25	67.7	128	2.93	16.78	228	
1310	8.69	6.51	70.3	118	2.76	17.60	292	
1315	8.76	6.56	70.6	108	2.83	18.04	308	
1320	8.84	6.59	70.8	97	2.85	18.10	315	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 055E

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1400

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Partly Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.91

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.09

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.83 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.49 FIVE STANDING WELL VOLUMES = 4.15

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X Yellow hue Slight odor

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW / MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1342 Initial Reading	8.06	6.84	54.1	164	19.03	18.91	330	
1347	8.3	8.8	17.5	30.4	25.87	17.36	233	
1352	8.35	9.42	11.4	14.8	27.56	16.93	167	
1357	8.39	9.54	9.62	14.1	27.76	16.84	154	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OSICS

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1245

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.35

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.65

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.28 FIVE STANDING WELL VOLUMES = 3.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW _____ MODERATE _____ HIGH _____

COMMENTS

Sheen Present Strong Odor

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1225 Initial Reading	8.51	5.56	21.8	61.6	22.73	13.82	101	
1230	8.55	5.32	23.5	46.7	7.20	15.19	175	
1235	8.55	5.38	23.7	47.1	7.41	15.24	180	
1240	8.55	5.42	23.9	45.8	7.45	15.23	187	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05 15 5

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1155

FIELD PERSONNEL TLH WEATHER CONDITIONS 38° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.41

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.59

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1138 Initial Reading	8.75	6.93	0.359	112	6.11	13.08	51	
1143	8.95	6.61	0.316	34.4	0	14.16	61	
1148	8.93	6.62	0.312	29.8	0	14.28	60	
1153	8.93	6.62	0.310	25.5	0	14.23	61	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05205

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1115

FIELD PERSONNEL TLH WEATHER CONDITIONS 36° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.45

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.55

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH –

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1057 Initial Reading	8.52	6.32	0.775	193	0.91	12.43	22	
1102	8.52	6.54	0.612	166	0	13.46	13	
1107	8.52	6.56	0.801	153	0	13.49	15	
1112	8.52	6.56	0.832	139	0	13.52	14	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS255

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 1025

FIELD PERSONNEL TLH WEATHER CONDITIONS 36° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured/ well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.46

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.54

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
10.07 Initial Reading	8.51	6.83	0.956	62	3.08	14.05	185	
1012	8.5	4.43	3.89	10.4	0	13.41	89	
1017	8.5	4.24	3.89	13.8	0	13.22	89	
1022	8.5	4.21	3.89	14.7	0	13.27	88	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR55

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE NA

FIELD PERSONNEL TLH WEATHER CONDITIONS 36° Cloudy

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.68

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.32

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.67 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.01 FIVE STANDING WELL VOLUMES = 13.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO clear no noticeable odor

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
950 Initial Reading	8.99	6.18	2.09	6.8	3.69	14.20	213	
955	9.71	6.68	0.918	7.7	5.50	14.47	189	
1000	9.92	6.86	0.747	7.2	4.59	14.49	186	
1005	10.07	6.91	0.661	6.7	4.49	14.51	183	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR5W

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 37° Cloudy

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.72

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.28

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.5 FIVE STANDING WELL VOLUMES = 12.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
832 Initial Reading	9.21	4.71	9.27	21.1	7.15	13.83	335	
837	9.55	5.40	5.19	14.5	6.83	14.11	275	
842	9.64	5.69	4.12	13.2	6.75	14.36	252	
847	9.75	5.93	3.37	12.3	6.64	14.33	236	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR 10 W

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 35° Cloudy

TOTAL WELL DEPTH (TWD) 22.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 12.5 - 22.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.62

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 13.88

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.27 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 6.81 FIVE STANDING WELL VOLUMES = 11.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS clear no noticeable odor

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
9:15 Initial Reading	8.62	6.35	12.6	355	1.58	12.95	167	
9:20	8.67	4.30	13.9	93.1	0	14.56	311	
9:25	8.65	4.08	14.7	67.1	0	14.26	325	
9:30	8.65	3.93	15.4	43.8	0	14.27	344	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13 ISCR

SITE NAME Duke Energy DATE 2-4-13 TIME OF SAMPLE 850

FIELD PERSONNEL TLH WEATHER CONDITIONS cloudy 32°

TOTAL WELL DEPTH (TWD) 21.50 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 6.5 – 21.50 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.58

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.92

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.4 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.2 FIVE STANDING WELL VOLUMES = 12

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1.25 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS clear noticeable odor

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
830 Initial Reading	6.56	6.04	13.2	57.9	3.9	17.16	215	
835	6.58	6.31	13.5	57.7	2.15	14.79	199	
840	6.58	6.36	13.7	56.1	1.30	14.74	187	
845	6.58	6.36	13.7	55.3	1.29	14.68	187	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS10E

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 58° Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.26

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.74

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.94 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.82 FIVE STANDING WELL VOLUMES = 4.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

Ceric acid = 9 - 4 = 5 mL
20 g/L Klozure Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1121 Initial Reading	7.35	7.85	8.99	61.9	20.81	16.58	144	
1126	7.41	7.49	4.77	22.9	5.58	16.38	136	
1131	7.42	7.23	2.45	22.1	1.04	16.31	126	
1136	7.42	7.16	2.04	21.4	0.54	16.34	122	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 055N

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 60°

TOTAL WELL DEPTH (TWD) 13 FT. (measured/ well tag/ drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.39

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.61

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.92 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.76 FIVE STANDING WELL VOLUMES = 4.6

METHOD OF WELL EVACUATION: BAILER/ PUMP/ OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT/ ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____ Ceric Acid = 11-4 = 7 mL

WELL INTEGRITY SATISFACTORY YES X NO _____ 8.5 g/L Klozura Persulfate

WELL YIELD LOW ✓ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1140 Initial Reading	7.45	7.06	2.14	33.4	5.06	16.92	119	
1145	7.55	7.03	5.47	29.5	4.40	17.39	121	
1150	7.63	5.34	6.61	28.7	4.40	18.07	193	
1155	7.72	5.43	6.67	27.4	4.39	18.06	144	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 055E

SITE NAME Duke Energy DATE 2-13-13 TIME OF SAMPLE

FIELD PERSONNEL TLH WEATHER CONDITIONS

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.82

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.18

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.85 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.55 FIVE STANDING WELL VOLUMES = 4.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 5 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

cerric acid = 8.5-4 = 4.5 mL
23.5 g/L Klozu4 Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1105 Initial Reading	7.91	6.80	61.2	103	11.82	17.60	248	
1110	8.10	7.10	34.9	38.5	18.93	17.08	224	
1115	8.17	7.53	18.3	20.2	23.0	16.81	185	
1120	8.21	7.67	16.8	21.1	23.1	16.83	165	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0555

SITE NAME Duke Energy DATE 2-13-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 57°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.49

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.74 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.22 FIVE STANDING WELL VOLUMES = 3.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE ✓ HIGH

cerric acid = 5 - 4 = 1 mL
44 g/L Klozure Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1048 Initial Reading	8.72	5.38	13.3	31.3	1.56	16.49	112	
1053	8.89	6.40	71.4	30.4	3.66	16.42	98	
1058	8.95	6.65	72.1	29.2	2.70	17.08	206	
1103	8.98	6.70	72.4	28.7	2.36	17.35	236	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05105

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 55°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.23

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.77

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.78 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.34 FIVE STANDING WELL VOLUMES = 3.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____ ceric acid = 9 - 4 = 5 mL

WELL INTEGRITY SATISFACTORY YES X NO _____ 20 g/L Klozure Persulfate

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1032 Initial Reading	8.36	6.54	0.310	44.0	0	15.41	2	
1037	8.42	5.58	11.5	39.7	0	15.86	65	
1042	8.43	5.57	11.7	38.9	0	16.08	76	
1047	8.44	5.57	11.9	38.4	0	16.11	87	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 0515S

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 55° Partly Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.35

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.65

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.28 FIVE STANDING WELL VOLUMES = 3.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

ceric acid = 9.5 - 4 = 5.5 mL

17.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1016 Initial Reading	8.45	6.63	0.571	58.4	0.79	14.66	-17	
1021	8.82	6.57	0.370	56.2	0	14.96	-11	
1026	8.91	6.54	0.321	43.8	0	15.32	-6	
1031	10.0	6.54	0.313	40.7	0	15.29	-2	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER 05205

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Partly Cloudy 54°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.37

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.63

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.28 FIVE STANDING WELL VOLUMES = 3.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

ceric acid = 11.5 – 4 = 7.5 mL
5.5 g/L Kbozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1000 Initial Reading	8.42	5.30	1.25	4.7	0	14.17	11	
1005	8.42	6.33	0.865	22.5	0	14.38	-38	
1010	8.42	6.54	0.702	23.4	0	14.47	-36	
1015	8.42	6.54	0.687	23.1	0	14.45	-35	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS 255

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE

FIELD PERSONNEL TLH WEATHER CONDITIONS

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.38

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.62

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.28 FIVE STANDING WELL VOLUMES = 3.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

ceric acid = 12-4 = 8 mL
2.5 g/L Klozur Persulfate

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
944 Initial Reading	8.41	7.15	0.415	3.5	3.17	15.73	164	
949	8.42	6.07	0.850	4.6	1.65	14.12	-7	
954	8.42	5.68	0.924	4.2	0	14.12	-11	
959	8.42	5.49	1.18	3.8	0	14.12	-17	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR55

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.65

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.35

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.68 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.04 FIVE STANDING WELL VOLUMES = 13.4

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
928 Initial Reading	8.83	7.30	0.573	4.1	4.12	15.18	165	
933	9.37	7.22	0.439	3.4	2.91	15.49	164	
938	9.80	7.18	0.418	3.3	2.90	15.51	163	
943	10.26	7.14	0.411	3.1	2.90	15.47	163	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR 35

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.45

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.55

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.55 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.65 FIVE STANDING WELL VOLUMES = 12.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
912 Initial Reading	8.82	6.69	1.81	4.7	3.78	14.0	190	
917	9.18	7.12	0.757	6.2	3.91	14.24	172	
922	9.27	7.29	0.557	5.9	4.12	15.18	165	
927	9.33	7.30	0.556	5.7	4.18	15.08	164	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR5W

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 50° Partly Cloudy

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.71

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.29

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.5 FIVE STANDING WELL VOLUMES = 12.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW ✓ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
856 Initial Reading	9.15	6.27	2.32	5.6	1.62	14.27	197	
901	9.19	6.39	2.19	4.9	2.66	14.04	195	
906	9.2	6.51	2.01	5.0	2.12	14.04	195	
911	9.2	6.60	1.97	5.0	4.06	14.08	195	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR 10 W

SITE NAME Duke Energy DATE 2-12-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Partly Cloudy 50°

TOTAL WELL DEPTH (TWD) 22.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 18.5 - 22.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.66

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 13.84

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.27 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 6.81 FIVE STANDING WELL VOLUMES = 11.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW ✓ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
840 Initial Reading	9.65	6.21	3.18	16.8	0.03	14.40	229	
8.45	9.94	6.05	3.10	18.1	0	14.73	219	
8.50	10.15	6.05	3.07	11.1	0	14.69	214	
8.55	10.27	6.05	3.06	8.2	0	14.65	209	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-10E

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.42

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.58

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.92 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.76 FIVE STANDING WELL VOLUMES = 4.6

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1516 Initial Reading	7.50	7.40	4.87	26.2	10.38	19.49	201	
1521	7.55	6.98	1.65	72.7	4.40	19.49	214	
1526	7.56	6.91	1.31	24.9	2.67	19.54	175	
1531	7.56	6.91	1.04	25.1	1.73	19.53	155	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5E

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.89

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.11

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.84 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.52 FIVE STANDING WELL VOLUMES = 4.2

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1500 Initial Reading	8.00	6.10	9.07	66.7	9.37	19.19	301	
1505	8.11	7.56	6.46	79.7	16.91	19.35	253	
1510	8.18	8.32	5.50	38.2	18.78	19.50	213	
1515	8.26	8.46	5.11	23.8	19.62	19.19	186	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5N

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.49

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.90 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.70 FIVE STANDING WELL VOLUMES = 4.5

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1354 Initial Reading	7.53	9.73	25	444	10.71	18.55	203	
1359	7.65	7.09	12.6	203	2.81	18.61	297	
1404	7.69	6.07	9.78	48.8	1.84	18.90	305	
1409	7.72	5.86	8.41	47.1	1.75	18.91	310	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.5

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.5

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.74 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.22 FIVE STANDING WELL VOLUMES = 3.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1338 Initial Reading	8.65	5.38	8.11	23.8	6.47	17.33	198	
1343	8.67	9.95	31.3	NR	7.16	17.70	103	
1348	8.68	10.16	32.2	527	8.36	18.21	213	
1353	8.68	10.15	32.4	124	8.60	18.29	232	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-10S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.36

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.64

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.76 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.28 FIVE STANDING WELL VOLUMES = 3.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1322 Initial Reading	8.48	6.53	1.05	55.5	7.83	16.74	25	
1327	8.54	5.36	6.60	61.9	5.85	16.75	163	
1332	8.55	5.37	7.61	50.2	5.02	17.00	171	
1337	8.58	5.38	8.04	42.1	4.58	17.18	178	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-15S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 50° Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.45

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.55

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.75 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.25 FIVE STANDING WELL VOLUMES = 3.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1306 Initial Reading	8.62	6.64	0.460	1.9	8.14	15.73	-4	
1311	8.89	6.57	0.305	23.3	12.05	16.41	14	
1317	8.93	6.52	0.298	65.8	7.66	16.54	18	
1321	8.95	6.49	0.296	51.7	7.54	16.59	21	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-20S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 50° Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.49

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.51

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.74 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.22 FIVE STANDING WELL VOLUMES = 3.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1250 Initial Reading	8.56	6.00	0.701	1.5	6.99	16.51	-23	
1255	8.55	6.52	0.488	1.7	6.62	16.53	-32	
1300	8.55	6.61	0.465	1.6	6.27	16.69	-17	
1305	8.55	6.62	0.456	1.9	6.00	16.58	-10	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-25S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 48° Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.48

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.52

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.74 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.22 FIVE STANDING WELL VOLUMES = 3.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1234 Initial Reading	8.52	7.10	0.375	1.8	2.39	17.78	96	
1239	8.52	6.00	0.695	1.9	0	17.95	-2	
1244	8.52	5.65	0.771	1.5	0	17.56	-6	
1249	8.52	5.51	0.799	1.4	0	17.63	-8	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-5S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 46° Sunny

TOTAL WELL DEPTH (TWD) 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.75

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.25

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.67 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.01 FIVE STANDING WELL VOLUMES = 13.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW ✓ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1218 Initial Reading	9.36	7.28	0.406	1.3	7.51	17.90	93	
1223	9.88	7.10	0.307	1.3	7.34	17.90	97	
1228	10.38	7.10	0.367	1.2	7.22	17.94	97	
1233	10.85	7.10	0.369	1.2	7.08	17.92	98	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-3S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Sunny

TOTAL WELL DEPTH (TWD) 24.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19.5 - 24.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.57

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.93

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.61 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.83 FIVE STANDING WELL VOLUMES = 13.05

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW ✓ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1202 Initial Reading	9.03	7.12	0.650	2.4	7.94	17.30	98	
1207	9.25	7.40	0.489	2.6	9.33	17.71	86	
1212	9.41	7.43	0.446	1.9	7.86	17.89	83	
1217	9.59	7.42	0.444	1.8	7.74	18.02	84	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-5W

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Sunny

TOTAL WELL DEPTH (TWD) 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.82

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 15.18

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.49 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.47 FIVE STANDING WELL VOLUMES = 12.45

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1146 Initial Reading	9.31	6.37	1.79	3.5	2.27	17.79	133	
1151	9.67	6.99	1.18	2.3	3.31	17.11	103	
1156	9.89	7.25	0.832	2.2	3.85	17.29	88	
1201	10.03	6.92	0.866	2.1	3.82	17.11	99	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-10W

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE N/A

FIELD PERSONNEL TLH WEATHER CONDITIONS 45° Sunny

TOTAL WELL DEPTH (TWD) 22.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL ~~18.5~~ 18.5 - 22.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.75

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 13.75

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.25 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 6.75 FIVE STANDING WELL VOLUMES = 11.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE ____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE ____ HIGH ____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1130 Initial Reading	9.45	6.02	2.89	6.2	0.87	18.59	114	
1135	9.68	6.06	2.88	5.9	0.33	18.93	123	
1140	10.03	6.08	2.78	6.1	0.04	18.29	136	
1145	10.27	6.09	2.78	6.2	0	18.28	145	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-1SS

SITE NAME Duke Energy-Spartanburg DATE 2/27/13 TIME OF SAMPLE 1215

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny, 60°F

TOTAL WELL DEPTH (TWD) 20.39 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 10.39-20.39 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.18

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 9.21

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = — FIVE STANDING WELL VOLUMES = —

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1.0 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

COMMENTS
- Tubing found in well prior to sampling, remove and use new poly tubing.

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	11.05	5.12	0.160	6.9	5.55	17.97	243	1145
5	11.33	5.08	0.160	6.7	3.25	18.19	255	1150
10	11.73	4.89	0.160	6.2	2.71	18.35	327	1155
15	12.02	4.78	0.160	5.9	1.83	18.40	358	1200
20	12.18	4.76	0.160	6.3	1.79	18.50	373	1205
25	12.30	4.80	0.156	5.7	1.83	18.53	381	1210
30	12.29	4.79	0.154	5.4	1.77	18.53	391	1215

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-1DR

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1115

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 45°

TOTAL WELL DEPTH (TWD) 62 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 57-62 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.8

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 55.2

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 9.05 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 27.15 FIVE STANDING WELL VOLUMES = 45.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .75 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1054 Initial Reading	7.6	7.0	0.158	42.1	4.44	12.72	80	
1059	8.2	7.66	0.160	4.0	3.28	12.86	39	
1104	8.22	7.73	0.160	3.53	3.29	13.00	41	Lower Flow
1109	8.22	7.79	0.160	3.42	3.28	13.06	42	
1114	8.22	7.80	0.160	3.35	3.27	13.06	43	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-3SS

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1540

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 40°F

TOTAL WELL DEPTH (TWD) 13.25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8.25-13.25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.40

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.85

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.8 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.4 FIVE STANDING WELL VOLUMES = 4

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.5 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	8.55	6.69	0.365	98.5	4.61	11.70	135	1514
5	8.61	6.64	0.379	37.9	2.11	11.65	135	1519
11 min	8.62	6.69	0.378	22.5	1.09	11.88	110	1525
18 min	8.60	6.78	0.378	17.1	0.54	11.97	108	1532
22 min	8.60	6.69	0.375	12.5	0.36	12.05	103	1536

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-10S

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1200

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy, 40°F

TOTAL WELL DEPTH (TWD) 18.54 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8.51-18.51 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.16

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.38

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.21 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.63 FIVE STANDING WELL VOLUMES = 6.05

METHOD OF WELL EVACUATION: BAILER / (PUMP) / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / (ABOVE GRADE)

COMMENTS Complete sampling @ 1230

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	11.41	5.54	0.110	23.5	6.81	11.43	281	11.43
~~1146~~ 3min	11.54	5.58	0.190	18.4	3.78	11.54	245	11.46
8 min	11.69	5.29	0.205	17.6	3.19	11.67	255	11.51
13 min	11.78	5.27	0.217	15.5	2.09	11.73	261	11:56
25 min	~~[illegible]~~	5.28	0.238	12.0	1.43	11.82	263	12:07

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-10D

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1110

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy . 40°F

TOTAL WELL DEPTH (TWD) 39 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 34-39 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 10.62

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 28.38

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.65 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 13.95 FIVE STANDING WELL VOLUMES = 23.25

METHOD OF WELL EVACUATION: BAILER / ~~PUMP~~ / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 150 mL/min

WELL TYPE: ~~FLUSH MOUNT~~ / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	10.62	5.61	0.146	5.1	4.42	10.35	171	1050
7 min	10.70	6.50	0.167	2.7	1.97	10.74	192	1057
12	~~11.01~~ 11.20	6.39	0.163	2.9	1.87	11.07	199	1102
16 min	11.23	6.35	0.162	2.2	1.67	11.29	202	1106
20 min	11.44	6.32	0.161	2.5	1.61	11.45	205	1110

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-11S

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1430

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy, 40°F

TOTAL WELL DEPTH (TWD) 14.6 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.6-14.6 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.05

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 3.55

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.58 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 1.74 FIVE STANDING WELL VOLUMES = 2.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE ~~200~~ 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW X MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	12.13	4.99	0.370	129	4.38	8.80	233	1334
4 min	12.65	3.72	0.370	85.5	3.90	9.57	442	1338
8 min	14.05	3.68	0.366	42.6	3.48	10.50	461	1342
Dry @ 10 minutes								

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-11D

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1440

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 40°F

TOTAL WELL DEPTH (TWD) 31.2 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 26.2-31.2 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 11.13

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 20.07

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 3.29 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 9.87 FIVE STANDING WELL VOLUMES = 16.45

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
~~Initial Reading~~	~~RMC~~	~~4.99~~	~~0.370~~	~~129~~	~~4.38~~	~~8.80~~	~~223~~	~~1334~~
Initial	11.45	6.07	0.212	10.0	1.95	12.90	326	1349
5 min ~~12.14~~	12.14	7.11	0.217	4.0	1.37	12.03	267	1354
10 min	12.43	7.29	0.219	2.2	1.30	11.97	247	1359
15 min	12.58	7.35	0.218	1.9	1.18	12.01	223	1404
20 min	12.55	7.49	0.217	1.6	1.10	12.04	212	1409

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-12S

SITE NAME Duke Energy-Spartanburg DATE 2/27/13 TIME OF SAMPLE 1020

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny, 60°

TOTAL WELL DEPTH (TWD) 15.27 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5.27-15.27 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 3.45

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 11.82

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.89 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	3.55	5.78	0.070	80.9	0.23	12.19	184	0955
5 min	3.65	5.20	0.097	17.4	8.22	12.61	236	1000
10 min	3.78	5.20	0.108	12.4	7.66	12.63	250	1005
15 min	3.89	5.30	0.121	4.1	7.08	12.77	252	1010
20 min	3.93	5.40	0.131	3.1	6.63	13.00	248	1015
25 min	3.89	5.35	0.133	2.9	6.59	13.03	251	1018

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-12D

SITE NAME Duke Energy-Spartanburg DATE 2/27/13 TIME OF SAMPLE 0910

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny, 60°F

TOTAL WELL DEPTH (TWD) 35.42 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 30.42-35.42 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 3.64

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 31.78

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 5.1 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = NA FIVE STANDING WELL VOLUMES = NA

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: ~~1.0~~ 0.25 RMC GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

COMMENTS Completed sampling @0942, pulled tubing. Tubing not with in screened interval; resample w/ tubing in screened interval, leave sample time as 0910

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	4.35	4.48 (temp)	0.294	14.0	10.52	4.59	109	TIME 0849
4 min	4.49	6.58	0.285	12.3	13.23	5.69	143	0853
11 min	4.66	6.85	0.275	6.4	11.95	7.50	156	0900
16 min	4.66	6.84	0.273	4.2	11.56	8.29	161	0905
21 min	4.65	6.80	0.267	1.7	10.94	9.32	168	0910
Initial	4.91	6.14	0.256	2.2	1.25	15.41	158	1031
5 min	5.48	6.32	0.252	2.3	0.00	15.38	129	1036
9 min	5.73	6.39	0.248	0.8	0.00	15.53	120	1040
17 min	5.81	6.36	0.246	0.4	0.00	15.76	104	1048
23 min	5.79	6.34	0.246	0.2	0.00	17.79	94	1054
		Sample @ 1055 / leave sample time as 0910						

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13S

SITE NAME Duke Energy-Spartanburg DATE 2-27-13 TIME OF SAMPLE 1400

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS 60° Partly Cloudy

TOTAL WELL DEPTH (TWD) 15.02 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5.02-15.02 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.48

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 8.54

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.4 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 4.2 FIVE STANDING WELL VOLUMES = 7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1343 Initial Reading	6.61	5.31	53.6	835	0.83	16.93	194	
1348	6.62	5.23	25.4	105	0	16.40	186	
1353	6.62	5.26	15.3	95.4	0	15.78	180	
1358	6.62	5.26	14.4	103	0	15.82	179	Sensors coated w/ oily substance

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13D

SITE NAME Duke Energy-Spartanburg DATE 2-27-13 TIME OF SAMPLE 1255

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Partly Cloudy 55

TOTAL WELL DEPTH (TWD) 35.4 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 30.4-35.4 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.10

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 28.3

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.64 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 13.92 FIVE STANDING WELL VOLUMES = 23.1

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

COMMENTS Well does not produce enough water for low flow sampling Dewater well, let recharge then sample

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1227 Initial Reading	8.0	7.20	0.492	3.5	10.41	17.17	115	
1232	13.48	7.25	0.326	1.5	5.1	16.66	117	
1237	18.63	7.25	0.251	2.3	5.62	16.72	112	
1242	23.35	7.25	0.246	2.4	3.4	16.76	111	
1247	28.29	7.25	0.237	2.1	4.32	16.79	110	
1251	Dry	7.25						

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-13 ISOC

SITE NAME Duke Energy-Spartanburg DATE 2-27-13 TIME OF SAMPLE 1140

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny 52°

TOTAL WELL DEPTH (TWD) 21.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 6.5-21.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) _____

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = _____

CASING DIAMETER 4 IN.

ONE STANDING WELL VOLUME = _____ gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = _____ FIVE STANDING WELL VOLUMES = _____

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 5 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1121 Initial Reading		6.31	8.73	2.2	3.41	13.32	170	
1126		6.15	8.74	2.2	0	13.72	160	
1131		6.12	8.72	2.1	0	13.79	154	
1136		6.10	8.69	2.1	0	13.81	152	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-14S

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1210

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 45°

TOTAL WELL DEPTH (TWD) 14.88 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.88-14.88 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.03

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.85

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.96 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.88 FIVE STANDING WELL VOLUMES = 4.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

	Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1152	Initial Reading	9.30	6.87	0.099	1.4	9.87	10.95	132	
	1157	9.31	6.58	0.096	0	2.72	10.84	154	
	1202	9.31	6.38	0.098	0	2.14	10.74	159	
	1207	9.31	6.35	0.098	0	2.09	10.76	161	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-14D

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1320

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 45°

TOTAL WELL DEPTH (TWD) 34.61 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 29.61-34.61 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.86

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 26.75

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.39 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 13.17 FIVE STANDING WELL VOLUMES = 21.95

METHOD OF WELL EVACUATION: BAILER/ PUMP/ OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 2.5 GAL. FLOW RATE 150 initially mL/min

WELL TYPE: FLUSH MOUNT/ ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW ✓ MODERATE HIGH

COMMENTS Well does NOT produce enough Water to sustain Flow sufficient for low flow sampling. Dewater Well, recharge & sample per EPA guidelines

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1240 Initial Reading	8.62	6.94	0.125	0.5	12.05	11.12	140	
1245	9.65	7.19	0.164	0	8.18	12.26	112	
1250	10.6	7.30	0.182	0	8.03	12.38	103	increase flow
1255	14.2	7.42	0.209	0.3	7.58	14.01	93	sheen on
1300	18.6	7.47	0.214	2.5	7.57	14.65	88	water
1305	23.0	7.49	0.215	2.1	7.49	14.60	86	
1310	27.2	7.50	0.216	2.4	7.47	16.62	84	Dry

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-15S

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1010

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 45°

TOTAL WELL DEPTH (TWD) 15.15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5.15-15.15 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.31

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 8.84

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = ~~8.84~~ gal. 1.45

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 4.35 ~~26.52~~ FIVE STANDING WELL VOLUMES = 7.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Sheen in water Odor present

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
945 Initial Reading	6.40	6.71	0.136	204	8.42	9.82	113	
950	6.41	5.96	0.129	58.7	1.95	9.95	109	
955	6.41	5.93	0.128	31.2	1.65	10.02	115	
1000	6.41	5.93	0.126	19.2	1.25	10.14	114	
1005	6.41	5.94	0.126	21.5	1.16	10.16	112	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-15D

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 915

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 430

TOTAL WELL DEPTH (TWD) 34.60 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 29.60-34.60 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.3

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 27.3

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 4.47 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 13.41 FIVE STANDING WELL VOLUMES = 22.35

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
853 Initial Reading	8.04	6.78	0.338	24.6	3.17	10.12	142	
858	8.62	7.23	0.333	15.4	2.33	11.52	134	Lower Flow
903	8.64	7.29	0.332	10.8	2.08	12.05	126	
908	8.63	7.31	0.331	5.6	1.79	12.10	120	
913	8.63	7.32	0.331	5.5	1.77	12.12	128	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-16S

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 1015

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy, Appx. 40°F

TOTAL WELL DEPTH (TWD) 18.35 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8.35-18.35 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 14.92

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 3.43

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.56 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 1.68 FIVE STANDING WELL VOLUMES = 2.8

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

COMMENTS Completed sampling @ 1045

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	15.05	6.53	0.531	8.3	2.62	10.97	192	1000 TIME
Seven min.	15.14	6.56	0.512	4.3	1.30	10.85	192	1007
11 min.	15.15	6.55	0.508	2.9	2.10	10.81	194	1011
15 min	15.14	6.55	0.500	2.4	2.04	10.83	193	1015

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-16D

SITE NAME Duke Energy-Spartanburg DATE 2/25/13 TIME OF SAMPLE 0930

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 40°F

TOTAL WELL DEPTH (TWD) 31.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 26.5-31.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 14.41

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 17.09

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.8 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 8.4 FIVE STANDING WELL VOLUMES = 14

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

COMMENTS Complete sampling @ 0950

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	15.15	6.71	0.207	23.7	2.23	9.95	225	0906 time
6 minutes	15.05	7.09	0.207	22.1	1.29	9.23	199	0912
10 minutes	15.03	7.22	0.199	21.6	1.05	10.49	185	0916
16 minutes	15.05	7.30	0.202	15.5	0.90	10.18	176	0922
21 minutes	15.04	7.34	0.202	8.5	0.85	10.29	169	0927

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-17S

SITE NAME Duke Energy-Spartanburg DATE 2-27-13 TIME OF SAMPLE 935

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny 45°

TOTAL WELL DEPTH (TWD) 15.15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5.15-15.15 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 3.68

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 11.47

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.88 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 5.64 FIVE STANDING WELL VOLUMES = 9.4

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE ✓ HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
917 Initial Reading	3.43	7.02	0.226	32.2	6.85	11.65	138	
922	3.52	7.02	0.215	22.7	0.66	12.01	135	Lower Flow
927	3.52	7.02	0.213	23.2	0.33	11.97	132	
932	3.52	7.02	0.213	11.8	0.18	11.96	130	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-18S & Dup-1

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1415

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 47°

TOTAL WELL DEPTH (TWD) 14.88 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 4.44-14.88 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 3.04

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 11.84

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.94 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 5.82 FIVE STANDING WELL VOLUMES = 9.7

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1400 Initial Reading	3.26	6.72	0.060	141	3.79	12.07	148	heavy Sheen
1405	3.25	6.28	0.054	34.8	0.46	11.92	177	
1410	3.25	6.16	0.050	26.1	0	11.68	179	
1415	3.25	6.12	0.049	9.9	0	11.63	179	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-18D

SITE NAME Duke Energy-Spartanburg DATE 2-25-13 TIME OF SAMPLE 1235

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Cloudy 47°

TOTAL WELL DEPTH (TWD) 35.05 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 30.5-35.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 4.75

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 30.3

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 15 FIVE STANDING WELL VOLUMES = 25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 5 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1515 Initial Reading	5.11	6.49	0.128	50.5	10.96	12.46	166	
1220	5.12	6.50	0.145	32.4	2.21	12.52	161	
1225	5.12	6.50	0.144	15.5	1.35	12.56	156	
1230	5.12	6.50	0.144	7.8	1.19	12.57	155	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER MW-19S

SITE NAME Duke Energy-Spartanburg DATE 2-27-13 TIME OF SAMPLE 850

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny 43°

TOTAL WELL DEPTH (TWD) 15 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 5-15 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.74

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 7.26

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.19 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.57 FIVE STANDING WELL VOLUMES = 5.95

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1.5 GAL. FLOW RATE 200 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
813 Initial Reading	7.93	6.98	0.468	428	5.83	7.65	152	
818	7.92	6.65	0.470	228	2.92	10.00	155	
823	7.92	6.59	0.465	179	2.74	10.25	154	
828	7.92	6.51	0.465	121	2.35	10.69	153	
833	7.92	6.50	0.465	83.8	2.35	10.93	152	
838	7.92	6.48	0.465	36.2	2.37	11.08	151	
843	7.92	6.48	0.465	9.7	2.38	11.09	150	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-3S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1515

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 60°F

TOTAL WELL DEPTH (TWD) ~~13~~ 24.5 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL ~~8-13~~ 14.5-24.4 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) ~~8.75~~ ~~15.75~~ 8.75

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = ~~4.28~~ ~~2.58~~ 15.75

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = ~~.58~~ gal. 2.58

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 7.74 FIVE STANDING WELL VOLUMES = 12.9

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.25 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	8.75	6.79	2.86	388	3.01	19.43	156	1449
6min	9.63	6.85	2.10	103	0.62	19.77	173	1455
11 min	9.88	6.90	2.17	26.8	0.05	20.04	193	1500
17 min	10.00	6.90	2.33	23.9	0.00	20.11	204	1506

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-5S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1400

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 60°F

TOTAL WELL DEPTH (TWD) ~~18~~ 25 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL ~~8-13~~ 20-25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.05

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.95

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.8 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.5 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	10.48	6.39	0.515	9.7	7.49	17.82	123	1344
8 minutes	12.92	6.52	0.441	4.8	2.15	18.23	102	1352
12 minutes	12.72	6.64	0.411	5.2	2.28	18.31	97	1356
18 minutes	12.85	6.69	0.397	2.4	2.43	18.39	92	1402

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-10S

SITE NAME Duke Energy-Spartanburg DATE 2/28/19 TIME OF SAMPLE 0830

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny, 45°F in morn.

TOTAL WELL DEPTH (TWD) 25 ~~8.87~~ FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 20 - 25 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.87

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 16.13

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.5 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 0.5 GAL. FLOW RATE 150 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	10.41	6.91	0.741	38.4	13.58	4.20	13	0814
4 min	11.38	6.88	1.04	29.5	8.29	4.81	2	0818
11 min	12.54	6.16	6.64	34.6	7.72	6.28	107	0825
15 min	13.65	6.30	14.1	31.7	9.94	7.05	182	0829
20 min	15.00	6.28	14.7	34.4	8.28	8.03	199	0834
25 min	16.15	6.22	15.8	35.9	7.30	8.76	216	0839, slow flow rate
31 min	16.58	6.31	15.3	29.8	6.79	9.58	217	0845
34 min	16.58	6.19	15.3	27.7	6.21	9.96	230	0849

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-3W

SITE NAME Duke Energy-Spartanburg DATE 2/28/13 TIME OF SAMPLE 0955

FIELD PERSONNEL TLH & RC WEATHER CONDITIONS Sunny, 45°F in mark

TOTAL WELL DEPTH (TWD) 23 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 18-23 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.44

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.56

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.3 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER (PUMP) OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	9.29	6.26	9.38	30.7	4.87	10.32	260	0930
5 min	9.80	6.10	9.07	20.2	1.68	10.74	257	0935
10 min	10.18	6.06	8.61	13.0	1.70	11.40	253	0940
17 min	10.33	6.07	8.06	4.4	1.52	11.85	250	0947
20 min	10.42	6.08	7.88	3.3	1.44	12.10	248	0950
25 min	10.45	6.10	7.76	2.8	1.38	12.26	248	0955

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-5W

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1110

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 50°F

TOTAL WELL DEPTH (TWD) ~~13~~ 24 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL ~~8-13~~ 19-24 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.34

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 14.66

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.3 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	10.59	5.79	4.38	61.2	3.09	12.68	266	10:42
4 min	11.30	5.73	4.26	27.8	1.75	13.05	275	10:46
10 min	11.90	5.73	3.95	13.3	1.33	13.50	281	10:52
15 min	12.44	5.76	3.72	8.4	1.11	14.01	285	10:57
22 min	12.80	5.78	3.70	10.2	0.96	14.37	286	11:04
28 min	13.10	5.84	3.71	9.8	0.94	14.60	258	11:10

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OR-10W

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1245

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 45°F

TOTAL WELL DEPTH (TWD) ~~18~~ 22.5 FT. (measured/ well tag/ drillers log/ previous report – **circle one**)

SCREENED INTERVAL ~~8-13~~ 18.5-22.5 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 9.80

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 12.7

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 2.0 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1.0 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE X HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	10.21	5.89	6.61	10.6	6.88	14.28	264	1211
4 min	10.90	5.83	6.68	10.2	1.73	14.56	274	1215
10 min	11.25	5.79	7.23	8.9	1.18	15.05	278	1221
16 min	11.31	5.70	7.87	3.6	0.83	15.58	286	1227
21 min	11.46	5.66	7.64	3.6	0.86	15.70	288	1232
28 min	11.90	5.84	7.63	5.5	~~1.23~~	15.83	276	1239
34 min	12.10	5.84	7.72	6.2	1.65	15.84	275	1245

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5N

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 1100

FIELD PERSONNEL TLH WEATHER CONDITIONS 46° Partly Sunny

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.84

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 6.16

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.01 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.03 FIVE STANDING WELL VOLUMES = 5.05

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X Persulfate 70 mg/L

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1041 Initial Reading	7.03	6.13	2.26	492	7.04	14.32	144	
1046	7.03	6.01	2.07	312	3.22	14.41	144	
1051	7.03	5.99	2.06	103	3.23	14.48	142	
1056	7.03	5.97	2.06	42.8	3.25	14.52	140	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5E

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 1000

FIELD PERSONNEL TLH WEATHER CONDITIONS Partly Cloudy 43°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.21

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.79

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.95 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.85 FIVE STANDING WELL VOLUMES = 4.75

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

Persulfate = 70 mg/L

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
935 Initial Reading	7.22	6.71	3.10	309	30.91	13.13	138	
940	7.22	6.76	3.10	132	16.18	13.02	136	
945	7.22	6.78	3.01	57.8	19.11	13.06	137	
950	7.22	6.79	2.98	24.7	16.97	13.03	137	
955								

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-10E

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 840

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny 43°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 6.75

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 6.25

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 1.03 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 3.09 FIVE STANDING WELL VOLUMES = 5.15

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Persulfate = 14 mg/L

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH ✓

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
822 Initial Reading	7.01	6.99	0.522	270	11.57	10.66	105	
827	6.98	7.00	0.503	123	1.13	10.64	103	
832	7.0	7.00	0.480	74.6	0.44	10.67	98	
837	7.0	6.99	0.474	23.4	0.47	10.68	96	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-5S + Dup-2

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 1200

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 46°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.89

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.11

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .84 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.52 FIVE STANDING WELL VOLUMES = 4.2

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X Persulfate: 70 mg/L

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE ✓ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1142 Initial Reading	8.55	8.22	37.2	NM	26.33	16.05	280	
1147	8.62	8.32	37.1	281	14.78	15.40	223	Turn Flow down
1152	8.62	8.34	37.2	145	14.76	15.32	223	
1157	8.62	8.32	37.4	98.7	14.25	15.28	224	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-10S

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 1325

FIELD PERSONNEL TLH WEATHER CONDITIONS 46° Cloudy

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.2

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.8

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.79 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.37 FIVE STANDING WELL VOLUMES = 3.95

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE _____ mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS _____

LOCKING CAP YES X NO _____

PROTECTIVE POST/ABUTMENT YES _____ NO X Persulfate 70 mg/L

NONPOTABLE LABEL YES X NO _____

ID PLATE YES X NO _____

WELL INTEGRITY SATISFACTORY YES X NO _____

WELL YIELD LOW _____ MODERATE _____ HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1305 Initial Reading	8.18	7.27	9.69	NR	1.13	15.93	64	
1310	8.10	6.37	8.07	42.3	0.07	15.92	98	
1315	8.10	6.32	7.55	24.4	0	15.89	114	
1320	8.10	6.28	7.49	18.2	0	15.87	119	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-15S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1420

FIELD PERSONNEL TLH WEATHER CONDITIONS Cloudy 50°

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 7.96

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 5.04

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.83 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.49 FIVE STANDING WELL VOLUMES = 4.15

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: .5 GAL. FLOW RATE mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Persulfate = 2.1 mg/L

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
1409 Initial Reading	8.55	7.13	0.850	159	12.48	15.14	76	
1409	8.65	7.12	0.538	103	5.32	14.93	72	Lower Flow
1414	8.65	7.11	0.538	72.8	5.24	14.85	69	
1419	8.65	7.11	0.535	48.2	5.11	14.83	68	

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-20S

SITE NAME Duke Energy-Spartanburg DATE 2-28-13 TIME OF SAMPLE 1515

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 45°F

TOTAL WELL DEPTH (TWD) 13 FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.15

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.85

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.8 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = / FIVE STANDING WELL VOLUMES = /

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: 1.0 GAL. FLOW RATE 100 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Persulfate = 35mg/L

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW MODERATE HIGH

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	8.15	6.26	0.306	48.3	3.08	13.55	84	1500
5min	8.18	6.53	0.394	41.8	2.62	13.45	82	1505
10min	8.13	6.56	0.503	33.4	2.47	13.47	82	1510
15min	8.13	6.56	0.449	31.2	2.65	13.53	74	1515

AMEC E&I, INC.

MONITORING WELL SAMPLING FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-12-0021 MONITORING WELL NUMBER OS-25S

SITE NAME Duke Energy-Spartanburg DATE 2-18-13 TIME OF SAMPLE 1410

FIELD PERSONNEL TLH WEATHER CONDITIONS Sunny, 45°F

TOTAL WELL DEPTH (TWD) 13 ✓ FT. (measured / well tag / drillers log/ previous report – **circle one**)

SCREENED INTERVAL 8-13 ✓ MEASURING POINT FOR DEPTH TOC

DEPTH TO GROUNDWATER (DGW) 8.08

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.92

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 0.8 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = — FIVE STANDING WELL VOLUMES = —

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Peri-Pump

TOTAL VOLUME OF WATER REMOVED: _____ GAL. FLOW RATE 75 mL/min

WELL TYPE: FLUSH MOUNT / ABOVE GRADE

COMMENTS Persulfate 56 to 70 mg/L

LOCKING CAP	YES X	NO
PROTECTIVE POST/ABUTMENT	YES	NO X
NONPOTABLE LABEL	YES X	NO
ID PLATE	YES X	NO
WELL INTEGRITY SATISFACTORY	YES X	NO

WELL YIELD LOW _____ MODERATE X HIGH _____

Elapsed Purge Time (in minutes)	Depth to Groundwater	pH	Cond. (µS/cm)	Turbidity (NTU)	Dis. O_2 (mg/L)	Temp (°C)	ORP (mV)	Notes
Initial Reading	8.15	~~5.44~~ 5.41	8.03	>1000	4.55	~~15.55~~ 15.22	-8	1340, empty flowthru
5 min	8.21	5.77	0.899	399	1.41	14.11	48	1345
11 min	8.21	5.75	0.834	125	0.89	14.43	36	1351 empty flowthru cell.
19 min	8.23	5.18	0.626	66.9	1.46	14.14	34	1359
26 min	8.23	5.33	0.793	41.8	0.82	14.24	58	1406
30 min	8.23	5.31	0.785	26.9	0.89	14.31	62	1410
				~~46.6~~	~~5~~	~~13.65~~		

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OR-3S	1	3/5/2013	7:00	NA	0.47	139.2	15.98	10.420	8.43
		3/5/2013	11:50	NA	1.23	165.4	18.87	11.600	6.60
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.22
		3/6/2013	12:30	6.96	5.07	-70.0	19.21	0.792	6.70
		3/7/2013	8:20	7.01	4.98	-242.4	20.56	0.771	8.30
		3/7/2013	9:15	6.92	4.72	-150.5	19.22	1.713	NM
	2	3/11/2013	11:00	7.99	5.30	61.5	18.60	3.594	8.43
		3/11/2013	15:30	11.02	10.12	294.1	19.21	15.860	7.30
		3/12/2013	7:30	10.25	10.07	208.5	18.91	12.560	8.28
		3/12/2013	12:40	11.62	9.40	-114.2	19.05	23.080	6.65
		3/12/2013	17:00	11.86	10.85	-79.9	19.26	25.210	6.78
		3/13/2013	7:45	13.13	9.05	-143.4	19.01	45.610	8.30
		3/13/2013	13:40	12.97	9.01	-105.0	19.17	52.860	7.88
		3/14/2013	7:40	13.26	8.72	-50.1	19.20	67.260	NM
		3/14/2013	14:00	13.43	9.37	-68.5	19.10	74.690	NM
	3	3/18/2013	11:00	12.67	14.00	-85.0	19.24	81.130	NM
		3/19/2013	7:30	12.65	10.12	-132.1	18.94	72.180	8.70
		3/19/2013	17:40	13.04	13.84	-120.3	19.16	71.640	NM
		3/20/2013	8:00	13.35	15.01	-153.1	19.30	75.050	NM
		3/20/2013	18:00	13.31	15.46	-155.0	19.45	81.300	NM
		3/21/2013	9:30	13.47	12.30	-95.2	19.40	90.000	NM
		3/21/2013	12:00	12.98	13.01	-62.0	19.40	89.600	NM
		3/21/2013	14:00	13.74	14.02	-102.1	19.33	89.900	NM
OR-5S	1	3/5/2013	7:00	NA	0.60	2.2	18.73	1.033	8.64
		3/5/2013	11:50	NA	0.87	40.5	18.70	0.991	7.40
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.35
		3/6/2013	12:30	6.42	0.67	-85.0	18.03	0.434	7.80
		3/7/2013	8:20	6.46	0.51	-253.3	18.55	0.421	8.55
		3/7/2013	9:15	6.26	1.35	-131.5	17.58	1.322	NM
	2	3/11/2013	11:00	6.58	0.78	51.5	18.48	0.083	8.65
		3/11/2013	15:30	6.13	1.18	385.1	18.74	1.175	8.45
		3/12/2013	7:30	7.11	1.36	207.1	18.46	0.882	8.43
		3/12/2013	12:40	7.40	0.78	-363.2	18.65	0.907	7.75
		3/12/2013	17:00	8.50	1.38	-335.5	18.73	0.934	7.31
		3/13/2013	7:45	7.68	0.99	-390.6	18.59	1.025	8.48
		3/13/2013	13:40	5.90	0.63	-364.0	18.70	0.659	7.90
		3/14/2013	7:40	7.91	0.84	-353.0	18.61	0.942	NM
		3/14/2013	14:00	7.72	2.18	-369.4	18.67	0.913	NM
	3	3/18/2013	11:00	5.89	2.22	-348.0	18.60	1.054	NM
		3/19/2013	7:30	6.43	0.34	-411.6	18.67	1.034	8.71
		3/19/2013	17:40	7.28	0.43	-343.2	18.71	0.971	NM
		3/20/2013	8:00	5.90	0.24	-409.0	18.57	1.018	NM
		3/20/2013	18:00	5.80	0.23	-408.0	18.71	0.998	NM
		3/21/2013	9:30	5.70	0.61	-391.0	16.50	1.033	NM
		3/21/2013	12:00	6.97	0.96	-388.0	18.70	0.991	NM
		3/21/2013	14:00	6.98	1.68	-391.6	18.76	0.930	NM

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OR-10S	1	3/5/2013	7:00	NA	0.76	183.8	18.17	34.300	9.63
		3/5/2013	11:50	NA	0.97	184.0	18.34	35.770	9.50
		3/6/2013	7:15	NM	NM	NM	NM	NM	9.50
		3/6/2013	12:30	6.01	4.16	67.9	17.00	33.100	8.80
		3/7/2013	8:20	6.00	1.50	-138.5	17.32	31.300	9.57
		3/7/2013	9:15	5.88	2.23	-63.3	16.27	31.590	NM
	2	3/11/2013	11:00	5.53	1.43	187.8	17.94	31.620	9.65
		3/11/2013	15:30	5.39	1.40	448.4	18.18	29.820	9.55
		3/12/2013	7:30	5.42	2.23	282.9	17.83	30.090	9.48
		3/12/2013	12:40	6.21	10.93	-152.0	18.34	31.750	9.08
		3/12/2013	17:00	6.59	7.25	-29.5	18.37	32.540	8.87
		3/13/2013	7:45	6.03	3.75	-206.5	18.24	33.050	9.55
		3/13/2013	13:40	5.37	2.80	-207.0	18.20	33.410	9.30
		3/14/2013	7:40	6.03	2.66	-170.0	18.30	29.310	NM
		3/14/2013	14:00	6.25	3.52	-200.5	18.26	29.960	NM
	3	3/18/2013	11:00	5.44	3.70	-178.0	18.25	29.500	NM
		3/19/2013	7:30	5.23	1.70	-268.8	18.24	30.560	9.75
		3/19/2013	17:40	5.58	0.94	-201.1	18.21	30.000	NM
		3/20/2013	8:00	5.14	1.00	-312.8	17.99	30.280	NM
		3/20/2013	18:00	5.19	0.83	-333.0	18.00	30.270	NM
		3/21/2013	9:30	5.00	2.21	-311.0	17.52	30.400	NM
		3/21/2013	12:00	5.33	1.00	-244.0	18.14	30.000	NM
		3/21/2013	14:00	5.22	1.36	-316.1	18.23	29.800	NM
OR-3W	1	3/5/2013	7:00	NA	5.97	122.9	18.07	0.735	8.75
		3/5/2013	11:50	NA	0.54	167.0	18.87	8.760	6.62
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.50
		3/6/2013	12:30	7.37	6.56	-70.0	19.00	0.829	7.20
		3/7/2013	8:20	7.36	6.51	-191.3	21.42	0.818	8.60
		3/7/2013	9:15	6.35	2.15	-140.2	19.03	5.830	NM
	2	3/11/2013	11:00	6.07	1.79	247.3	19.12	7.598	8.75
		3/11/2013	15:30	6.07	1.89	370.4	19.72	8.683	7.85
		3/12/2013	7:30	5.96	2.28	295.3	19.50	8.005	8.60
		3/12/2013	12:40	6.83	3.30	-64.0	19.01	12.290	7.15
		3/12/2013	17:00	6.18	2.95	210.4	18.99	13.280	7.10
		3/13/2013	7:45	5.79	2.81	-76.9	18.92	15.310	8.60
		3/13/2013	13:40	7.01	2.81	-71.8	19.20	14.660	8.15
		3/14/2013	7:40	5.82	4.77	-116.0	18.88	15.660	NM
		3/14/2013	14:00	6.15	4.72	-41.8	19.15	15.910	NM
	3	3/18/2013	11:00	6.08	6.00	117.0	19.30	17.300	NM
		3/19/2013	7:30	4.36	2.99	-21.1	19.21	17.670	8.95
		3/19/2013	17:40	5.41	10.15	-84.7	19.45	18.390	NM
		3/20/2013	8:00	5.42	6.87	-113.2	19.30	19.340	NM
		3/20/2013	18:00	5.14	5.38	-89.0	19.44	19.770	NM
		3/21/2013	9:30	5.70	6.00	-84.0	19.31	20.400	NM
		3/21/2013	12:00	5.06	7.38	-105.0	19.41	19.600	NM
		3/21/2013	14:00	5.31	8.20	-152.7	20.01	18.510	NM

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OR-5W	1	3/5/2013	7:00	NA	0.60	182.2	18.75	4.341	8.68
		3/5/2013	11:50	NA	0.67	172.0	18.66	4.900	7.00
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.35
		3/6/2013	12:30	6.55	4.47	-58.2	17.70	1.609	7.38
		3/7/2013	8:20	6.98	5.83	-192.0	17.86	0.993	8.60
		3/7/2013	9:15	5.88	2.64	-152.7	18.50	4.046	NM
	2	3/11/2013	11:00	5.72	2..25	313.0	17.48	5.260	8.68
		3/11/2013	15:30	5.91	2.20	431.8	18.56	4.095	7.85
		3/12/2013	7:30	5.79	1.85	310.2	18.52	4.225	8.55
		3/12/2013	12:40	6.88	3.03	-249.0	18.61	5.200	7.20
		3/12/2013	17:00	5.98	2.36	-214.4	18.63	5.367	7.23
		3/13/2013	7:45	5.69	1.55	-284.2	18.52	5.937	8.60
		3/13/2013	13:40	6.43	1.40	-256.0	18.60	5.658	8.13
		3/14/2013	7:40	5.76	1.88	-287.0	18.61	5.208	NM
		3/14/2013	14:00	6.18	1.08	-270.1	18.59	5.301	NM
	3	3/18/2013	11:00	5.66	1.20	-240.0	18.70	6.170	NM
		3/19/2013	7:30	5.29	1.37	-335.0	18.69	5.961	NM
		3/19/2013	17:40	5.46	1.58	-268.7	18.68	6.250	NM
		3/20/2013	8:00	5.49	0.40	-289.6	18.84	6.430	NM
		3/20/2013	18:00	5.45	0.31	-304.0	18.89	6.518	NM
		3/21/2013	9:30	5.62	0.56	-284.0	18.70	6.500	NM
		3/21/2013	12:00	5.13	0.35	-307.0	18.72	6.400	NM
		3/21/2013	14:00	5.30	0.53	-322.9	18.81	6.435	NM
OR-10W	1	3/5/2013	7:00	NA	0.59	323.4	18.21	17.270	8.58
		3/5/2013	11:50	NA	0.55	216.0	18.22	13.800	7.25
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.40
		3/6/2013	12:30	5.76	5.80	-36.3	16.31	1.197	7.47
		3/7/2013	8:20	6.89	6.56	-186.5	16.07	0.891	8.55
		3/7/2013	9:15	6.54	5.85	-149.9	16.54	2.075	NM
	2	3/11/2013	11:00	5.76	2.47	313.0	17.48	5.260	8.68
		3/11/2013	15:30	5.82	2.06	434.8	17.66	4.115	7.93
		3/12/2013	7:30	5.73	2.18	317.7	17.62	5.063	8.48
		3/12/2013	12:40	6.92	3.30	-98.2	18.15	17.760	7.30
		3/12/2013	17:00	6.12	0.98	143.0	18.13	18.540	7.32
		3/13/2013	7:45	5.88	1.45	-114.5	18.11	19.480	8.55
		3/13/2013	13:40	6.22	0.98	-148.0	18.00	16.480	8.10
		3/14/2013	7:40	5.85	1.61	-229.0	18.14	9.383	NM
		3/14/2013	14:00	6.08	1.64	-122.5	18.07	18.010	NM
	3	3/18/2013	11:00	5.72	1.20	-177.0	18.10	12.800	NM
		3/19/2013	7:30	5.86	2.31	-301.4	17.86	20.820	8.73
		3/19/2013	17:40	5.85	1.51	-232.7	18.20	16.470	NM
		3/20/2013	8:00	6.25	0.47	-313.2	18.19	19.560	NM
		3/20/2013	18:00	8.71	0.32	-307.0	18.23	22.610	NM
		3/21/2013	9:30	8.81	0.40	-276.0	18.12	23.400	NM
		3/21/2013	12:00	7.58	0.34	-302.0	18.13	19.500	NM
		3/21/2013	14:00	7.52	0.48	-330.0	18.24	18.180	NM

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
MW-13 ISOC	1	3/5/2013	7:00	NA	1.56	178.1	17.51	8.957	5.85
		3/5/2013	11:50	NA	0.66	218.0	17.43	8.570	5.34
		3/6/2013	7:15	NM	NM	NM	NM	NM	6.90
	2	3/11/2013	11:00	10.05	1.04	112.6	16.42	10.550	6.02
		3/12/2013	7:30	9.07	1.12	184.2	15.67	9.563	5.95
		3/12/2013	12:40	12.57	0.29	-261.3	17.85	19.120	5.65
		3/12/2013	17:00	12.02	0.43	-214.0	17.82	19.250	5.50
		3/13/2013	7:45	12.61	0.62	-261.8	17.84	22.490	5.90
		3/13/2013	13:40	11.06	0.48	-330.0	17.74	12.700	5.80
		3/14/2013	7:40	12.14	0.88	-313.0	17.80	13.620	NM
		3/14/2013	14:00	12.50	0.74	-247.6	17.86	22.240	NM
	3	3/18/2013	11:00	9.45	0.70	-363.0	17.10	9.800	NM
		3/19/2013	7:30	9.72	0.21	-396.2	17.71	10.380	6.11
		3/19/2013	17:40	11.56	0.46	-366.7	17.86	12.620	NM
		3/20/2013	8:00	8.54	0.30	-395.6	17.72	9.117	NM
		3/20/2013	18:00	10.57	0.31	-389.0	17.93	11.090	NM
		3/21/2013	9:30	9.80	0.41	-366.0	17.80	10.000	NM
		3/21/2013	12:00	8.99	0.23	-378.0	17.20	9.300	NM
		3/21/2013	14:00	9.92	0.34	-385.0	17.93	10.830	NM
Shallow Observation wells									
MW-13S	1	3/5/2013	7:00	NA	1.13	256.7	15.99	57.130	6.80
		3/5/2013	11:50	NA	0.56	220.0	16.13	20.000	6.00
		3/6/2013	7:15	NM	NM	NM	NM	NM	6.75
		Discontinued monitoring due to the presence of free product							
OS-5N	1	3/5/2013	7:00	NA	5.30	254.0	17.02	3.230	7.23
	2	3/13/2013	7:45	6.74	5.40	-299.5	16.17	3.977	7.45
		3/13/2013	13:40	6.04	8.40	-256.0	15.50	1.032	7.45
		3/14/2013	7:40	6.34	4.52	208.7	15.69	1.707	NM
		3/14/2013	14:00	6.49	4.20	221.0	15.99	5.051	NM
	3	3/18/2013	11:00	6.50	7.99	-264.0	15.50	1.362	NM
		3/19/2013	7:30	6.47	5.52	-312.6	15.64	1.011	8.50
		3/19/2013	17:40	6.95	5.39	-285.5	15.71	2.833	NM
		3/20/2013	8:00	6.54	4.62	-348.0	15.70	5.191	NM
		3/20/2013	18:00	6.72	4.30	-362.0	16.19	7.981	NM
		3/21/2013	14:00	7.13	5.50	-334.0	15.55	1.492	NM
OS-5E	1	3/5/2013	7:00	NA	23.00	183.9	15.85	2.710	7.57
	2	3/13/2013	7:45	8.16	20.02	-227.3	15.36	2.373	7.55
		3/13/2013	13:40	7.51	21.66	141.0	14.82	1.891	7.30
		3/14/2013	7:40	7.23	19.03	200.8	14.51	1.812	NM
		3/14/2013	14:00	7.70	17.70	210.0	14.80	1.824	NM
	3	3/18/2013	11:00	7.15	22.60	-146.0	14.70	1.995	NM
		3/19/2013	7:30	6.89	19.17	-270.6	14.87	1.966	7.75
		3/19/2013	17:40	6.97	22.22	-233.7	15.23	2.319	NM
		3/20/2013	8:00	6.92	19.21	-285.0	14.97	1.927	NM
		3/20/2013	18:00	6.60	19.51	-323.0	15.31	1.889	NM
		3/21/2013	14:00	7.01	20.49	-288.1	15.17	1.791	NM

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OS-10E	1	3/5/2013	7:00	NA	3.30	-17.7	15.13	0.518	7.15
	2	3/13/2013	7:45	7.61	1.36	-335.4	14.90	0.706	7.23
		3/13/2013	13:40	7.19	1.71	113.0	15.00	0.537	6.93
		3/14/2013	7:40	6.95	1.80	169.1	14.26	0.498	NM
		3/14/2013	14:00	6.93	2.30	213.0	14.20	0.490	NM
	3	3/18/2013	11:00	6.92	4.09	-287.0	14.60	0.599	NM
		3/19/2013	7:30	6.71	1.80	-378.3	14.86	0.590	7.35
		3/19/2013	17:40	6.69	1.43	-348.1	14.61	0.568	NM
		3/20/2013	8:00	6.56	2.07	-380.0	14.60	0.542	NM
		3/20/2013	18:00	6.03	2.68	-391.0	14.88	0.536	NM
		3/21/2013	14:00	6.81	2.32	-363.0	14.61	0.514	NM
OS-5S	1	3/5/2013	7:00	NA	13.77	26.1	18.09	25.310	8.15
	2	3/13/2013	7:45	10.18	18.62	-134.8	17.48	28.490	7.96
		3/13/2013	13:40	9.96	na	258.7	17.40	17.430	7.80
		3/14/2013	7:40	10.30	15.17	202.8	17.41	20.590	NM
		3/14/2013	14:00	10.71	15.70	214.0	16.40	18.660	NM
	3	3/18/2013	11:00	10.27	14.20	-182.0	17.02	22.520	NM
		3/19/2013	7:30	9.75	17.17	-217.7	17.21	24.010	8.25
		3/19/2013	17:40	9.73	17.01	-191.9	16.84	26.810	NM
		3/20/2013	8:00	10.05	16.40	-250.0	17.12	24.750	NM
		3/20/2013	18:00	9.99	16.71	-283.0	17.24	25.580	NM
		3/21/2013	14:00	10.15	18.22	-258.0	17.23	25.190	NM
OS-10S	1	3/5/2013	7:00	NA	1.43	286.1	18.06	5.822	8.18
	2	3/13/2013	7:45	5.85	3.60	-211.5	17.32	5.425	7.85
		3/13/2013	13:40	5.44	3.91	-218.0	17.40	7.750	7.85
		3/14/2013	7:40	5.34	0.79	137.3	16.56	3.258	NM
		3/14/2013	14:00	5.84	1.55	268.0	16.30	2.940	NM
	3	3/18/2013	11:00	6.21	5.01	-237.0	17.41	9.330	NM
		3/19/2013	7:30	5.56	0.74	-303.2	17.42	7.081	8.35
		3/19/2013	17:40	6.37	1.21	-251.7	17.47	7.271	NM
		3/20/2013	8:00	5.90	2.00	-323.6	17.09	4.336	NM
		3/20/2013	18:00	6.25	3.00	-351.0	17.59	7.381	NM
		3/21/2013	14:00	5.77	1.05	-336.0	17.35	6.001	NM
OS-15S	1	3/5/2013	7:00	NA	1.00	-15.9	16.51	0.403	8.25
		3/5/2013	11:50	NA	0.80	34.8	16.78	0.406	7.30
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.14
		3/6/2013	12:30	6.32	0.40	-2.0	16.60	0.405	7.30
		3/7/2013	8:20	6.29	0.25	-210.4	16.72	0.386	8.25
	2	3/11/2013	11:00	6.38	0.25	168.7	16.60	0.397	8.35
		3/12/2013	7:30	7.06	0.26	196.2	16.50	0.400	8.20
		3/12/2013	12:40	6.26	0.27	-3.9	16.38	0.410	7.36
		3/13/2013	7:45	8.27	0.46	-380.0	16.22	0.417	8.20
		3/13/2013	13:40	6.90	0.97	171.5	16.15	0.399	7.90
		3/14/2013	7:40	6.47	0.31	133.5	16.28	0.379	NM
		3/14/2013	14:00	6.85	0.46	226.0	16.10	0.381	NM
	3	3/18/2013	11:00	6.29	2.15	-372.0	16.40	0.446	NM
		3/19/2013	7:30	6.71	0.19	-416.0	16.59	0.457	8.35
		3/19/2013	17:40	6.85	0.50	-362.9	16.59	0.481	NM
		3/20/2013	8:00	6.14	0.74	-411.0	16.42	0.469	NM
		3/20/2013	18:00	6.41	0.92	-415.0	16.64	0.490	NM
		3/21/2013	14:00	6.16	0.31	-394.0	16.47	0.482	NM

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OS-20S	1	3/5/2013	7:00	NA	0.61	191.5	15.92	1.552	8.31
		3/5/2013	11:50	NA	0.61	35.3	16.50	5.640	7.42
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.20
		3/6/2013	12:30	6.32	1.02	-2.0	15.77	0.826	7.53
		3/7/2013	8:20	6.27	0.35	-208.5	15.68	0.449	8.30
	2	3/11/2013	11:00	6.27	0.35	140.5	15.62	0.453	8.42
		3/12/2013	7:30	6.60	0.27	166.3	15.58	0.484	8.28
		3/12/2013	12:40	6.96	0.34	8.5	16.25	5.050	7.30
		3/13/2013	7:45	10.10	0.49	-373.4	15.92	3.410	8.27
		3/13/2013	13:40	6.62	0.26	-360.0	15.10	0.528	8.00
		3/14/2013	7:40	6.39	0.50	121.6	15.29	0.421	NM
		3/14/2013	14:00	6.93	0.30	179.0	15.10	0.420	NM
	3	3/18/2013	11:00	7.60	0.94	-350.0	15.80	1.560	NM
		3/19/2013	7:30	8.48	0.13	-413.7	16.19	4.220	8.40
		3/19/2013	17:40	6.27	0.46	-365.1	15.75	0.967	NM
		3/20/2013	8:00	6.43	0.50	-405.0	15.28	0.577	NM
		3/20/2013	18:00	6.74	0.72	-409.0	16.15	1.314	NM
		3/21/2013	14:00	6.43	0.38	-391.0	15.65	0.915	NM
OS-25S	1	3/5/2013	7:00	NA	0.62	-73.4	15.80	4.528	8.33
		3/5/2013	11:50	NA	0.55	28.0	15.59	1.300	7.50
		3/6/2013	7:15	NM	NM	NM	NM	NM	8.20
		3/6/2013	12:30	5.41	0.73	-128.0	15.12	0.522	7.62
		3/7/2013	8:20	5.06	0.30	209.6	15.87	1.221	8.32
	2	3/11/2013	11:00	5.07	0.43	-35.3	15.77	1.238	8.44
		3/12/2013	7:30	5.89	0.37	27.5	15.79	1.446	8.28
		3/12/2013	12:40	5.60	1.05	-10.2	15.77	1.453	7.40
		3/13/2013	7:45	7.11	0.75	-391.2	15.62	1.908	8.30
		3/13/2013	13:40	5.46	0.73	-360.0	15.40	1.680	8.05
		3/14/2013	7:40	5.55	0.56	51.5	15.72	2.424	NM
		3/14/2013	14:00	7.16	0.71	-369.3	15.89	3.056	NM
	3	3/18/2013	11:00	6.11	1.18	-350.0	15.88	3.310	NM
		3/19/2013	7:30	6.31	0.33	-412.9	15.79	3.151	8.75
		3/19/2013	17:40	5.91	0.40	-371.4	15.61	2.838	NM
		3/20/2013	8:00	5.94	0.49	-401.5	15.49	2.845	NM
		3/20/2013	18:00	5.86	0.67	-405.0	15.75	2.828	NM
		3/21/2013	14:00	6.13	0.30	-397.0	15.55	2.723	NM
Chinquapin Creek (South of Pilot Area)	1	3/5/2013	7:00	na	9.10	150.3	12.75	0.122	N/A
		3/6/2013	14:40	7.05	11.95	-62.2	11.80	0.115	N/A
		3/7/2013	8:20	7.35	6.85	-192.4	11.85	0.126	N/A
	2	3/11/2013	11:00	8.31	10.75	193.2	11.65	0.124	N/A
		3/12/2013	7:30	6.45	9.97	23.5	13.22	0.072	N/A
		3/13/2013	7:45	7.03	9.34	-309.7	10.28	0.115	N/A
		3/14/2013	7:40	6.30	13.06	-293.8	7.84	0.126	N/A
	3	3/18/2013	11:00	8.20	17.40	-320.0	11.90	0.138	N/A
		3/19/2013	7:30	6.81	8.70	-337.1	10.24	0.089	N/A
		3/20/2013	8:00	7.97	8.51	-345.0	10.49	0.121	N/A
		3/20/2013	18:00	8.48	8.91	-303.0	14.47	0.127	N/A

Appendix G. PWR Geochemical Monitoring Summary During Sodium Hydroxide Injectior

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
Chinquapin Creek (Upstream at Bridge)	1	3/5/2012	7:00	na	9.06	162.4	12.35	0.122	NA
		3/6/2013	14:40	6.93	11.86	-57.0	11.86	0.102	N/A
		3/7/2013	8:20	6.99	6.76	185.1	11.71	0.116	N/A
	2	3/11/2013	11:00	8.07	10.98	193.2	11.65	0.124	N/A
		3/12/2013	7:30	6.59	9.77	37.3	13.21	0.072	N/A
		3/13/2013	7:45	6.60	9.35	-308.9	10.25	0.118	N/A
		3/14/2013	7:40	6.27	12.45	-303.8	7.91	0.113	N/A
	3	3/18/2013	11:00	8.05	12.85	-326.0	11.08	0.123	N/A
		3/19/2013	7:30	6.67	8.92	-333.0	10.25	0.084	N/A
		3/20/2013	8:00	7.96	9.22	-339.0	10.43	0.114	N/A
		3/20/2013	18:00	8.53	8.94	-340.0	14.07	0.155	N/A

Notes:
N/M - not measured
uS/cm - micro Siemens per centimeter
mV - millivolts
mg/L = milligrams per liter
ft. BTOC= ft. below top of casing
N/A= not applicable

Location Duke-Spartanburg Date 7/31/13

Project / Client MPE

0700- Arrive at Knoxville office (JP.)
0725- Depart Knoxville office.
0800- Pick up 5x5ft 1" casing from DSI.
1130- Pickup Generator
1200 - Onsite.
1430 - Enviro-Equipment onsite with trailer, Brakes on trailer seem to be locked up.
1715- MPE Unit operational. Test run till Knock out tank fills up. well ~ 10 inHg
1745- KO tank pump works. Turn off system. End of day.
0

Location Duke-Spartanburg Date 8/1/13

Project / Client MPE

0655- Onsite. Conduct HTS meeting
0830- Begin MPE. Take water level measurements. Bailed MW-13s. Water is clear minus ½" of free product at bottom of well.
0905- Generator shuts off. Restart. Call in-ted.
1050. Quit MPE per phone call with WPT. Total removed ~280 gals
1250- Bail MW-13S, Water level back to static. Very clear water. Per phone call with WPT, End of Event. Pack up.
1500- Offsite with generator. Env. Equipment to pickup MPE trailer tomorrow.
1530- Drop generator off.
1915- Back to Knoxville office. Unload truck.

Pre/Post Test Water (Product) levels

	Time	Extraction		Monitor							
	24 hrs	MW-13S	MW-13 Isoc	OR3W	OR5W	OR10W	OR3S	OR5S	Ø10S	OS20S	OS25S
Pre Test	Ø730	BC-6.8, 72 B06	6.19	8.73	8.67	8.59	8.28	8.49	9.50	8.1Ø	8.15
Post Test											

MPE Test Data (15 min intervals)

Time		(in Hg / in H2O)			Wellhead Vacuum				(Hg)		INLET		Exhaust			Water
Elapsed (mins)	24hr	MW-13S							Machine		Vacuum (Hg)	Temp (F)	Pitot (WC)	Temp (F)	FID (PPM - Hex)	Gal
0	0830	8 / 40-60	MW-ISOC	OR3W	OR5W	OR10W	OR3S	OR5S	19	OR10S	10-12		0520	Ø525S		
15	Ø845	8 / 50							19.5		10					entied KO tank-55gal into tote
30	Ø9ØØ	8-1Ø / 6Ø							2Ø		10-12					
45	0915	connector Failure														
60 (1 hr)	Ø93Ø	8 / 5Ø							21		10-12					
75 0945	~~Ø945~~	8 / 53-65							21.5		10-12					
90 1000	~~Ø93Ø~~	8-10 / 6Ø							22		10-12					
105	1015	8 / 6Ø	9.1Ø	10.1	9.58	1Ø.15	9.58	8.9	24	9.85	10-12		9.99	9.15		
120 (2 hrs)	1Ø3Ø	8-9 / 6Ø							25		10					
135	1Ø5Ø	Per WPT	shutdown													780 total - 55 = 225 today
150																
165																
180 (3 hrs)																
195																
210																
225																
240 (4 hrs)																
255																
270																
285																
300 (5 hrs)																
315																
330																
345																
360 (6 hrs)																
375																
390																
405																
420 (7 Hrs)																
435																
450																
465																
480 (8 Hrs)																

Comments

Appendix I. PWR Geochemical Monitoring Summary During Hydrogen Peroxide Injection

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OR-3S	Peroxide Test	8/15/2013	7:15	6.34	2.35	463.2	17.99	4.157	NM
		8/15/2013	14:15	6.44	3.05	425.1	17.91	3.960	NM
	1	8/19/2013	12:48	6.52	3.14	181.9	18.12	4.508	7.96
		8/19/2013	17:05	6.43	3.68	292.7	18.17	4.285	NM
		8/20/2013	10:00	6.52	7.14	236.0	18.17	5.176	NM
		8/20/2013	15:40	6.33	20.65	416.8	18.30	4.339	NM
		8/21/2013	7:15	6.46	22.25	335.5	18.65	4.874	8.36
		8/21/2013	17:00	6.56	39.33	438.2	18.85	4.878	4.95
	2	8/26/2013	10:00	6.56	30.89	418.6	18.80	8.055	8.30
		8/26/2013	17:20	6.74	27.60	415.8	18.72	6.657	3.75
		8/27/2013	7:20	6.73	23.55	313.6	18.83	6.311	8.89
		8/27/2013	17:00	6.64	33.69	335.1	18.97	6.485	6.47
		8/28/2013	7:45	6.60	36.50	406.6	19.42	7.875	9.19
		8/28/2013	17:00	6.71	33.95	368.3	19.70	8.909	6.70
		8/29/2013	7:15	6.73	34.95	415.6	19.97	10.610	9.28
	3	9/3/2013	11:10	6.32	30.34	348.8	19.16	12.310	8.69
		9/3/2013	16:00	6.28	33.96	437.6	19.22	11.240	5.78
		9/4/2013	7:15	6.48	26.31	394.8	19.54	10.090	8.89
		9/4/2013	17:00	6.43	30.31	347.1	19.68	8.353	5.56
		9/5/2013	10:50	6.37	26.95	350.7	20.11	9.240	9.42
OR-5S	Peroxide Test	8/15/2013	7:15	5.88	0.42	300.6	17.80	1.873	NM
		8/15/2013	14:15	5.95	0.79	335.5	17.80	1.915	NM
	1	8/19/2013	12:48	5.70	0.41	160.3	17.73	2.114	8.32
		8/19/2013	17:03	5.67	0.72	286.1	17.82	2.088	NM
		8/20/2013	10:00	6.18	0.79	225.0	17.93	1.740	NM
		8/20/2013	15:40	6.25	1.25	410.5	18.03	1.739	NM
		8/21/2013	7:15	5.83	0.59	269.6	18.13	1.638	8.68
		8/21/2013	17:00	6.24	1.12	413.9	18.00	1.666	5.73
	2	8/26/2013	10:00	6.22	1.10	377.3	18.35	1.690	8.49
		8/26/2013	17:20	6.55	1.29	411.4	18.36	1.632	5.95
		8/27/2013	7:20	6.15	0.85	282.7	18.28	1.721	8.72
		8/27/2013	17:00	6.71	2.20	292.8	18.36	1.621	7.09
		8/28/2013	7:45	6.20	1.15	340.3	18.52	1.656	9.34
		8/28/2013	17:00	6.16	0.84	367.4	18.30	1.775	7.16
		8/29/2013	7:15	6.47	1.45	410.5	18.59	1.737	9.42
	3	9/3/2013	11;10	6.30	0.54	333.0	18.76	1.797	8.75
		9/3/2013	16:00	6.03	0.83	380.7	18.84	1.799	7.66
		9/4/2013	7:15	6.35	0.51	371.8	18.74	1.750	9.01
		9/4/2013	17:00	6.38	0.33	343.3	19.01	1.737	7.23
		9/5/2013	10:50	6.37	0.48	317.6	18.99	1.751	9.22
OR-10S	Peroxide Test	8/15/2013	7:15	3.34	0.58	533.3	17.62	23.82	NM
		8/15/2013	NA	NM	NM	NM	NM	NM	NM
	1	8/19/2013	12:25	3.35	1.22	488.2	17.60	25.33	9.13
		8/19/2013	17:00	3.47	1.10	452.1	17.63	25.51	NM
		8/20/2013	10:00	3.31	0.86	488.0	17.49	26.45	NM
		8/20/2013	15:40	3.39	2.04	518.1	17.74	25.53	NM
		8/21/2013	7:15	3.41	1.49	566.1	20.94	24.00	9.53
		8/21/2013	17:00	3.38	1.37	518.4	17.81	24.28	8.80
	2	8/26/2013	10:00	3.32	1.30	536.1	17.76	23.50	9.47
		8/26/2013	17:20	3.47	1.58	501.9	17.87	23.34	7.81
		8/27/2013	7:20	3.46	1.60	537.4	17.86	23.50	9.68
		8/27/2013	17:00	3.53	2.45	525.8	17.74	23.40	8.80
		8/28/2013	7:45	3.42	2.22	535.0	17.76	23.62	9.90
		8/28/2013	17:00	3.39	1.80	504.0	17.79	23.40	8.48
		8/29/2013	7:15	3.36	1.39	511.7	17.92	23.31	10.11
	3	9/3/2013	11:10	3.73	0.96	484.6	21.77	22.63	9.80
		9/3/2013	16:00	3.62	1.42	530.3	21.78	22.64	9.34
		9/4/2013	7:15	3.75	0.82	511.9	18.02	22.89	9.92
		9/4/2013	17:00	3.68	0.65	502.7	17.76	23.06	9.06
		9/5/2013	10:50	3.73	1.22	517.4	18.04	22.90	10.10

Appendix I. PWR Geochemical Monitoring Summary During Hydrogen Peroxide Injection

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OR-3W	Peroxide Test	8/15/2013	7:15	3.85	13.02	511.4	18.14	27.40	NM
		8/15/2013	14:15	5.98	22.30	391.5	18.32	24.73	NM
	1	8/19/2013	12:58	5.07	14.32	408.4	18.36	28.40	8.44
		8/19/2013	17:10	3.47	1.10	452.1	17.63	25.51	NM
		8/20/2013	10:00	3.03	7.61	568.0	18.13	31.60	NM
		8/20/2013	15:40	2.97	4.33	588.6	18.19	31.66	NM
		8/21/2013	7:15	3.52	9.01	557.6	18.74	29.95	8.88
		8/21/2013	17:00	4.44	23.25	486.2	18.72	31.69	5.35
	2	8/26/2013	10:00	5.01	21.42	463.3	18.68	32.25	8.76
		8/26/2013	17:20	5.08	24.09	444.0	18.56	32.44	4.06
		8/27/2013	7:20	4.92	22.42	413.9	18.86	32.51	9.42
		8/27/2013	17:00	5.49	30.45	402.2	18.71	33.25	6.86
		8/28/2013	7:45	5.90	38.80	424.7	18.94	33.72	9.59
		8/28/2013	17:00	7.08	34.12	383.6	18.90	36.28	7.24
		8/29/2013	7:15	6.73	33.07	425.9	19.50	36.04	9.92
	3	9/3/2013	11:10	6.03	31.67	371.7	19.53	36.67	9.13
		9/3/2013	16:00	6.03	37.61	309.5	19.62	36.40	8.15
		9/4/2013	7:15	6.89	32.91	408.8	19.52	37.69	8.90
		9/4/2013	17:00	7.10	36.50	367.4	19.60	37.71	8.40
		9/5/2013	10:50	8.17	31.15	316.0	19.74	39.98	9.97
OR-5W	Peroxide Test	8/15/2013	7:15	3.51	1.13	515.1	18.32	18.60	NM
		8/15/2013	14:15	3.82	2.99	471.0	17.85	19.19	NM
	1	8/19/2013	13:10	3.83	2.74	483.1	18.06	20.28	8.38
		8/19/2013	17:13	3.86	1.87	470.1	18.17	20.36	NM
		8/20/2013	10:00	3.73	2.10	479.0	18.08	21.10	NM
		8/20/2013	15:40	3.82	2.92	497.5	18.14	21.39	NM
		8/21/2013	7:15	3.66	1.30	516.9	18.16	20.35	8.35
		8/21/2013	17:00	3.89	3.14	500.5	18.19	20.50	5.39
	2	8/26/2013	10:00	3.70	2.83	494.2	18.29	20.27	8.70
		8/26/2013	17:20	4.05	7.13	479.1	18.48	21.11	4.04
		8/27/2013	7:20	3.70	3.13	492.4	18.44	20.64	9.39
		8/27/2013	17:00	3.85	5.14	461.8	18.46	20.59	6.89
		8/28/2013	7:45	3.69	2.98	478.3	18.36	20.70	9.82
		8/28/2013	17:00	3.88	11.12	477.5	18.59	20.91	6.91
		8/29/2013	7:15	3.72	3.57	502.5	18.56	20.65	9.94
	3	9/3/2013	11:10	3.78	3.56	502.4	19.10	20.95	9.04
		9/3/2013	16:00	3.87	6.12	468.1	19.20	21.31	7.09
		9/4/2013	7:15	3.90	3.56	506.4	19.35	21.11	9.18
		9/4/2013	17:00	4.06	5.09	500.1	19.44	21.50	6.94
		9/5/2013	10:50	3.74	2.44	496.5	19.08	21.37	9.89
OR-10W	Peroxide Test	8/15/2013	7:15	2.87	1.60	566.5	18.18	9.483	NM
		8/15/2013	14:15	3.12	1.95	549.8	18.04	9.796	NM
	1	8/19/2013	13:15	3.64	1.98	524.0	17.98	11.000	8.25
		8/19/2013	17:15	4.74	0.90	438.2	18.11	11.570	NM
		8/20/2013	10:00	5.66	1.07	415.3	17.83	13.350	NM
		8/20/2013	15:40	5.42	1.20	489.5	17.90	13.440	NM
		8/21/2013	7:15	5.34	0.85	499.0	17.95	12.310	8.70
		8/21/2013	17:00	5.25	1.39	508.0	17.87	12.320	5.50
	2	8/26/2013	10:00	4.15	0.73	469.2	17.99	12.240	8.62
		8/26/2013	17:20	3.47	1.90	537.1	18.00	11.280	4.74
		8/27/2013	7:20	3.96	1.26	484.5	18.15	12.180	9.27
		8/27/2013	17:00	3.37	2.51	485.2	18.03	11.260	7.00
		8/28/2013	7:45	4.62	1.46	389.2	17.96	11.520	9.79
		8/28/2013	17:00	4.34	2.00	471.2	17.95	11.740	6.71
		8/29/2013	7:15	4.14	2.06	489.9	18.11	11.330	9.85
	3	9/3/2013	11:10	4.31	3.09	491.8	18.21	12.240	8.95
		9/3/2013	16:00	4.05	5.29	499.4	18.21	11.960	7.23
		9/4/2013	7:15	4.39	5.22	489.6	18.56	12.030	9.20
		9/4/2013	17:00	4.94	6.25	486.1	18.17	12.240	7.94
		9/5/2013	10:50	4.74	5.99	422.2	18.31	11.920	9.80

Appendix I. PWR Geochemical Monitoring Summary During Hydrogen Peroxide Injection

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
MW-13 ISOC	Peroxide Test	8/15/2013	7:15	6.59	0.16	-39.0	18.43	2.400	NM
		8/15/2013	14:15	3.38	2.30	434.7	17.51	2.461	NM
	1	8/19/2013	13:19	6.65	0.81	-27.3	18.42	3.004	5.82
		8/19/2013	17:20	6.60	0.45	-23.2	18.44	3.260	NM
		8/20/2013	10:00	6.18	1.65	45.2	19.03	2.609	NM
		8/20/2013	15:40	6.63	27.00	385.0	22.65	2.395	NM
		8/21/2013	7:15	7.88	0.38	-190.3	18.27	4.447	6.05
		8/21/2013	17:00	6.61	14.50	3.2	21.62	4.163	4.45
	2	8/26/2013	10:00	4.50	3.50	291.5	23.52	9.965	5.95
		8/26/2013	17:20	4.65	4.36	260.8	22.26	9.599	6.62
		8/27/2013	7:20	4.62	19.63	237.2	25.05	10.920	6.95
		8/27/2013	17:00	4.17	28.07	353.9	25.76	9.946	6.40
		8/28/2013	7:45	4.70	16.60	239.6	23.68	12.660	7.49
		8/28/2013	17:00	3.83	21.59	441.2	24.42	11.710	7.00
		8/29/2013	7:15	4.13	6.37	327.7	23.64	12.690	7.63
	3	9/3/2013	11:10	3.78	11.67	371.5	22.31	9.132	6.65
		9/3/2013	16:00	4.30	9.29	320.5	21.55	10.600	7.10
		9/4/2013	7:15	4.36	21.72	326.7	23.71	10.340	7.10
		9/4/2013	17:00	4.60	12.70	291.0	22.34	12.190	4.80
		9/5/2013	10:50	3.98	19.92	352.7	23.74	11.520	7.58
Shallow Observation wells									
MW-13S	Peroxide Test	8/15/2013	7:15	NM	NM	NM	NM	NM	NM
		8/15/2013	14:15	NM	NM	NM	NM	NM	NM
	1	8/19/2013	13:19	9.83	0.59	-8.5	19.42	9.957	6.25
		8/19/2013	17:20	9.66	0.37	49.1	19.64	9.222	NM
		8/20/2013	10:00	8.49	0.65	162.0	19.82	7.186	NM
		8/20/2013	15:40	6.74	1.92	330.5	26.22	5.715	NM
		8/21/2013	7:15	6.82	5.72	112.4	20.48	4.191	6.99
		8/21/2013	17:00	6.35	8.12	103.5	20.43	2.248	3.93
	2	8/26/2013	10:00	9.45	0.61	208.2	20.48	11.970	6.81
		8/26/2013	17:20	8.91	0.40	169.8	20.57	15.04	2.05
		8/27/2013	7:20	9.09	1.17	207.7	20.36	19.34	7.87
		8/27/2013	17:00	7.30	3.72	284.6	20.28	20.29	5.35
		8/28/2013	7:45	7.82	6.16	197.4	20.53	17.85	8.26
		8/28/2013	17:00	7.29	10.20	316.2	20.71	19.15	5.68
		8/29/2013	7:15	7.54	4.04	334.4	21.13	18.90	8.18
	3	9/3/2013	11:10	7.12	0.62	362.3	21.30	32.21	7.08
		9/3/2013	16:00	6.95	0.29	174.5	21.00	34.12	4.63
		9/4/2013	7:15	6.85	1.38	331.5	21.37	34.86	7.21
		9/4/2013	17:00	6.12	2.32	234.5	21.17	30.01	4.65
		9/5/2013	10:50	6.54	4.86	229.2	22.37	33.03	8.17
OS-10S	Peroxide Test	8/15/2013	7:15	NM	NM	NM	NM	NM	NM
		8/15/2013	14:15	NM	NM	NM	NM	NM	NM
	1	8/21/2013	7:15	2.75	28.87	562.0	22.06	6.345	7.83
		8/21/2013	17:00	3.71	26.31	485.7	23.33	1.147	6.35
	2	8/26/2013	10:00	3.33	13.02	553.9	24.11	11.690	7.98
		8/26/2013	17:20	3.34	22.07	556.6	22.84	9.977	4.17
		8/27/2013	7:20	4.00	17.24	465.4	23.57	3.450	8.38
		8/27/2013	17:00	3.89	24.60	486.2	23.58	3.882	6.82
		8/28/2013	7:45	3.55	23.09	526.4	23.71	8.688	8.63
		8/28/2013	17:00	3.66	20.51	508.9	23.48	5.216	6.90
		8/29/2013	7:15	3.62	17.27	535.3	23.82	7.238	8.69
	3	9/3/2013	11:10	3.53	13.53	545.7	23.82	14.200	8.43
		9/3/2013	16:00	3.46	15.74	557.8	24.29	13.690	5.83
		9/4/2013	7:15	3.86	14.88	503.5	23.88	5.151	8.68
		9/4/2013	17:00	3.90	21.70	509.6	23.65	6.242	6.28
		9/5/2013	10:50	3.83	15.17	516.2	23.49	7.61	8.98

Appendix I. PWR Geochemical Monitoring Summary During Hydrogen Peroxide Injection

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
OS-15S	Peroxide Test	8/15/2013	7:15	NM	NM	NM	NM	NM	NM
		8/15/2013	14:15	NM	NM	NM	NM	NM	NM
	1	8/20/2013	10:00	3.99	29.00	494.0	23.86	4.422	NM
		8/20/2013	15:40	2.71	33.63	561.2	24.41	7.394	NM
		8/21/2013	7:15	3.31	1.04	570.3	17.77	24.460	7.83
		8/21/2013	17:00	3.97	25.60	472.4	25.07	2.948	6.55
	2	8/26/2013	10:00	3.70	15.70	526.9	22.70	14.700	8.14
		8/26/2013	17:20	3.72	19.40	523.5	22.20	13.430	5.48
		8/27/2013	7:20	3.87	24.33	502.6	23.10	10.470	8.50
		8/27/2013	17:00	3.88	32.20	488.2	24.23	7.695	6.82
		8/28/2013	7:45	3.82	29.70	488.8	22.96	11.720	8.75
		8/28/2013	17:00	3.68	28.89	492.4	24.14	5.876	6.98
		8/29/2013	7:15	3.69	22.96	504.3	23.37	11.710	8.90
	3	9/3/2013	11:10	3.57	19.04	452.8	23.03	21.520	8.64
		9/3/2013	16:00	3.50	20.95	439.7	23.33	21.810	5.93
		9/4/2013	7:15	3.86	16.88	513.6	23.42	16.770	8.87
		9/4/2013	17:00	3.82	19.06	470.7	23.41	16.80	6.47
		9/5/2013	10:50	3.74	23.88	479.7	23.52	16.99	9.17
OS-20S	Peroxide Test	8/19/2013	13:19	6.12	8.11	75.8	20.32	0.458	7.72
		8/19/2013	17:20	6.24	14.98	52.5	21.10	0.494	NM
	1	8/20/2013	10:00	6.10	11.90	95.8	20.26	4.422	NM
		8/20/2013	15:40	6.09	32.59	248.4	21.90	0.479	NM
		8/21/2013	7:15	5.87	25.17	195.7	20.55	0.479	7.99
		8/21/2013	17:00	6.18	6.93	5.2	20.24	1.292	6.50
	2	8/26/2013	10:00	5.97	15.10	424.0	21.19	0.506	8.12
		8/26/2013	17:20	5.85	17.50	57.0	20.92	1.173	3.90
		8/27/2013	7:20	6.04	32.08	378.3	21.33	0.810	8.60
		8/27/2013	17:00	6.08	27.95	63.7	21.68	1.103	6.96
		8/28/2013	7:45	6.02	37.60	104.3	21.51	0.928	8.70
		8/28/2013	17:00	5.59	29.05	115.5	21.96	0.686	7.12
		8/29/2013	7:15	5.55	27.03	168.4	21.63	0.940	8.89
	3	9/3/2013	11:10	5.61	18.33	112.7	21.36	0.544	8.64
		9/3/2013	16:00	5.79	15.90	105.3	22.12	0.675	6.02
		9/4/2013	7:15	6.08	30.47	291.3	21.98	0.565	8.88
		9/4/2013	17:00	5.91	30.03	89.8	22.56	0.696	6.53
		9/5/2013	10:50	6.07	27.07	367.1	22.05	0.726	9.11
OS-25S	Peroxide Test	8/19/2013	13:19	6.29	0.55	-55.8	19.71	7.730	7.73
		8/19/2013	17:20	6.42	1.36	-81.6	19.96	0.351	NM
	1	8/20/2013	10:00	5.91	2.05	-16.8	20.15	0.338	NM
		8/20/2013	15:40	5.91	2.05	-16.8	26.04	0.360	NM
		8/21/2013	7:15	5.91	1.30	28.1	20.35	0.311	8.02
		8/21/2013	17:00	6.14	1.90	-39.6	19.94	0.454	5.60
	2	8/26/2013	10:00	6.09	0.72	-9.3	20.29	0.336	8.13
		8/26/2013	17:20	5.79	1.92	-35.0	20.44	0.403	4.43
		8/27/2013	7:20	6.11	3.45	34.8	20.40	0.330	8.55
		8/27/2013	17:00	6.25	1.49	-60.3	20.24	0.653	7.04
		8/28/2013	7:45	6.03	1.42	15.0	20.33	0.424	8.73
		8/28/2013	17:00	5.75	0.92	-35.3	21.04	1.027	7.14
		8/29/2013	7:15	5.52	2.82	67.0	20.92	0.574	8.86
	3	9/3/2013	11:10	5.80	0.62	-8.5	20.48	0.403	8.58
		9/3/2013	16:00	6.16	0.61	-30.8	20.28	0.424	6.17
		9/4/2013	7:15	6.25	0.56	-36.2	20.68	0.401	8.82
		9/4/2013	17:00	6.23	1.13	-104.1	20.55	0.485	6.52
		9/5/2013	10:50	6.15	0.49	-30.3	20.89	0.457	9.13

Appendix I. PWR Geochemical Monitoring Summary During Hydrogen Peroxide Injection

Well Number	Week	Date	Time	pH	DO (mg/L)	ORP (mV)	Temperature ºC	Specific Conductivity (µS/cm)	Water Level (ft. BTOC)
Chinquapin Creek (South of Pilot Area)	1	8/19/2013	13:19	7.82	7.43	52.5	22.41	0.052	NA
		8/19/2013	17:20	7.99	7.07	22.5	23.07	0.075	NA
		8/20/2013	10:00	6.24	7.84	283.0	21.69	0.121	NA
		8/20/2013	15:40	6.36	8.11	351.3	22.64	0.128	NA
		8/21/2013	7:15	5.38	6.80	270.0	22.24	0.096	NA
		8/21/2013	17:00	6.15	7.42	441.4	23.24	0.118	NA
	2	8/26/2013	10:00	6.47	9.31	127.5	19.67	0.133	NA
		8/26/2013	17:20	6.85	7.88	133.0	24.47	0.141	NA
		8/27/2013	7:20	6.52	8.10	114.5	19.99	0.137	NA
		8/27/2013	17:00	5.67	9.35	130.0	25.50	0.129	NA
		8/28/2013	7:45	6.43	10.10	101.1	21.26	0.145	NA
		8/28/2013	17:00	6.19	8.03	290.4	25.50	0.209	NA
	3	9/3/2013	11:10	7.01	9.98	188.5	23.40	0.138	NA
		9/3/2013	16:00	6.77	8.52	100.1	26.49	0.154	NA
		9/4/2013	7:15	6.32	7.27	240.5	21.76	0.132	NA
		9/4/2013	17:00	6.62	7.94	164.1	25.56	0.186	NA
		9/5/2013	10:50	6.73	7.52	22.4	22.56	0.14	NA
Chinquapin Creek (Upstream at Bridge)	1	8/19/2013	13:19	7.32	7.53	82.4	22.42	0.051	NA
		8/19/2013	17:20	7.59	7.19	56.3	23.10	0.077	NA
		8/20/2013	10:00	5.89	8.19	298.0	21.69	0.118	NA
		8/20/2013	15:40	5.83	8.48	403.7	22.65	0.123	NA
		8/21/2013	7:15	6.10	7.67	186.2	22.00	0.085	NA
		8/21/2013	17:00	6.48	7.77	401.2	23.24	0.116	NA
	2	8/26/2013	10:00	6.44	9.66	130.5	19.68	0.132	NA
		8/26/2013	17:20	6.43	9.44	160.5	24.43	0.132	NA
		8/27/2013	7:20	6.32	8.77	152.3	20.01	0.133	NA
		8/27/2013	17:00	5.76	9.98	156.5	25.35	0.131	NA
		8/28/2013	7:45	6.59	10.55	77.0	21.22	0.133	NA
		8/28/2013	17:00	7.00	8.73	245.6	25.32	0.131	NA
	3	9/3/2013	11:10	6.90	10.18	193.3	23.34	0.131	NA
		9/3/2013	16:00	6.97	9.59	62.4	26.60	0.134	NA
		9/4/2013	7:15	6.53	7.78	132.3	21.72	0.136	NA
		9/4/2013	17:00	6.81	8.48	86.1	25.65	0.135	NA
		9/5/2013	10:50	6.80	8.18	53.7	22.51	0.133	NA

Notes:
N/M - not measured
uS/cm - micro Siemens per centimeter
mV - millivolts
mg/L = milligrams per liter
ft. BTOC= ft. below top of casing
N/A= not applicable